

---

Theses and Dissertations

---

Fall 2014

## Impact of intercollegiate athletic participation on leadership development

Clint Simpson Huntrods  
*University of Iowa*

Follow this and additional works at: <https://ir.uiowa.edu/etd>



Part of the [Educational Administration and Supervision Commons](#)

Copyright 2014 Clint S Huntrods

This dissertation is available at Iowa Research Online: <https://ir.uiowa.edu/etd/1470>

---

### Recommended Citation

Huntrods, Clint Simpson. "Impact of intercollegiate athletic participation on leadership development." PhD (Doctor of Philosophy) thesis, University of Iowa, 2014.  
<https://doi.org/10.17077/etd.6qwy9i53>

---

Follow this and additional works at: <https://ir.uiowa.edu/etd>



Part of the [Educational Administration and Supervision Commons](#)

IMPACT OF INTERCOLLEGIATE ATHLETIC PARTICIPATION  
ON LEADERSHIP DEVELOPMENT

by

Clint Simpson Huntrods

A thesis submitted in partial fulfillment  
of the requirements for the Doctor of Philosophy  
degree in Educational Policy and Leadership Studies  
in the Graduate College of The University of Iowa.

December 2014

Thesis Supervisors: Assistant Professor Brian P. An  
Professor Ernest T. Pascarella

Graduate College  
The University of Iowa  
Iowa City, Iowa

CERTIFICATE OF APPROVAL

---

PH.D. THESIS

---

This is to certify that the Ph.D. thesis of

Clint Simpson Huntrods

has been approved by the Examining Committee for the thesis requirement for the Doctor of Philosophy degree in Educational Policy and Leadership Studies at the December 2014 graduation.

Thesis Committee: \_\_\_\_\_

Brian P. An, Thesis Supervisor

\_\_\_\_\_  
Ernest T. Pascarella, Thesis Supervisor

\_\_\_\_\_  
Christopher Morpew

\_\_\_\_\_  
Michael Paulsen

\_\_\_\_\_  
Michael Teague

## **ACKNOWLEDGEMENTS**

It is impossible for me to thank each and every person who has helped me along the path that has led to this accomplishment. I truly believe this is not a personal accomplishment as much as it is a product of the community of support I am blessed to have. First and foremost, thank you to my parents, Marv and Chris Huntrods, who have served as great role models in the pursuit of lifelong learning. Thank you also to the many teachers and mentors who have served as teachers, administrators, coaches, and other roles that have pushed me to challenge myself and my educational pursuits.

Thank you to Dr. Pascarella and Dr. An for agreeing to serve as supervisors for my thesis and helping me during this process. Thank you as well to Dr. Paulsen for serving as my advisor and helping me to navigate the Ph.D. program. Thank you to Dr. Achrazoglou, Dr. Teague, Dr. Morphey and Will Coghill-Behrends for the graduate assistantship opportunities during graduate school – without your support, this would not be possible.

Thank you to the Center for Research on Undergraduate Engagement (CRUE) for the opportunity to use the Wabash dataset and the chance to build upon the backs of some of the best researchers in the field of higher education.

Thank you to Mia Richter for helping me to articulate what ideas I am trying to express and challenging me to think deeper when it comes to research. Also, thanks for competing with me to push forward in higher education research.

Lastly, thank you to my wife, Abby, for all of your support during this process and for the opportunity to spend the rest of my life with you.

## **ABSTRACT**

This study examined the effects of athletic participation in intercollegiate athletics on leadership development using a multi-institutional, longitudinal sample of students at four year colleges and universities. Using Astin's Input, Environment, Outcomes model (1991), I examined whether athletic participation influenced leadership development using the Socially Responsible Leadership Scale (SRLS) while controlling for students' background characteristics and institutional characteristics. Using pre-test and post-test data from the Wabash National Study of Liberal Arts Education (WNS), the findings suggest that participation in certain types of athletics can inhibit leadership growth. This study contributes to the literature by utilizing a longitudinal model, studying athletes compared to non-athletes and classifying athletes into categories based upon team and individual sports as well as by the level of contact in their respective sports. Finally, this study has implications for higher education policy, including practical applications for those involved in undergraduate education including coaches, administrators, faculty, staff, and students.

## TABLE OF CONTENTS

|   |     |
|---|-----|
| List of Tables .....                              | v   |
| List of Figures .....                             | vi  |
| List of Charts.....                               | vii |
| Introduction.....                                 | 1   |
| Aims and Overviews.....                           | 5   |
| Literature Review.....                            | 13  |
| Research Methods.....                             | 23  |
| Institutional Sample.....                         | 23  |
| Student Sample.....                               | 24  |
| Data Collection.....                              | 25  |
| Dependent Variable.....                           | 26  |
| Control Variables - Student Characteristics ..... | 27  |
| Intercollegiate Athletic Participation .....      | 29  |
| During College Experiences.....                   | 30  |
| Work and Leadership .....                         | 31  |
| Leaders .....                                     | 31  |
| Diversity .....                                   | 32  |
| Data Analysis .....                               | 32  |
| Regression. ....                                  | 32  |
| Results.....                                      | 34  |
| Research Questions .....                          | 34  |
| Further Analysis .....                            | 38  |
| Discussion .....                                  | 39  |
| Implications.....                                 | 43  |
| Limitations .....                                 | 46  |
| Works Cited .....                                 | 48  |
| Appendix.....                                     | 57  |

## LIST OF TABLES

|  |    |
|--|----|
| Table 1 – Summary of Previous Research on Leadership and Athletics ..... | 3  |
| Table 2 - Participating Institutions .....                               | 23 |
| Table 3 – Variable List.....   | 28 |
| Table 4 – Descriptive Statistics.....                                    | 31 |
| Table 5 – Regression Models .....  | 36 |
| Table A1 - Descriptive Statistics for Variables Included.....            | 57 |
| Table A2 – Correlation Matrix .....                                      | 58 |
| Table A3 - Socially Responsible Leadership Scale Questions .....         | 59 |
| Table A4 - Miville-Guzman Universality-Diversity Scale .....             | 60 |

## LIST OF FIGURES

|                                      |   |
|--------------------------------------|---|
| Figure 1 – Conceptual Framework..... | 5 |
|--------------------------------------|---|

## LIST OF CHARTS

|   |    |
|---|----|
| Chart 1 – Average SRLS Score Comparison ..... | 34 |
|---|----|

## **Introduction**

The importance of athletic participation and the benefits derived by a student-athlete while participating in college sporting events should be understood by those interested in higher education and college sports (Zimbalist, 1999). Sports are heavily funded and publicized more than any other part of most institutions of higher learning (Duderstadt, 2003). Thus, intercollegiate athletics warrants scrutiny by both popular culture and academics alike. As it has been for years, the debate over a student-athlete's actual educational experience and leadership development continues today.

Pascarella and Smart (1991) and Ryan (1989) have studied the longitudinal relationship between intercollegiate athletic participation and leadership. Ryan (1989) found that athletes reported growth in their leadership abilities over the course of their college careers. Similarly, Pascarella and Smart (1991) demonstrated that male athletes reported increased social self-esteem levels during their college career. In relation to the previous studies mentioned above, Richard and Aries (1999) found that athletes over-rated themselves on development and self-esteem. This finding by Richards and Aries documented concerns over the use of self-esteem and self-growth related variables when measuring leadership development among athletes. These studies called for further research on leadership development by specifically recommending: 1) comparing non-athletes with athletes; 2) including more female athletes; 3) adding various institutional types; and 4) grouping athletes by type of sport (Pascarella and Smart, 1991; Ryan, 1989). According to Pascarella and Terenzini (2005), "though the public in general and collegiate sports backers in particular, may believe that participation in intercollegiate athletics promotes leadership skills, the jury is still out on this claim" (p. 247). Today, an opening in the

literature still exists for strong, research-based answers to the important questions addressing intercollegiate athletic participation and its leadership development influence on students.

According to the National Collegiate Athletic Association (NCAA), college sports have great potential to exercise and bolster leadership abilities (Hendrickson, 2012). The NCAA's website boasts multiple anecdotal stories detailing leadership advances in athletes. For example, one such story details the ascent of an Alabama gymnast who used injuries to grow and develop as a leader (Hendrickson, 2012). The NCAA and universities market the positive benefits of intercollegiate athletics leading the public to believe there are strong data behind this viewpoint when in fact there is only anecdotal evidence to support such claims. As part of the Athletic Department Strategic Plan, the University of Iowa promotes its student-athletes as "Tomorrow's Leaders" (University of Iowa Athletic Department, 2013). The claim that athletic participation builds leadership is commonly used by the NCAA, institutions of higher education, and its partners to validate athletic programs nationwide. These claims require empirical support if they are to be more than just catchy marketing slogans. For years, researchers studying the relationship between higher education and college athletics programs have argued for scientific evidence connecting the mission of each, a deeper understanding for the psychosocial effects of athletics, and a better understanding of the commercialization of athletics (Knight Foundation, 2001). Athletes are complex individuals and "leadership" can be challenging to quantify. Nonetheless, further research must be done if leadership is indeed to be an attributable skill to participation in collegiate athletics.

**Table 1 – Summary of Previous Research on Leadership and Athletics**

| <b>Study</b>                          | <b>Sample</b>  | <b>Design</b>  | <b>Dependent Variable</b>  | <b>Findings</b>  |
|---------------------------------------|--|--|--|--|
| Ryan, 1989                            | 737 athletes, 680 non-athletes (college)                     | Longitudinal study but only a post-test leadership measure | Self-rated Leadership Ability (Likert 1= much weaker to 5 = much stronger) | Athletes reported positive changes in leadership abilities.  |
| Pascarella & Smart, 1991              | 2,006 male athletes (college)                                | Longitudinal study but only a post-test leadership measure | Social Self-Esteem (Likert 1= much weaker to 5 = much stronger)            | Athletes reported positive changes in Social Self Esteem (leadership).                                       |
| Kim, 1992                             | 1,979 athletes (jr. high, high school & university) in Japan | Cross-sectional  | Banzai Leadership Scale  | Team captains scored higher on goal achievement and group orientation.                                       |
| Eiche, Sedlacek, & Adams-Gaston, 1997 | 73 athletes (college)  | Cross-Sectional  | Sport Leadership Behavior Inventory  | Higher leadership scores in athletes translated into higher academic performance and higher retention rates. |
| Dobosz & Beaty, 1999                  | 30 athletes/30 non-athletes (high school)                    | Cross-Sectional  | Leadership Ability Evaluation  | Athletes showed higher levels of leadership than non-athletes.   |

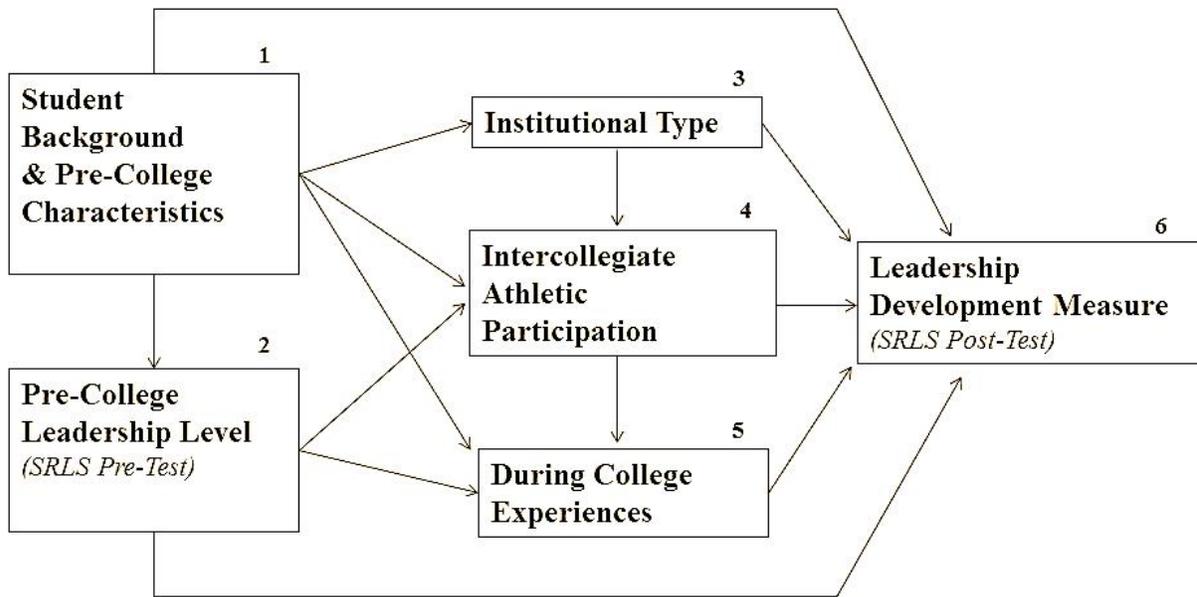
There are challenges in studying student-athletes. For example, recruitment effects cloud the experiences an athlete has in college (Hood, Craig & Ferguson, 1992). Furthermore, a true pre-test and post-test design to study student-athletes has not yet been used to determine leadership development in college athletes. To gain empirical insight into intercollegiate athletic participation effects, pre-testing must occur to accurately assess leadership levels of incoming

student-athletes as soon as they begin their college careers. A proper understanding of the impact of college on leadership development can only be effectively studied with a strong design incorporating pre-college controls (Astin, 1970; Pascarella, 1987; Pascarella and Terenzini, 1991). A summary of previous research in this area is found in Table 1.

The overall goal of this dissertation was to analyze the impact of intercollegiate athletic participation on leadership development in both males and females. For this analysis, I selected a recognized leadership measure that is specifically designed for use in the college student population. I used a pre-test and post-test research design along with several control variables that allowed me to study leadership development during the college career. My dissertation heeded the calls placed by experts in the field of athletics and higher education: to begin deciphering the effect intercollegiate athletic participation has on leadership development.

## Aims and Overviews

**Figure 1 – Conceptual Framework**



**Figure 1 – Conceptual Framework for Understanding the Effects of Intercollegiate Athletic Participation on Leadership Development**

The conceptual framework that guided this study is shown in Figure 1 and is a modification of Astin’s Input-Environmental-Outcome (IEO) model (1993). This model accounts for inputs a student brings to college, the effects that the college environment and experiences have on a student, and change as the outputs. The framework in Figure 1 includes six sets of variables: 1) *student background and pre-college characteristics* (e.g., demographical characteristics, academic preparation, high school involvement); 2) *measure of pre-college leadership level* (Socially Responsible Leadership Scale); 3) *type of institution attended* (research, regional, or liberal arts college); 4) *intercollegiate athletic participation* (including individual sport participation, team sport participation, level of contact in sport participated in);

5) *during college experiences* (out of class experiences, co-curricular involvement, work, value of future leadership importance); and 6) *end of college leadership development measure* (Socially Responsible Leadership Scale). According to the conceptual framework, net of other influences, participation in intercollegiate athletics will be expected to have direct impacts on leadership development outcomes, as well as indirect or mediated impacts through experiences during college. This general conceptual framework guided both the selection of variables and the data analysis I conducted.

This dissertation examined the impact of intercollegiate athletic participation on leadership development in ways previously unstudied. Through the use of a large scale, longitudinal dataset, my dissertation offered the ability to compare leadership development of student-athletes vs nonstudent-athletes, test differences by sex, institutional type, and look closer at the subset of student-athletes to study differences based on sport types.

The following questions served as a foundation to guide my study:

1. Do student-athletes differ from nonstudent-athletes in terms of leadership development during college?
2. How do the effects of intercollegiate athletic participation on leadership development differ by institutional type?
3. Does sex influence leadership development in student-athletes?
4. Does participation in team sports vs. individual sports change leadership development among athletes?
5. Does leadership development change by level of contact in sport?

Over time, theories of leadership development have changed. Leader development, where position and individual characteristics were the focus, was an original perspective. Today, a focus on social leadership development is more common, where collaboration and group success

is emphasized (Dugan and Komives, 2010). The environment in which athletes work and compete resembles a combination of action learning and collaborative leadership created to enhance one's leadership. Action learning is a simulated environment where individuals work together as a team in real-time as they face obstacles (Raelin, 2000). Action learning is most often used with workforce groups. Collaborative learning serves as a means to enhance participation and decision making of all members in a group (Raelin, 2006). These methods of leadership development are some of the most popular among organizations who are trying to develop a more productive and effective organization of leaders. Even among these methods in the workplace, a shift from leader development to leadership development is present. Noticing this subtle difference and shift is imperative to understanding the present day focus on development of leadership instead of the leader.

The Social Change Model of Leadership (SCM) focuses on leadership development as intentional and purposeful (Dugan, 2006). This research focuses more on process than a one-time impact. Thus, it can have a greater capacity to make a difference. The SCM assembles values along clusters of an individual, a group, and the community. The SCM focuses on the following suppositions:

- Leadership is socially responsible
- Leadership is collaborative
- Leadership is a process, not a position
- Leadership is inclusive and accessible to all who desire to contribute
- Leadership is value-based
- Involvement/service is a powerful vehicle for leadership – learning happens through life experiences (HERI, 1996)

Leadership cannot be defined solely by the behavior of an individual. Instead, it is defined as the action and change one creates by working through collective action grounded in the betterment of the community. In the case of athletics, athletes are working together to produce results in the form of team success. Rarely can one produce change alone. Most frequently, leadership is dynamic and collaborative, just as the model suggests. The model seeks to increase understanding of ones-self, ones' ability to mobilize, and ones' power to influence others to work collaboratively (HERI, 1996). The "seven C's" represent the SCM: (1) consciousness of self, (2) congruence, (3) commitment, (4) collaboration, (5) common purpose, (6) controversy, and (7) citizenship. Seeing oneself as a leader as demonstrated by Ryan (1989) and Pascarella and Smart (1991) is one of the most positive influences athletics has on an individual.

Leadership is a difficult outcome to measure by itself, which is further complicated by the impact athletic participation has on leadership. One of the most recognized leadership measures in higher education research is the Socially Responsible Leadership Scale (SRLS). The SRLS measures the eight dimensions of Astin's Social Change Model of leadership development (Astin A. , et al., 1996). In this model, leadership is a collaborative group process directed toward promoting positive social change in an organization (Tyree, 1998). Individuals with strong leadership traits tend to have the desire to make the world a better place, a strong set of values that serve as the guide in their decision making process, and the ability to influence change (HERI, 1996). This scale has many attributes allowing for direct analysis of leadership in the context of intercollegiate athletics. The eight subscales fit tightly within the inherent nature of athletics, particularly team sports. They are made up of statements such as "I enjoy working with others towards common goals" (Collaboration), "I stick with others through the difficult

times” (Commitment), and “I contribute to the goals of the program and I support what the group is trying to accomplish” (Common Purpose). This scale presents a strong and recognized measure applicable to a college student population in general and athletes in particular, given that the nature of sports finds athletes working to achieve a goal larger than oneself.

The NCAA publicizes beliefs that athletics serve as a tool of growth and development to build future leaders. Contrarily, higher education academics Umbach, Palmer, Kuh, and Hannah (2006) note that little national evidence exists on student-athlete behavior and what athletes do during their college experience. Few studies articulate the difference in the college experience for athletes compared with non-athletes. This difference is particularly important given the different experiences athletes encounter during college. This dissertation’s research methodology is designed to clearly decipher college effects on leadership development with the effects of pre-college selection and environmental differences also taken into account.

As suggested by Eberhardt (2006) and Wolverton (2008), environmental cultures exist within the different divisions of athletics, thus having an impact on the development of athletes. Bess and Dee (2008) utilized environmental determinism as a way to explain how organizational environment determines culture. According to Bess and Dee (2008), in the win at all costs mentality and high violence environment of college athletics, leaders find themselves with little perceived choice. The level of intensity in sport makes a difference in athlete decision making. My dissertation analyzes institutional type to investigate differences between liberal arts colleges and larger universities. Inherent in these varied institutional types are differences in the size of athletics departments on campus. For example, research universities like Notre Dame or Michigan (two schools included in this dataset) have revenue generation and massive expenses causing substantial changes in the makeup of the athletic experience (Duderstadt, 2003).

Comparing athletes from major athletic programs to smaller athletic programs offers insight into institutions in ways previously unstudied. Umbach, Palmer, Kuh, and Hannah (2006) argued that the learning experience at the Division III is different from the Division I. This identification furthers the need to break down institutional type comparisons, examining differences in athlete leadership growth and development. In addition to institutional type comparisons, other demographical characteristics must also be considered.

Use of the SRLS requires controlling for sex due to the fact that women score higher than men on this scale (Dugan, 2006). Intercollegiate athlete research has also shown differences between males and females on measures of moral maturity, including choosing achievement over team unity (Bredemeier & Shields, 1984; Kavussanu & Roberts, 2001). For these reasons, I analyzed the sample by controlling for sex.

Classifying athletes into team and individual sports categories helped to determine the impact of team sport organizational culture on leadership development during college. While individual sport athletes are members of a team, competing in their sport emphasizes individual performance to a greater degree than team sports. Researchers have not previously studied differences in athlete development by type of sport in this way. The most similar work in this area was conducted by Kim (1992) who demonstrated differences when analyzing athlete roles within a team by showing that team captains exhibited higher levels of leadership vs. non-captains. Kim's work and the lack of prior research in this area provides the premise to analyze team sport athletes in comparison to individual sport athletes.

While no previous research exists detailing the relationship between level of contact in sport and leadership development, researchers have seen differences in other types of athlete

development based upon the level of contact in the sport (Tod & Hodge, 2001). Sports with the highest levels of contact require physical domination over competition. This domination requires a certain type of ego-orientation that retards moral reasoning and increases acceptance of intentionally aggressive and dangerous acts (Kavussanu & Ntoumanis, 2003). Duda, Olson and Templin (1991) argue that this type of ego-orientation is positively correlated with approval of unsportsmanlike play. Accounting for this previous research and the differences seen with moral reasoning by sex, I subdivided athletes into sport categories based upon physical contact levels in their respective sports.

Diversity is relevant in the conversation of socially responsible leadership because research has demonstrated both positive and negative relationships between athletics and diversity measures. For example, Wolf-Wendel, Toma and Morphew (2001) argued that the diverse culture of athletics allows for better interaction among athletes and those they come into contact with. Contrarily, Reimer, Beal, and Schroeder (2000) found that the athlete culture is often so isolated and independent of the student body that the lack of non-athlete diversity actually inhibits student development. Research by Nishimoto (1997) also found a lack of growth and openness to diversity due to the athlete subculture on college campuses, which may hinder development. Other research contributes to the mixed reviews, with a negative impact on openness to diversity after year one, but a positive impact after year four (Whitt, Edison, Pascarella, Terenzini, & Nora, 2001). Recent popular culture regarding homosexuality in athletics and questions researchers have raised on diversity and team dynamics (Hirko, 2007, Hirko, 2009) also signal the importance of including diversity in this research study.

Further contributing to the problem of assessment, athletes have been known to have leadership influence on campus but not necessarily leadership ability (Katz, 1995). This

identifies the difference between leadership as position and leadership as action. Unlike previous studies, my dissertation analyzes athletics and leadership through a respected leadership development model and framework. Also, analyzing the whole picture of intercollegiate athletic participation allows for control measures, including a pre-college measure of the dependent variable, mediating college environmental effects while detailing the differences in leadership development by subsets of the athlete population. Considering the amount of money invested by higher education institutions and consumers into college sports, studying the impact athletic participation has on students is justified and long overdue.

## Literature Review

My dissertation builds upon the current student-athlete research while contributing high value information to academics, coaches, and higher education administrators. Future employers of student-athletes, parents of student-athletes, and even the student-athletes themselves will benefit from a better understanding of the effect of leadership skills gained during college. This knowledge can be used to evaluate whether athletic participation in college results in leadership ability and growth. The annual athletic budget of institutions of higher education is an often challenging expense to justify. Annually, the amount of money generated by student fees to support the athletic programs nationally tops \$800 million (Berkowitz, Upton, & Gillum, 2010).

Often, the media's attention and portrayal of college athletics leads public citizens to question the actual education student-athletes are receiving. This public perception forces decision-making administrators to analyze whether athletics serve a viable purpose to the university's mission. In 2001, the Knight Foundation reported top-tier college athletic programs look more like professional sports than any sort of academic model. Contrarily, Marmion (1987) argued athletics are an integral and exemplary component of a university's process of student development. As such, athletics should be solely evaluated by what contributions they made to student growth (Davis, 1990). Under amateurism rules, Division I athletes participate only for educational scholarships. But, if Division I athletes were paid their true market value, basketball and football athletes at top institutions could earn a salary between \$121,048 and \$265,027 per year (Huma & Staurowsky, 2011). What happens to athletes participating in collegiate athletics is important. The amount of money colleges spend on athletics that could be used in more "academic" ways must be justified. Also, the time athletes put in (unpaid at market price) without knowing what they are getting psychosocially in return must be further investigated.

The media frequently exploits stories of student-athlete misconduct (Lumpkin, 2008). This media attention furthers public skepticism concerning the actual education student-athletes are receiving. As a result, college administrators must continually evaluate the risk versus reward benefits of athletics. For years Sperber has suggested cutting general funds that subsidize athletic programs because big-time college sports cripple the success of undergraduate education (Sperber, 2000). Media magnification of student-athlete mistakes cause many student-athletes to question if athletics actually aid in maturation and development, as they were originally introduced to do (Eberhardt, 2006; Lumpkin, 2008; Marino, 2006; Rudd, 2007). Negative outcomes from participation in college athletics have also been found and demonstrate lower involvement and satisfaction with college experiences, lessened clarity in educational/occupational plans, and diminished principled moral judgment (Blann, 1985; Bredemeier & Shields, 1986; Kennedy & Dimick, 1987; Sowa & Gressard, 1983; Stone & Strange, 1989). Gurney, Tan, and Winters (2010) alarmingly question admission of some athletes ill-suited for college level curriculum or enrollment. As athletics-focused decisions are made on university campuses, a trade-off is made that lies in opposition to the academic mission of the institution (Byers, 1995).

Like any cohort in higher education, some members will fall short of the standard. One of the most notable examples of an athlete falling below the academic standard of his institution is Dexter Manley who played for Oklahoma State University. He was illiterate while playing for his collegiate team. This abhorrent case of educational neglect led Congress to include mandates for universities to report academic data annually to the Secretary of Education (Ferris, Finster, & McDonald, 2004). Emerson, Brooks, and McKenzie (2009) show that, when compared to non-athletes, student-athletes continually under-perform academically. Also, recruited athletes

performed much lower than non-recruited athletes, with the most selective colleges showing the greatest difference in student performance (Emerson, Brooks, & McKenzie, 2009). These findings were true of both male and female athletes from over fifty colleges. In contrast, research on athlete academic performance by Richard and Aries (1999) found athletes who may enter with lower SAT scores leaving college with GPAs that are in no way statistically different from non-athletes.

In a tactical move, the NCAA frequently shifts the evaluation of academic success from GPA to graduation rates. By doing this, athletics is shown in a much more preferable light. Most colleges boast the good things their athletes accomplish, including graduation rates often surpassing the rate of non-athletes (National Collegiate Athletic Association, 2009). In 2009, the graduation rates of student-athletes were two percentage points higher in Division I and nine percentage points higher in Division II than non-athletes at the same institutions (National Collegiate Athletic Association, 2009). However, the extra help student-athletes receive, including extra advisors and tutors, is rarely mentioned by athletic supporters whom examine athlete graduation rates against the rest of the student body.

Critics of college athletics argue that graduation rates are misleading. These critics often provide information to demonstrate a breakdown of the educational process. This argument thus furthers their belief that athletics is a corrupt system threatening the academic integrity of higher education (Ferris, Finster, & McDonald, 2004). Chu, Segrave, and Becker (1985) argue that competitive sports help athletes grow in responsibility, honesty, maturity, character, self-respect and respect for others (p 65). Ryan (1989) argues that while by-products may occur, the athletes themselves are seeking physical activity, enjoyment, approval, and rewards – a trend that dates back to the work of Savage, McGovern, and Bentley in 1931. A closer look at athletics in the

1920s and 1930s uncovers the same commercialization issues present today. Differently, today's athletes face several new media outlets and a more optimized business model (Atwell, 1983; Duderstadt, 2003; Hanford, 1979; Watterson, 2000).

The method of looking at a university operating a business model, using unpaid amateurs as a revenue stream for the university, causes yet another host of objections and concerns (Zimbalist, 1999). Suggs (2004) argues for a cessation of arms race between major colleges athletic programs, lest a university will be seriously questioned on its current non-profit status. Suggs' (2004) work emerged years prior to conference media contracts, which have skyrocketed to unprecedented levels. University athletic programs serve as the only representation of higher education to many people (Thelin, 1994) and even potentially increase undergraduate enrollment in the most successful and visible athletic programs (Toma & Cross, 1998). Annual athletic department budgets are hard to rationalize without established research measuring the effects of such programming. Shulman and Bowen (2001) argue that the cost of supporting athletic programs, even at smaller, selective institutions is greater than many realize. The billions of dollars spent each year on college athletics through ticket sales, merchandising, and donations demand further study of the net effects on the athletes who participate in these endeavors for relatively small stipends and/or scholarships.

Thelin (1994) describes the athletic program as a "front porch," representing universities both locally and nationally. Academic institutions therein become tied to athletic success. This concept can lead to phenomena such as the "Flutie Effect" (Sperber, 1990), so named for the increase in enrollment applications at Boston College following Doug Flutie's Heisman trophy winning season and last second Hail Mary over highly ranked Miami. The "Flutie Effect" demonstrates how top performing athletic teams in national competition see an uptick in student

applications – a direct athletic influence on the academic institution. This attention emphasizes the impact athletics has on enrollment and school prestige that has only increased since the 1980s with the rise of television and media (Sundram, 2010). Athletics can be positive, but can also carry the potential for negative impacts, possibly destroying an institution's reputation such as The Penn State Scandal (Cooky, 2012). Whether the trade-off is worth the potential cost in the media, concerns about what kind of experiences these student-athletes are really receiving come with mixed reviews (Ryan, 1989; Stone & Strange, 1989; Telander, 1996).

While athletics can serve to promote the university, Shulman and Bowen (2001) have found that there is little evidence to suggest that football success has an impact on alumni giving. They go on to argue that athletics is really only serving to alter admissions processes, thereby allowing many academically unprepared athletes to enter institutions where they will produce lower grades than their non-athlete peers (Shulman & Boyle, 2001). Turner, Meserve, and Bowen (2001) have found that winning percentage does have an impact on alumni giving at Division III colleges. They struggle to explain their results. Tucker (1992) has reported that a school's winning percentage can be negatively related to the school's overall graduation rate. They argue that "football fever" can take over a school, resulting in diminished study habits and consequently graduation rates. At the Division I level, substantial revenue is generated: the total revenue of all athletic programs in Division I topped \$14 billion in 2012 (US Department of Education, 2014). Currently, the three highest valued football programs in the country are Texas, Michigan, and Notre Dame. The football programs at Texas and Notre Dame are valued at over \$800 million apiece (Everson, 2014). Considering these statistics, multi-million dollar budgets may not seem as out of line. It is important to note that for all of the millions of dollars spent on athletics, very few programs are actually self-sufficient: the expenses incurred by the athletic

department do not break even with the revenue generated (Pedersen, Parks, Quarterman, & Thibault, 2011). Clearly, the effects of athletics are institution-wide. Given the lack of research on the effects athletic participation has on the student, further research must be done.

Astin (1973, 1993) has made efforts to explain change in college students lives by analyzing the college environment. Conceptualized as an “input-environment-output” model, Astin examined individuals at the beginning of college with other students of similar characteristics and has found environmental experiences play a large role in development. In a longitudinal study of over 4,000 students over a four year time period, Astin (1993) found the strongest effects of leadership skill formation were associated with a student’s interaction with their peers. Studies have found that student interactions with faculty members have statistically significant positive net effects (Astin, 1993; Sax & Astin, 1998). Astin and Astin (1992) found that the impact of peer contact may be double that of interactions with faculty members. Chickering (1972) argued students learn not from their teachers but rather from fellow students believing that peer groups, friends, and subcultures are the strongest influences on student development. Recruited athletes surrounding themselves with peers who are also recruited athletes could have a positive impact on development.

Research on peer interaction shows student-athletes have a difficult time establishing relationships with those outside of their circle of athletes. Applying the involvement framework articulated by Astin (1993) and Tinto (1987), increased detachment from the college experience raises the likelihood of decreased social engagement, which places these athletes at a greater risk of social withdrawal. Blinde and Greendorfer (1992) believe that these isolations could in fact result in lost opportunities for personal development. Nishimoto (1997) argues that individual and collective identity developed through athletics leads to a functional, psychological, and

physical separation from the general student body. Some layers of this segregation exist, as athletes feel the responsibility to act in a way that positively represents the university at all times. This creates further separation, as non-athletes go through a distinctly different decision making process because their actions are less scrutinized while facing fewer potential consequences for delinquent behavior.

Loughead and Leith (2001) question the relationship between acceptable aggressive behavior within intercollegiate athletics and what this may lead to outside of the game environment. The findings of Benedict (1997) support their research showing a direct relationship between aggressive behavior and acceptance of that behavior. Benedict's work details the link between participation in contact sports and sexually aggressive behavior exhibited by those student-athletes. Astin (1977) and Reimer, Beal, and Schroeder (2000) question whether athletes being isolated contributes to limited development with an organizational culture.

Debates still center about the assertion that critical thinking gains are made during college participation by athletes. Research has shown that athletic participation positively increased critical thinking gains (Winter, McClelland, & Stewart, 1981) while other research has shown a negative link between athletic participation and scores on graduate school aptitude tests (Astin, 1993). Sedlacek and Adams-Gaston (1992) found that leadership can be linked to academic performance and retention for groups like athletics. Pascarella et al. (1999) also found that participation in collegiate sports such as basketball and football resulted in lower cognitive growth than athletes of other sports. Telander (1996) argues that athletes in football and basketball participate in a type of organizational subculture that devalues academic and intellectual achievement. Research that allows a better understanding of the relationship between

athletics and leadership would offer a deeper perspective into the athletic subculture on college campuses.

Few studies have longitudinally analyzed the athlete subset to determine if athletics inhibits leadership growth, as it has been shown to inhibit other types of personal growth. When attempting to better understand what happens during college to student-athletes, one must look to the growing field of literature that points to student engagement as a way to increase learning and personal development (Astin, 1993; Huh & Kuh, 2002; Kuh & Kuh, 2003; Pascarella & Terenzini, 1991; Pascarella & Terenzini, 2005). Cognitive outcomes have been specifically focused on through the National Study of Student Learning (NSSL) in 1995 (Pascarella, Bohr, Nora, & Terenzini, 1995) and further studied in 1999 (Pascarella, et al., 1999). This research demonstrates the link between student engagement within college and personal development outcomes. While some studies have tried to claim student-athletes live in their own subculture on campus and do not engage with their peers inside and outside of the classroom (Bowen & Levin, 2003; Shulman & Bowen, 2001), other research demonstrates that athletes have strong engagement in educationally purposeful activities (Gayles & Hu, 2009). Athletes spend a large number of hours per week practicing and competing in their sport, with increases in time demands during their competition seasons (Wolverton, 2008). This time of the year requires great academic and social sacrifices. Astin's theory of involvement essentially suggests that "students learn by becoming involved" (Astin A., 1985, p. 133), but it is possible that athletes are over-involved in a group of limited diversity. The sacrifice and involvement in athletics is particularly hard to decipher in terms of what effects are generated for an athlete later in life.

Adelman (1990) found athletes at the age of thirty-two to have a higher rate of home ownership and rate of employment than students who were non-athletes in college. While career

success has not been strongly linked to intercollegiate athletic participation (Howard, 1986), research has shown a slight increase in income of male student-athletes over those who did not participate in collegiate athletics (Long & Caudill, 1991). Within a business organization, increased income may mean more responsibility and management of others, skills perhaps gained in athletic participation. To be successful in a business setting, an individual needs leadership skills. Studies showing what the lives of these athletes look like after college are hard to find. Nonetheless, DuBois (1978) and Howard (1986) found that being a college athlete does not have a significant association with indices of career success such as managerial effectiveness and job status.

Work and its relationship to leadership measures have been studied within the Wabash dataset. These studies show that after controlling for pre-college characteristics and college engagement experiences, work can have a substantial impact on leadership development (Pascarella, Padgett, & Salisbury, 2012). There are many similarities between athletic participation and work during college. Given the organizational structure of college athletics, it is natural to assume that leadership skills are reinforced and further developed within college athletes much in the same manner.

New trends on liberal arts campuses in particular include the use of athletics to diversify student body populations (Hirko, 2009). This trend allows for a broader spectrum of students to enter a formerly predominantly white institution. Athletics are a unique part of college life that has been around since the first colleges were started (Thelin, 1994). If college athletics are a microcosm of the university is a question in need of an answer. Athletic departments work to create successful teams and in this process, they find themselves with an extremely diverse student-athlete body at the Division I level. The efforts to create a diverse athletic program are

often intentional at Division III levels, not out of necessity to succeed like in Division I. Though the message that athletic organizations try to permeate into the public sphere is of successful diversity, a better understanding of athletics, leadership and the relation of those topics with diversity is critically necessary.

## Research Methods

This study uses data from the Wabash National Study of Liberal Arts Education (WNS) – a large, multi-institutional dataset with a comprehensive pre and post-test design. This dataset was collected and organized by the Center of Inquiry in the Liberal Arts at Wabash College and the Center for Research on Undergraduate Education (CRUE) at the University of Iowa. The WNS is a longitudinal study of the effects of colleges and their experiences on the personal and cognitive outcomes thought to be associated with an education from an institution of higher education.

**Table 2 - Participating Institutions**

| <b>Liberal Arts Colleges</b> | <b>Regional Universities</b>            | <b>Research Universities</b> |
|------------------------------|---|------------------------------|
| Alma College                 | Butler University                       | University of Kentucky       |
| Bard College                 | San Jose State University               | University of Michigan       |
| Coe College                  | University of North Carolina Wilmington | University of Notre Dame     |
| Columbia College (SC)        |   |                              |
| Connecticut College          |   |                              |
| Gustavus Adolphus College    |   |                              |
| Hamilton College             |   |                              |
| Hampshire College            |   |                              |
| Hope College                 |   |                              |
| Wabash College               |   |                              |
| Whittier College             |   |                              |

### **Institutional Sample**

The data used in this study were comprised of reports from incoming first year undergraduate students at 17 four-year colleges and universities located across the United States in the Northeast, Southeast, Midwest, and Pacific Coast regions representing eleven different states. Differences in the institutions selected account for a wide range of size, geographical location, institutional type and control as well as academic admission selectivity. Institutional enrollment provided considerable variability from entering classes as small as 250 and as high as

6,000. Of the institutions participating, three were research universities, three were regional universities with no doctorates granted, and eleven were liberal arts colleges according to the 2007 Carnegie Classification of Institutions.

### **Student Sample**

At each of the 17 institutions considered in this study, all individuals were first-year, full time undergraduates. For larger institutions, students were selected at random from each first-year incoming class during the initial sample while at smaller institutions, the students selected comprised the entire incoming first year class. One exception to this sampling occurs with the largest participating institution where the sample was randomly selected from the incoming College of Arts and Sciences class. The initial data collection took place during the students' first college semester. At this Time 1 survey (Fall 2006), 4,193 students participated in the WNS. During the Time 2 collection (Spring 2007), 3,081 participated in the survey. The Time 3 final collection (Spring 2010) included 2,212 students for a 52.8% response rate over these four years. Students were informed that information they provided would never become part of their institutional record, nor would their personal information be made publicly available. They understood that their data would be used in a national longitudinal study examining college impact on students with the ultimate goal of improving the experience for undergraduates at institutions similar to their own. In efforts to adjust for potential response bias by sex, race, academic ability, and institution in the sample of students, a weighting algorithm was developed. Through information provided by each institution, follow-up participants were weighted up to each institution's first-year undergraduate population by sex (male or female), race (white, African American/Black, Hispanic/Latino, Asian/Pacific Islander, or other) and ACT (or

equivalent score) quartile. While this weighting has the potential to make the overall sample more similar to the population it is drawn from, nonresponse bias cannot be adjusted for.

### **Data Collection**

In early fall of 2006 (Time 1), students in their first semester of college spent 90-110 minutes completing the survey. Data collected included a WNS pre-college survey inquiring about information such as student demographic characteristics, family background, high school experiences, political orientation, educational degree plans, etc. Students also completed a series of standardized instruments that measured dimensions of intellectual and personal development widely considered to be outcomes of undergraduate education (Pascarella & Terenzini, 2005).

In spring of 2007 (Time 2) and spring of 2010 (Time 3), follow-up data collection was performed requiring approximately two hours of each student's time. One type of data collected during the follow up focused on in-depth information on the students' experiences of college through the use of two questionnaire instruments; the National Survey of Student Engagement (NSSE) (Kuh G. , 2001) and the WNSLAE Student Experiences Survey (WSES). The second type of data collected was a post-test/follow-up designed to measure dimensions of intellectual and personal development that were first sampled in the initial data collection. Initial and follow-up data was collected by ACT.

The 2,212 students completing the assessment represented approximately 10% of the total population of incoming first-year students at the 17 participating institutions. To deal with missing data, I used listwise deletion removing only fourteen students from the overall sample. Following the deletions, useable data for analysis were available for 2,178 students (approximately 56% students attending liberal arts colleges, 31% students attending research

universities, and 15% students attending regional universities). Studying Table 4 allows for a closer look at the make-up of this sample. This sample has a large percentage of white females as females make up 63% of the sample and the sample is 79% white. A complete listing of participating institutions can be found in Table 2. These schools have high academic standards as demonstrated in that the average incoming ACT score or equivalent is more than 27.

### **Dependent Variable**

The dependent variable of interest in this particular study is leadership development, assessed through a pre-test and post-test of the Socially Responsible Leadership Scale (SRLS). The SRLS measures the eight dimensions of Astin's Social Change Model of leadership development (Astin A. , et al., 1996). In this model, leadership is a collaborative group process directed toward promoting positive social change in an organization or community (Tyree, 1998). Individuals with strong leadership traits tend to have the desire to make the world a better place, a strong set of values that serve as the guide in their decision making process, and the ability to influence change. The internal consistency reliability measure for the overall Socially Responsible Leadership Scale is .935. The SRLS has been shown to discriminate between involved and non-involved undergraduate students in community service, student organizational membership, formal leadership programs, and positional leadership roles (Dugan, 2006). Additional research by (Rubin, 2000) has demonstrated that undergraduates identified as "emerging student leaders" tend to score significantly higher on the SRLS congruency, collaboration, common purpose, citizenship, and change scales than a control group of students not identified as "emerging student leaders" (Pascarella & colleagues, 2007).

By analyzing how participation in athletics and disaggregating by team vs. individual sport and collision vs. non-collision sport, the picture of what is going on with these athletes

becomes much clearer than the overall picture or even a broad measure of leadership. The following list of the eight subscales comprise the overall Socially Responsible Leadership Scale.

1. Consciousness of Self (being aware of the values, emotions, attitudes, and beliefs that motivate one to take action)
2. Congruence (thinking, feeling, and behaving with consistency, genuineness, authenticity, and honesty toward others)
3. Commitment (intensity and duration in relation to a person, idea, or activity—the energy and passion that propels one to act)
4. Collaboration (working with others in a common effort)
5. Common Purpose (working with others within a shared set of aims and values)
6. Controversy with Civility (recognizing two fundamental realities of any group effort, that (a) differences of viewpoint are inevitable and valuable, and (b) such differences must be aired openly and with respect and courtesy)
7. Citizenship (believing in a process whereby a person or group is responsibly connected to the environment and the community)
8. Change (adapting to continuously evolving environments and situations, while maintaining the primary functions of the group)

### **Control Variables - Student Characteristics**

Certain variables were used to control for student background and pre-college characteristics. A complete list of variables is found in Table 3. The variables used for analyses in my dissertation included:

- A pre-college measure of the Socially Responsible Leadership Scale
- Sex (coded as 1 = male, 0 = female)

- Race (coded as 0 = Black/non-Hispanic, American Indian/Alaska Native, Asian/Pacific Islander, and Hispanic, white/Caucasian = 1)
- High School Involvement – 7-item standardized scale measuring high school involvement was used to control for pre-college leadership activities.
- Pre-college Academic Preparation – created using a student’s ACT score or SAT equivalent. Schools provided the data for students’ ACT scores.
- Institutional type (coded as liberal arts institutions as =1, regional and research universities as =0)

**Table 3 – Variable List**

| <i>Variable Definitions</i>                |   |
|--|---|
| <i>Independent Variables</i>               | <b>Operational Definition</b>   |
| Overall Leadership Scale T1 (Standardized) | Astin’s dimensions of socially responsible leadership measured through combination of 8 subscales. Cronbach’s Alpha is equal to .935. |
| Athlete Variable                           | 1= athlete, 0= non-athlete  |
| Sex  | 1 = male, 0 =female   |
| Collision Team Sport                       | 1=Collision team sport participant, 0= Not a collision team sport participant   |
| Non-Collision Team Sport                   | 1=Non-collision team sport participant, 0= Not a non-collision team sport participant   |
| Individual Team Sport                      | 1=Individual sport athlete, 0=Not an individual sport athlete   |
| Race/Ethnicity                             | 1 = student is white/Caucasian, 0 = Black/non-Hispanic, American Indian/Alaska Native, Asian/Pacific Islander, Hispanic               |
| ACT composite score (Standardized)         | Composite ACT or SAT equivalent score converted to an ACT metric (information provided by the institution)                            |
| High School Involvement (Standardized)     | 7 item scale of HS Involvement  |

Table 3 Continued

|  |   |
|--|---|
| Pre-college score on the Need for Cognition Scale (Standardized) | Scores on an 18-item scale measuring the degree to which one enjoys effortful cognitive activities. Alpha internal consistency reliabilities range from .83 to .91. |
| Attends liberal arts college                                     | 1 = attended a liberal arts college, 0 = attends a research university or regional institution  |
| Co-Curricular Involvement (Standardized)                         | Number of hours spent per week on co-curricular activities  |
| Out of Class Experiences (Standardized)                          | The extent to which out of class experiences have had a positive influence on personal growth   |
| Work (Standardized)  | Number of hours worked on or off campus   |
| Entrepreneurial Importance (Standardized)                        | Importance of being a future entrepreneur   |
| Community Leader Importance (Standardized)                       | Importance of being a future community leader   |
| MGUDs (Standardized)   | Miville-Guzman Universality Diversity Scale   |
| <b><i>Dependent Variable</i></b>                                 |   |
| Socially Responsible Leadership Scale T3 (Standardized)          | Astin's dimensions of socially responsible leadership measured through combination of 8 subscales. Cronbach's Alpha is equal to .935.                               |

### **Intercollegiate Athletic Participation**

The independent variable of interest is whether a student participated in intercollegiate athletics. After categorizing students by their student-athlete status, I then cross-checked the sport they listed that they participate in with the varsity sports at their institution. I ended up with 268 athletes in my sample (about 12%). This relationship of athletes to non-athletes in my sample is very similar to that of many institutions across the country.

In order to evaluate how the differences in type of sport participation affect leadership, I created subgroups of the athlete category. I first coded those who are individual sport athletes as 1 and coded team sport athletes as the reference group. Those in the team sport category were then classified “based upon the degree that physical contact is an implicit (as opposed to incidental) part of appropriate player behavior” (Silva, 1983, p 442). I coded student-athletes in the team sport category 1 if they participated in a collision team sport and 0 in non-collision team sports. Collision sports were operationally defined as ice hockey, football and men’s lacrosse with other team sports classified into the non-collision subgroup. Based upon these classifications, the athlete category is comprised of three subgroups: 1) collision team sport athlete; 2) non-collision team sport athlete; and 3) individual athlete. The collision sport is the smallest subgroup, comprising approximately 15% of the athlete population. The other two subgroups are similar with approximately 42% in each of their respective categories. With differences in moral development based upon levels of contact in sport, the inclusion of this variable is well justified (Bredemeier & Shields, 1984).

### **During College Experiences**

I also looked at variables that help to explain what happens during a student’s college experience. I looked at how coursework helps a student make connections between his intended careers and how that future career can affect society. This variable was used as a standardized scale. I also included the number of hours respondents spent on co-curricular activities. Involvement as indicated by Astin (1993) and Tinto (1987) can have a major impact on the impact that the college experience has on a student.

**Table 4 – Descriptive Statistics**

| <b>Variable</b>                         | Usable data,<br>n= 2,178 |                                   |
|---|--------------------------|-----------------------------------|
| Athlete (athlete=1)                     | 268                      | 12% of sample                     |
| Team Sport - Collision Athlete          | 40                       | 15% of athlete population         |
| Team Sport – Non-Collision Athlete      | 114                      | 42% of athlete population         |
| Individual Team Athlete                 | 113                      | 42% of athlete population         |
| Gender (male=1)                         | 797                      | 37% of sample                     |
| Race (white=1)                          | 1,732                    | 79% of sample                     |
| Pre-College Tested Academic Preparation | 27.23                    | Average ACT Scale score of sample |
| Liberal Arts College                    | 1,227                    | 56% of sample                     |

**Work and Leadership**

I included hours worked as a variable to account for potential leadership growth gained through work experiences (Pascarella, Padgett, & Salisbury, 2012). I included the work variable to be measured by number of hours worked. I did not distinguish between on and off campus work and further standardized the hours on a scale.

**Leaders**

To look at those who believe they are potential future leaders I analyzed the measure of belief in entrepreneurial importance on a standardized metric. I also included the survey question of how important being a future community leader is to a student. I included participation in the community as it has been shown to be connected to leadership development (Dugan, 2006). I standardized these variables on a scale from essential to not important.

## **Diversity**

The extent to which diversity experiences occur during a student's college career can have a bearing on the ability to lead others. I used students' attitudes regarding diversity experiences as a control measure. To do this, I used the Miville-Guzman Universality-Diversity Scale, which measures the interest, comfort and appreciation that students have for people from diverse intellectual, cultural, and ethnic backgrounds (Fuertes, Miville, Mohr, Sedlacek, & Gretchen, 2000). This diversity variable serves as a control measure for athletes whose openness to diversity may influence their ability to collaborate and interact with diverse members of a team.

## **Data Analysis**

### **Regression.**

Since students were selected based upon institution rather than a simple random sample, the data was "clustered" or "nested" by institution. This violates the Ordinary Least Squares assumption of uncorrelated errors. To account for the nested effect, I adjusted the standard errors using the regression command with Stata 12. I ran all analyses using weighted sample estimates, adjusted to the sample size, to obtain correct standard errors and point estimates. As mentioned prior, to improve the ability to make comparisons, I standardized all continuous variables prior to the regression analysis. Doing this allows the variable to be looked at as a z-score with a mean of 0 and each standard deviation equal to 1. Comparisons become easier to make when placing all continuous variables on a standardized metric.

The data were adjusted for potential response bias due to oversampling by sex, race, and academic ability. To do this, a weighting algorithm was developed using the information provided by each institution on race/ethnicity, sex, and ACT equivalence score. Application of

these weights cannot adjust for nonresponse bias but does have the effect of making the sample more similar to the population from which it was drawn.

Regression models will be used to analyze data using the above mentioned variables. In looking at the relationship between athletic participation and leadership during college and the change over the course of a college career, not enough research has been done to give insight into potential findings. The ability to use a recognized and athletics-targeted leadership measure will prove to be an insightful view into the world intercollegiate athletic participation effects.

# Results

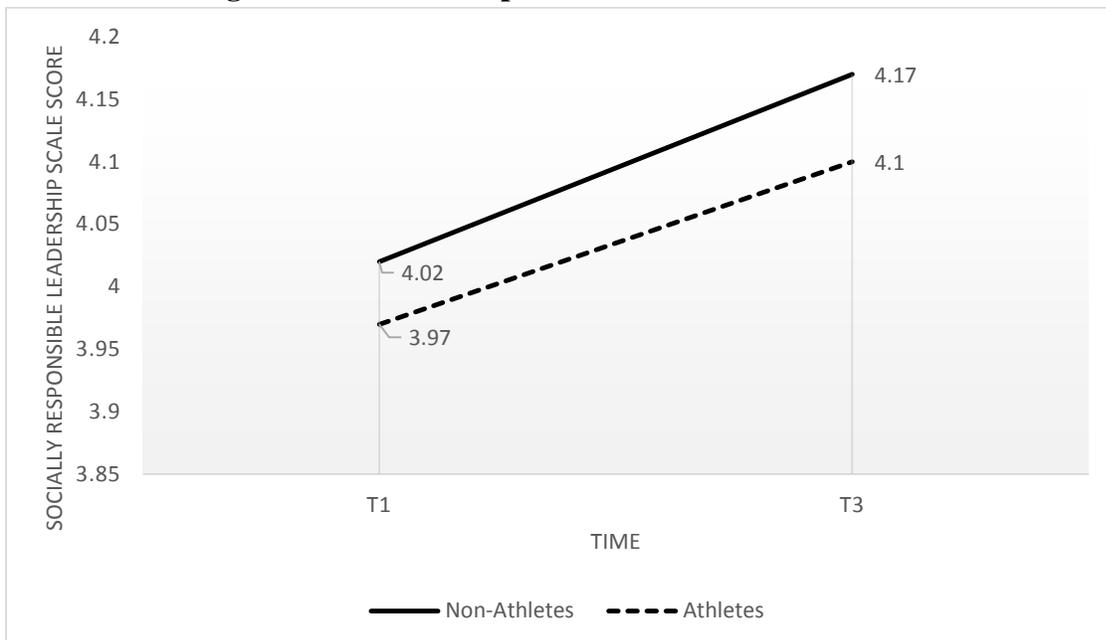
## Research Questions

The results from regression models are shown in Table 5. Because I standardized each of the dependent measures, the coefficients shown are effect size terms. These effect size terms are fractions of standard deviations that demonstrate the variable's effect (positive or negative) in leadership. The research questions guiding this study are restated and answered below.

### 1. Do student-athletes differ from non-student athletes in terms of leadership development during college?

In Chart 1, both athletes and non-athletes showed mean growth during college with non-athletes increasing leadership scores at a higher growth rate than athletes. The mean Socially Responsible Leadership Scale score for non-athletes at Time 1 was 4.02 while the mean SRLS score for athletes was 3.97. At Time 3, the non-athlete mean SRLS score was 4.17 - almost a tenth of a point higher than athletes (4.1). This information, summarized in Chart 1, shows athletes with lower levels of leadership at Time 1 and Time 3.

**Chart 1 – Average SRLS Score Comparison**



Found in Table 5, regression models 2 and 3 found the athlete variable not statistically significant in affecting the overall SRLS at Time 3 when controlling for selected pre-college and during-college effects. These results suggest that the athlete group as a whole is not statistically different than non-athletes in terms of leadership development during college.

**2. How do the effects of intercollegiate athletic participation on leadership development change by institutional type?**

When using institutional type as a control variable, this variable showed up as statistically significant ( $b = -.094$ ,  $p \leq .01$ ) in Model 5. This result suggests that attendance at a liberal arts college could have a small negative effect on leadership development during college when compared to research and regional institutions.

**3. Does sex influence leadership development in student-athletes?**

Sex was not statistically a significant variable in any model in this study. My data comprised approximately 60% females. Sex does not appear to have an impact on leadership based upon the models created for this study.

**4. Does participation in team sports vs. individual sports change leadership development among athletes?**

In Model 5, the estimated effect of being a team sport athlete on leadership appears to be negative on leadership development. Team sport athletes are shown to have a negative effect on leadership development of between  $-.159$  and  $-.214$  standard deviations. This finding is substantially different than individual sport athletes. Based upon the results in Model 5, it appears that individual sport athletes are not statistically different than non-athletes.

**Table 5 – Regression Models**

| <b>Variable</b>              | <b>Model 1</b> | <b>Model 2</b> | <b>Model 3</b> | <b>Model 4</b> | <b>Model 5</b> |
|------------------------------|----------------|----------------|----------------|----------------|----------------|
| Overall Leadership Scale T1  | 0.267***       | 0.221***       | 0.201***       | 0.202***       | 0.182***       |
|                              | (0.049)        | (0.042)        | (0.039)        | (0.038)        | (0.036)        |
| Athlete Variable             |                | -0.120         | -0.083         |                |                |
|                              |                | (0.107)        | (0.120)        |                |                |
| Collision Team Sport         |                |                |                | <b>-0.259*</b> | <b>-0.214*</b> |
|                              |                |                |                | <b>(0.115)</b> | <b>(0.092)</b> |
| Non-Collision Team Sport     |                |                |                | -0.130         | <b>-0.159*</b> |
|                              |                |                |                | (0.079)        | <b>(0.068)</b> |
| Individual Sport             |                |                |                | 0.009          | -0.019         |
|                              |                |                |                | (0.227)        | (0.181)        |
| Sex                          | -0.033         | -0.030         | -0.043         | -0.039         | 0.028          |
|                              | (0.029)        | (0.031)        | (0.039)        | (0.038)        | (0.041)        |
| Race/Ethnicity               | 0.044          | -0.006         | 0.036          | 0.035          | 0.020***       |
|                              | (0.032)        | (0.044)        | (0.037)        | (0.038)        | (0.028)        |
| ACT Composite or Equivalent  | -0.074***      | -0.076***      | -0.058***      | -0.057***      | -0.065***      |
|                              | (0.016)        | (0.015)        | (0.012)        | (0.012)        | (0.016)        |
| High School Involvement      | 0.140**        | 0.111**        | 0.092**        | 0.093**        | 0.070*         |
|                              | (0.039)        | (0.031)        | (0.033)        | (0.034)        | (0.029)        |
| Need for Cognition Scale T1  | 0.069**        | 0.058**        | 0.051**        | 0.051**        | -0.015         |
|                              | (0.023)        | (0.017)        | (0.015)        | (0.015)        | (0.014)        |
| Attends Liberal Arts College | -0.0007        | -0.057         | -0.055         | -0.051         | -0.094**       |
|                              | (0.037)        | (0.030)        | (0.028)        | (0.027)        | (0.033)        |
| <i>Cont.</i>                 |                |                |                |                |                |

Table 5 Continued

|                                  |         |          |          |          |          |
|----------------------------------|---------|----------|----------|----------|----------|
| Co-Curricular Involvement        |         | 0.130*** | 0.085*   | 0.082*   | 0.096*** |
|                                  |         | (0.026)  | (0.035)  | (0.032)  | (0.019)  |
| Out of Class Experiences         |         | 0.269*** | 0.232*** | 0.232*** | 0.172*** |
|                                  |         | (0.026)  | (0.020)  | (0.019)  | (0.020)  |
| Work                             |         | 0.056    | 0.039    | 0.040    | 0.041*   |
|                                  |         | (0.037)  | (0.027)  | (0.027)  | (0.019)  |
| Entrepreneurial Importance       |         |          | 0.028**  | 0.029**  | 0.033**  |
|                                  |         |          | (0.009)  | (0.009)  | (0.012)  |
| Community Leader Importance      |         |          | 0.212*** | 0.212*** | 0.171*** |
|                                  |         |          | (0.019)  | (0.018)  | (0.012)  |
| Diversity (MGUD)                 |         |          |          |          | 0.316*** |
|                                  |         |          |          |          | (0.017)  |
| Constant                         | 0.007   | 0.068    | 0.045    | 0.042    | -0.087   |
|                                  | (0.017) | (0.037)  | (0.028)  | (0.027)  | (0.031)  |
| Observations                     | 2,075   | 2,059    | 2,051    | 2,051    | 2,043    |
| R-squared                        | 0.1709  | 0.282    | 0.327    | 0.328    | 0.417    |
| Standard errors in parentheses   |         |          |          |          |          |
| *** p<0.001, ** p<0.01, * p<0.05 |         |          |          |          |          |

### 5. Does leadership development change by level of contact in sport?

Model 5 shows varying statistically significant negative effects on SRLS based upon a sport's level of contact. The effect of non-collision team sport participation on leadership development is negative ( $b = -.159, p \leq .05$ ) and the effect of collision team sport participation on leadership development is even more negative ( $b = -.214, p \leq .05$ ). This demonstrates that the effect of collision team sport participation on leadership development is .055 standard deviations

larger (more negative) than non-collision team sport participation. These findings are significant and appear even in the presence of statistical controls for a pre-test measure of leadership, sex, race, ACT, work, institutional type, outside of class experiences and diversity. This finding supports a larger negative effect size on leadership development as the level of contact in sport participation increases.

### **Further Analysis**

Further analysis shows a statistically significant impact on leadership when looking at pre-college ACT scale score. In Model 5, ACT scale score had a statistically significant negative effect ( $b = -.065, p \leq .001$ ) on leadership development. This is a trend that has been seen in other studies with this same dataset and believed to be a result of the ACT variance being partitioned out through several other variables that are closely correlated with ACT score. Also in Model 5, co-curricular involvement ( $b = .096, p \leq .001$ ) and out of class experiences ( $b = .172, p \leq .001$ ) showed significant positive effects on leadership development. These findings suggest that out of class experiences and student involvement on campus positively influences leadership development. As Astin's research (1993) shows, co-curricular involvement can be one of the strongest factors in student development. My findings support that notion. High school involvement ( $b = .070, p \leq .05$ ) also had a significant, positive effect on leadership development. Model 3 introduced variables that measure the importance a student places on future community leader importance ( $b = .212, p \leq .001$ ) and entrepreneurial importance ( $b = .028, p \leq .001$ ). As these variables measure closely along the subscales of citizenship and change, each had positive effects on leadership development.

## Discussion

This dissertation provides new empirical evidence regarding the effects of intercollegiate athletic participation on leadership measures. When compared to the five major studies (summarized in Table 1), my dissertation results offer a new approach of assessing student-athletes and their leadership ability, but also provide conclusions that are less positive than previously published. Importantly, this dissertation contributes to a gap in the literature and provides objective insight into measuring leadership growth among college students.

My dissertation results support that athletes do not have higher leadership levels than non-athletes. Additionally, certain subgroups of athletes score lower on leadership measures than non-athletes. While the potential for skewness exists, the athlete representation of 12% of the sample is very representative of the colleges in this sample with some of the liberal arts colleges such as Whittier College and Connecticut College having over 30% athletes on campus and research universities like the University of Kentucky and University of Michigan closer to 3-4% (Forbes, 2013).

Categorizing the athlete subset into “team” and “individual” sports resulted in a separation and clearer focus. This separation indicated that team sport participation has a negative effect on leadership development. Model 5 demonstrated that participation in collision sport participation had a stronger negative effect on leadership than did participation in non-collision team sports. This finding reveals that participation in violent sports leads to athletes scoring lower than all other categories of students in the sample on questions such as “I can make a difference when I work with others on a task” and “I believe that better outcomes result when many people work together”. Such findings support previous research pointing to non-

leadership differences in athletes given the level of contact and physical domination inherent in their sports (Duda, Olson, & Templin, 1991; Kavussanu & Ntoumanis, 2003; Tod & Hodge, 2001). Just as other development can be affected by violent sport participation, this result regarding collision sport participation suggests leadership development is affected in much the same way. Further research in the area of the impact of collision or violent sport participation is needed to better understand what potential effects such participation may have on other types of psychosocial development.

Previous research on moral reasoning does not explain the way in which *both* types of team sports (collision and non-collision) negatively impact leadership development among student-athletes. This is a difficult finding to explain, however, perhaps the need to create a group-think or herd mentality for a large scale sports program to function effectively could lead to more followers and less leaders. With the use of a different leadership scale this notion of group-think could persist as a reasonable explanation. However, with the Socially Responsible Leadership Scale made up of the subscales of collaboration, common purpose, and commitment, even following sheep would score well on such measures in a way that demonstrates a focus on the group and team to promote its success.

The results of this dissertation are relevant and important, particularly the finding that liberal arts colleges have a negative impact on leadership. Normal concerns within the NCAA arise at the Division I level, where money and fame are ever-present. Intercollegiate athletics arguably are in a more pure form at the Division III level, which leads to a surprising finding that attendance at a liberal arts college may actually limit leadership development. Similar to ACT score demonstrating a negative effect, with so many variables partitioning out the effects of liberal arts attendance and a small coefficient, the value of these findings are still unclear. Future

studies centered on understanding the role of how student experiences across institutional types contribute to leadership development would help to elucidate these effects.

Model 5 establishes that how students score on the diversity scale has a large effect on leadership development. MGUD scale score had a significant positive effect on leadership in all models. This confirms previous research that an individual must interact and engage with diverse peers to be a successful leader (Hirko, 2007). Further longitudinal study on the topic of athletics and diversity would add context to this topic and allow for a deeper understanding of whether athletics serves as a means to expose athletes to diverse peers or if athletics serves as an insular culture that limits diversity and inhibits growth during college as suggested by Nishimoto (2007).

Studies have identified that out of class experiences have a positive impact on leadership development, which was confirmed by my study. The out of class experience variable was significant in each model with a coefficient that ranged between .172 and .269. Given the time demands of intercollegiate athletics, athletes are not only subjected to the effects of athletic participation, but also restricted from participating in other activities that have the potential to lead to positive growth and development. In trying to explain the differences found in team-sport athletes vs non-athletes, limitations on access to out of class experiences may be a contributing factor that amplifies the differences found in this study. The majority of research on levels of contact in intercollegiate athletic participation effects has looked at the relationship with moral reasoning (Turner, Barling, Epitropaki, Butcher, & Milner, 2002). Preliminary analysis with moral reasoning in this dataset demonstrated a minor, non-significant relationship with the athlete variable and a small, non-significant positive interaction with the Socially Responsible Leadership Scale. I was not able to include the DIT-2 score (moral reasoning measure) in my models as only half of the sample completed this test. This is a compelling area that requires

further research to better understand the unique athlete population however, was outside of the scope of this study.

## Implications

Findings from this study address concerns about the relationship between athletic participation and leadership development in both men and women. These concerns fuel the debate over the place of intercollegiate athletics in educational settings. These results also call into question the significant investments many institutions make to such programs. Future studies of college effects involving either leadership or athletics should include measures for diversity, as this was shown to have strong positive effect on leadership development. Diversity was also seen to be a mediating effect for athletic participation. This finding furthers the need for future research in the area of athletics, which should include diversity analysis.

Claiming athletics serve no benefit to the world of higher education is absurd. Nonetheless, it would be wise to question what effect such participation is having on athletes who are the labor force in the business of athletics. My research suggests that this participation could negatively impact athletes following their collegiate careers. Traditionally, student-athletes have a higher than average marketability due to their demonstrated ability to handle a load above that of the regular college student. While this can help a future employer evaluate the potential of a job candidate, employers may want to take caution at believing as society traditionally does – that student athletes are more effective leaders as a result of their intercollegiate athletic participation.

College administrators should also reconsider the use of athletics as a means of fund raising and increasing student enrollment if doing so is at the expense of the athlete's psychosocial growth. The NCAA and many college athletic departments should reconsider the publicizing of leadership abilities of student-athletes. While all athletes may not have lower levels of leadership than non-student athletes, my dissertation findings certainly point to the idea

that athletes are definitely not significantly different in a positive way when compared to non-athletes. The strategic plan for an athletic department that focuses on “Tomorrow’s Leaders” in reference to student-athletes appears to be nothing more than a marketing slogan.

Further research on the types of leadership considered valuable in society is needed. It is hard to argue that society does not need more socially responsible leaders, but perhaps athletics boosts a type of leadership I was unable to capture effectively through the Socially Responsible Leadership Scale which is comprised of the eight subscales that include consciousness of self, congruence, commitment, collaboration, common purpose, controversy with civility, citizenship and change. The Socially Responsible Leadership Scale was developed for use with college students, which underscores the importance of its use in this dissertation. Further research with other objective leadership measures would provide further context to better understand these findings.

It is possible that college coaches should take note of some of the programming offered on campus by student affairs professionals as some of the out of class experiences college students engage in were shown to have a sizable positive impact on leadership development. Astin’s work on student involvement (Astin, 1993) has held true in my dissertation with the exception of some athletic participation. There is something unique and inherent about certain types of sport participation that appears to inhibit leadership development. Perhaps in large team sports such as football (which also happens to be a collision sport), athletes actually have to assimilate like sheep to conform to the rules and regulations of major team sports. This may be beneficial for the good of the team within the sport participation context, but could result in irreparable harm for an athlete who goes on the live life with diminished ability to lead in the workplace and community. The differences found between team and individual sports suggest

that more research on the relationship individual sports and team sports have with leadership development would be highly beneficial.

Parents of athletes should also seek to gain a deeper knowledge of the effects that athletic participation may have on their children. A lack of leadership development from intercollegiate athletics may result in parents encouraging students to work to earn money and increase leadership ability instead of spending their free time participating in athletics. The work of Pascarella, Padgett and Salisbury (2012) using this same dataset demonstrated that work can have a positive impact on socially responsible leadership outcomes.

In the current climate within higher education, budget cuts are being made across academics as well as athletics. Some schools looking to cut athletics are met with concerns that athletics play a vital role in the development of students. The lack of impact seen in this study and importance placed on athletics in our society underscores the importance of further research on student athlete development. Additional research will work to combat societal beliefs that athletics increases leadership ability and positively develops students.

Further study should also take into consideration the way in which previous research utilized self-reported measures that have the potential to be inflated given student-athletes' overestimation of self-worth and abilities. If you ask an athlete if they are better leaders than they were four years ago or if they are better leaders than non-athletes, you can expect athletes to respond that they have grown in leadership and are in fact better leaders than their peers. Advanced scales designed to limit the over-estimated reporting effects should be implemented when studying the student-athlete population if at all possible.

## **Limitations**

Limitations of this study include the over representation of liberal arts institutions in the sample, but given the nature of this study, this was purposeful. Statistically, approximately 56% of the sample attended a liberal arts institution. The 17 institutions in 11 different states that chose to participate in the study made the decision to take part in this study, thus making a limitation of this study the self-selection nature of the institutions that participated.

It should also be noted when looking at this study that given the lower numbers of students of color in private liberal arts colleges, a large representation of Caucasian students are found in these data. Approximately 79% of the individuals in this sample identified themselves as white. The sample was also heavily female, making up approximately 67% of the sample. Weighting procedures were used to bring sample population up to institutional population representation.

Given the 68.5 % response rate from the initial data collection to the follow-up collection, a limitation of this study is that 1,420 students dropped out of the study. While weighting procedures were put in place to adjust the final sample, there is no way to guarantee that those students who dropped out would have responded the same as the 68.5% of the original data sample that were surveyed in the post-test.

Finally, it is also important to consider the differences of the intercollegiate athletic experience by institutional type and level of competition. The make-up of top tier athletic programs vary greatly when compared to that of a small liberal arts institution. Even within Division I there are significant differences in athletic programs and athlete experiences. I controlled for liberal arts college attendance but did not break down the research and regional

institutions to look for differences between those institutions. The sample of institutions in 11 states limit the transferability of data results to all institutions across America, differences of intercollegiate athletics by institution further challenge the ability to generalize these findings to all institutions of higher learning across the United States.

## Works Cited

- Adelman, M. (1990). *A sporting time: New York City and the rise of modern athletics*. Chicago, IL: University of Illinois Press.
- Albert Petitpas, Judy Van Raalte, Allen Cornelius, & Jim Presbrey. (2004). A life skills development program for high school student-athletes. *The Journal of Primary Prevention*, 325-334.
- Anderson, D. (1993). Cultural diversity on campus: A look at intercollegiate football coaches. *Journal of Sport and Social Issues*, 61-66.
- Anderson, E. (2002). Openly gay athletes: Contesting hegemonic masculinity in a homophobic environment. *Gender & Society*, 860-877.
- Astin, A. (1970). The methodology of research on college impact. *Sociology of Education*, 223-254.
- Astin, A. (1973). The impact of dormitory living on students. *Educational Record*.
- Astin, A. (1977). *Four critical years*. San Francisco: Jossey-Bass.
- Astin, A. (1985). Involvement: The cornerstone of excellence. *Change*, 133-138.
- Astin, A. (1993). *What matters in college? Four critical years revisited*. San Francisco: Jossey-Bass.
- Astin, A., & Astin, H. (1992). *Undergraduate science education: The impact of different college environments on the educational pipeline in the sciences. Final report*. Los Angeles, CA: Higher Education Research Institute.
- Astin, A., & Sax, L. (1998). How undergraduates are affected by service participation. *Journal of College Student Development*, 39, 251-263.
- Astin, A., Astin, H., Boatsman, K., Bonous-Hammarth, M., Chambers, T., Goldberg, S., & et al. (1996). *A social change model of leadership development: Guidebook (Version III)*. Los Angeles, CA: University of California at Los Angeles, Higher Education Research Institute.
- Atwell, R. (1983). Keeping the amateur in athletics. *Educational Record*, 16-17.
- Beam, J., Serwatka, T., & Wilson, W. (2004). Preferred leadership of NCAA Division I and II intercollegiate student-athletes. *Journal of Sport Behavior*, 3-17.
- Bebeau, M., & Thoma, S. (2003). *The guide for the DIT-2*. Minneapolis: University of Minnesota Center for the Study of Ethical Development.
- Benedict, J. (1997). *Public heroes, private felons: Athletes and crimes against women*. Boston, MA: Northeastern University Press.
- Berkowitz, S., Upton, J., & Gillum, J. (2010). How student fees boost college sports amid rising budgets. *USA Today*.

- Bess, J., & Dee, J. (2008). *Understanding college and university organization*. Sterling, VA: Stylus Publishing.
- Blann, F. (1985). Intercollegiate athletic competition and students' educational and career plans. *Journal of College Student Development*.
- Blinde, E., & Greendorfer, S. (1992). Conflict and the college sport experience of women athletes. *Women in Sport and Physical Activity Journal*, 1 (1), 97-113.
- Bowen, W. G., & Levin, S. A. (2003). *Reclaiming the game: college sports and educational values*. Princeton, NJ: Princeton University Press.
- Bredemeier, B. (1984). Moral reasoning and the perceived legitimacy of intentionally injurious sports acts. *Journal of Sport Psychology*, 7, 110-124.
- Bredemeier, B., & Shields, D. (1984). Divergence in moral reasoning about sport and everyday life. *Sociology of Sport*, 348-357.
- Bredemeier, B., & Shields, D. (1986). Moral growth among athletes and nonathletes: a comparative analysis. *The Journal of Genetic Psychology*, 147, 7-18.
- Byers, W. (1995). *Unsportsmanlike conduct - exploiting college athletes*. Ann Arbor: The University of Michigan Press.
- Cacioppo, J., Petty, J., Feinstein, R., & Jarvis, W. (1996). Dispositional differences in cognitive motivation: The life and times of individuals varying need for cognition. *Psychological Bulletin*, 119 (2), 197.
- Caron, S. (1993). Athletes as rape awareness educators. *Journal of American College Health*, 275-276.
- Chickering, A. (1972). Undergraduate academic experience. *Journal of Education Psychology*, 63 (2), 134.
- Chu, D. (1989). *The character of American higher education and intercollegiate sport*. Albany, NY: State University of New York Press.
- Chu, D., Segrave, J., & Becker, B. (1985). *Sport and higher education*. Champaign, IL: Human Kinetics Publishers Inc.
- Cooky, C. (2012). Success without honor cultures of silence and the Penn State scandal. *Cultural Studies Critical Methodologies*, 12 (4), 326-329.
- Cunningham, G., & Sagas, M. (2004). Group diversity, occupational commitment, and occupational turnover intentions among NCAA Division IA football coaching staffs. *Journal of Sport Management*, 18 (3).
- Cunningham, G., & Sagas, M. (2008). Gender and sex diversity in sport organizations: Introduction to a special issue. *Sex Roles*, 58 (1-2), 3-9.

- Davis, R. (1990). Academics and athletics on a collision course. *NDL Rev.*, 66, 239.
- Dobosz, R., & Beaty, L. (1999). The Relationship between athletic participation and high school students' leadership ability. *Adolescence*, Vol 34.
- DuBois, P. (1978). Participation in sports and occupational attainment: A comparative study. *Research Quarterly. American Alliance for Health, Physical Education, and Recreation*, 49 (1), 28-37.
- Duda, J., Olson, L., & Templin, T. (1991). The relationship of task and ego orientation to sportsmanship attitudes and the perceived legitimacy of injurious acts. *Research Quarterly for Exercise and Sport*, 79-87.
- Duderstadt, J. (2003). *Intercollegiate athletics and the American university*. Ann Arbor, MI: University of Michigan Press.
- Dugan, J. P. (2006). Explorations using the social change model: Leadership development among college men and women. *Journal of College Student Development*, 47, 216-225.
- Eberhardt, D. (2006). "Athletic reform is key to character development": An interview with Chancellor Gordon Gee of Vanderbilt University. *Journal of College and Character*, 7 (3), 1-2.
- Eiche, K., Sedlacek, W., & Adams-Gaston, J. (1997). An exploration of leadership characteristics in college athletes. Maryland University, College Park Counseling Center.
- Emerson, J., Brooks, R., & McKenzie, E. (2009). College athletics and student achievement. *New Directions for Institutional Research*, 2009 (144), 65-76.
- Engstrom, C., & Sedlacek, W. (1989). *Attitudes of residence hall students toward student-athletes: Implications for advising, training and programming*. University of Maryland.
- Everson, D. (2014, January 5). *What's your college football team worth?* Retrieved from Wall Street Journal:  
<http://online.wsj.com/news/articles/SB10001424052702304887104579302752525141772>
- Ferris, E., Finster, M., & McDonald, D. (2004). Academic fit of student-athletes: An analysis of NCAA division I-A graduation rates. *Research in Higher Education*, 555-575.
- Fink, J., Pastore, D., & Reimer, H. (2003). Managing employee diversity: Perceived practices and organizational outcomes in NCAA Division III athletic departments. *Sport Management Review*, 6 (2), 147-168.
- Flowers, L., & Pascarella, E. (1999). Cognitive effects of college racial composition on African American students after three years of college. *Journal of College Student Development*, 40, 669-677.
- Forbes. (2013, Fall). Retrieved from America's Top Colleges: <http://www.forbes.com/colleges>

- Fuertes, J., Miville, M., Mohr, J., Sedlacek, W., & Gretchen, D. (2000). Factor structure and short form of the Miville-Guzman Universality-Diversity Scale. *Measurement and Evaluation in Counseling and Development*, 33, 157-169.
- Gayles, J. G., & Hu, S. (2009). The influence of student engagement and sport participation on college outcomes among Division I student-athletes. *The Journal of Higher Education*, 315-333.
- Greenlee, C. (1998). Coaches Cornered: The 1997 racial report card. Part II. *Black Issues in Higher Education*, 15 (4), 23-30.
- Gurney, G., Tan, D., & Winters, C. (2010). Specially admitted student-athletes: Their academic performance, persistence, and graduation from an NCAA football bowl subdivision university. *International Journal of Sport Management*, 11 (3), 477-491.
- Hanford, G. (1979). Controversies in college sports. *Educational Record* 60, 351-366.
- Harris, O. (1994). Race, sport and social support. *Sociology of Sport Journal*, 11 (1).
- Harrison, C. K., Lapchick, R. E., & Janson, N. K. (2009). Decision making in hiring: Intercollegiate athletics coaches and staff. *New Directions for Institutional Research*, 93-101.
- Hendrickson, B. (2012, October 22). *A perfect landing*. Retrieved from National Collegiate Athletic Association: <http://www.ncaa.org/about/resources/media-center/news/perfect-landing>
- Higher Education Research Institute (HERI). (1996). *A social change model of leadership development (Version III)*. Los Angeles, CA: University of California Los Angeles.
- Hirko, S. (2007). Do college athletes learn from racial diversity in intercollegiate athletics? A study of the perceptions of college athletes from the state of Michigan. *ERIC Online Submission*.
- Hirko, S. (2009). Intercollegiate athletics and modeling multiculturalism. *New Directions for Higher Education*, 2009 (148), 91-100.
- Hood, A., Craig, A., & Ferguson, B. (1992). The impact of athletics, part-time employment, and other activities on academic achievement. *Journal of College Student Development*.
- Howard, A. (1986). College experiences and managerial performances. *Journal of Applied Psychology Monograph*, 530-532.
- Huh, S., & Kuh, G. (2002). Being (dis)engaged in educationally purposeful activities. *Research in Higher Education*, 43, 555-575.
- Huma, R., & Staurowsky, E. (2011, September 8). *The price of poverty in big time college sport*. Retrieved from National College Players Association: <http://www.ncpanow.org/research?id=0024>
- Katz, J. (1995). Reconstructing masculinity in the locker room: The mentors in violence prevention program. *Harvard Educational Review*, 163-175.

- Kavussanu, M., & Ntoumanis, N. (2003). Participation in sports and moral functioning: Does ego orientation mediate their relationship? *Journal of Sport and Exercise Psychology*, 501-518.
- Kavussanu, M., & Roberts, G. (2001). Moral functioning in sport: An achievement goal perspective. *Journal of Sport and Exercise Psychology*, 37-54.
- Kennedy, S., & Dimick, K. (1987). Career maturity and professional sports expectations of college football and basketball players. *Journal of College Student Personnel*.
- Kim, M.S., (1992). Types of leadership and performance norms of school athletic teams. *Perceptual and Motor Skills*, 803-806.
- Knight Foundation. (2001). *Report of the Knight Foundation on intercollegiate athletics*. Indianapolis, IN: National Collegiate Athletic Association.
- Kuh, G. (2001). Assessing what really matter to student learning: Inside the National Survey of Student Engagement. *Change*, 33,10-17,66.
- Kuh, S., & Kuh, G. (2003). Diversity experiences and college student learning and personal development. *Journal of College Student Development*, 44, 320-334.
- Long, J. E., & Caudill, S. B. (1991). The impact of participation in intercollegiate athletics on income and graduation. *The Review of Economics and Statistics*, 525-531.
- Loughead, T., & Leith, L. (2001). Hockey coaches' and players' perceptions of aggression and the aggressive behavior of players. *Journal of Sport Behavior*, 24 (4).
- Lumpkin, A. (2008). A call to action for faculty regarding intercollegiate athletics. *Phi Kappa Phi Forum*, (Vol. 88, No. 1, pp. 21-24).
- Marmion, H. (1987). Athletics: Time is running out. *AGB Reports*, 29 (4), 40-44.
- National Collegiate Athletic Association. (2009). Retrieved May 13, 2010, from [http://www.ncaa.org/wps/portal/ncaahome?WCM\\_GLOBAL\\_CONTEXT=/ncaa/ncaa/academics+and+athletes/education+and+research/academic+reform/grad+rate/2009/index-2009\\_fed\\_grad\\_rates.html](http://www.ncaa.org/wps/portal/ncaahome?WCM_GLOBAL_CONTEXT=/ncaa/ncaa/academics+and+athletes/education+and+research/academic+reform/grad+rate/2009/index-2009_fed_grad_rates.html)
- Nishimoto, P. (1997). Touchdowns and term papers: Telescoping the college student-athlete culture. *College Student Affairs Journal*, 96-103.
- Palmer, J., Davis, E., Sher, A., & Hicks, S. (1989). High school senior athletes as peer educators and role models: an innovative approach to drug prevention. *Journal of Alcohol and Drug Education*, 23-27.
- Pascarella, E. (1987). Are value-added analyses valuable? *In assessing the outcomes of higher education: Proceedings of the 1986 ETS Invitational Conference*. Princeton, NJ: Educational Testing Service.

- Pascarella, E. T., & colleagues. (2007). Methodological report for Wabash National Study of Liberal Arts Education. University of Iowa.
- Pascarella, E. T., & Terenzini, P. T. (1991). *How college affects students*. San Francisco: Jossey-Bass.
- Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students: A third decade of research*. San Francisco: Jossey-Bass.
- Pascarella, E. T., Truckenmiller, R., Nora, A., Terenzini, P. T., Edison, M., & Hagedorn, L. S. (1999). Cognitive impacts of intercollegiate athletic participation: Some further evidence. *The Journal of Higher Education*, 1-26.
- Pascarella, E., & Smart, J. (1991). Impact of intercollegiate athletic participation for African American and Causcasian men: some further evidence. *Journal of College Student Development*, 123-130.
- Pascarella, E., Bohr, L., Nora, A., & Terenzini, P. (1995). Intercollegiate athletic participation and freshman-year cognitive outcomes. *The Journal of Higher Education*, 369-387.
- Pascarella, E., Edison, M., Nora, A., Hagedorn, L. S., & Terenzini, P. (1996). Influence on students' openness to diversity and challenge in the first year of college. *Journal of Higher Education*, 174-195.
- Pascarella, E., Padgett, R., & Salisbury, M. (2012). The effects of work on leadership development during the first year of college. *Journal of college student development*, 53, 200-324.
- Pederson, P., Parks, J., Quarterman, J., & Thibault, L. (2011). *Contemporary sport management 4th edition*. Champaign, IL: Human Kinetics.
- Petitpas, A., Raalte, J. V., Cornelius, A., & Presbrey, J. (2004). A life skills development program for high school and student-athletes. *Journal of Primary Prevention*, 24 (3), 325-334.
- Pierce, C. (2012, May 9). *Gay (Non) panic*. Retrieved from Grantland:  
[http://www.grantland.com/story/\\_/id/7904723/nebraska-assistant-football-coach-ron-brown-beginning-end-homophobia-sports](http://www.grantland.com/story/_/id/7904723/nebraska-assistant-football-coach-ron-brown-beginning-end-homophobia-sports)
- Raelin, J. (2000). *Work-based learning: The new frontier of management development*. Reading, MA: Addison-Wesley.
- Raelin, J. (2006). Does action learning promote collaborative leadership? *Academy of Management and Learning & Education*, 152-168.
- Reall, M., Bailey, J., & Stoll, S. (1998). Moral reasoning "on hold" during a competitive game. *Journal of Business Ethics*, 17 (11), 1205-1210.
- Reimer, B., Beal, B., & Schroeder, P. (2000). The influences of peer and university culture on female student athletes' perceptions of career termination, professionalism, and social isolation. *Journal of Sport Behavior*, 364-379.

- Richard, S., & Aries, E. (1999). The Division III student-athlete: Academic performance, campus involvement, and growth. *Journal of College Student Development*, 40.3 (1999): 211-18.
- Rubin, J. (2000). *The emerging leaders. an evaluation of the social change model of leadership*. Union Institute.
- Rudd, A. (2007). Character development or winning at all costs? *The Teachers College Record*.
- Ryan, F. J. (1989). Participation in intercollegiate athletics: Affective outcomes. *Journal of College Student Development*, 122-128.
- Savage, H., McGovern, J., & Bentley, H. (1931). Current developments in American college sport (No. 26). *Carnegie Foundation for the Advancement of Teaching*.
- Scott, H. (2002). What game are they playing? A review of *The game of life* by James L. Shulman & William G. Bowen. *Journal of College and University Law*, 28 (3), 719-755.
- Sedlacek, W., & Adams-Gaston, J. (1992). Predicting the academic success of student-athletes using SAT and noncognitive variables. *Journal of Counseling and Development*, 724-727.
- Shulman, J. L., & Bowen, W. (2001). *The game of life: College sports and educational values*. Princeton, NJ: Princeton University Press.
- Silva, J. M. (1983). The perceived legitimacy of rule violating behavior in sport. *Journal of Sport Psychology*, 438-448.
- Sowa, C., & Gressard, C. (1983). Athletic participation: Its relationship to student development. *Journal of College Student Personnel*, 24, 236-239.
- Sperber, M. (2000). *Beer and Circus: How big-time college sports is crippling undergraduate education*. New York, NY: Holt & Company.
- Stone, J., & Strange, C. (1989). Quality of student experiences of freshman intercollegiate athletes. *Journal of College Student Development*, 30, 148-154.
- Suggs, W. (2004). At some colleges, students tax themselves to pay for sports. *Chronicle of Higher Education*, 50 (34), A37.
- Sundram, J. (2010). Downside of success: How increased commercialism could cost the NCAA its biggest antitrust defense. *Tul. L. Rev.*, 85 (2010): 543.
- Telander, R. (1996). *The hundred yard lie: The corruption of college football and what we can do to stop it*. Urbana, IL: University of Illinois Press.
- Terenzini, P., Pascarella, E., & Blimling, G. (1996). Students; out-of-class experiences and their influence on learning and cognitive development: A literature review. *Journal of College Student Development*, 37, 149-162.

- Thelin, J. (1994). *Games colleges play*. Baltimore: The Johns Hopkins University Press.
- Tinto, V. (1987). *Leaving college*. University of Chicago Press.
- Tod, D., & Hodge, K. (2001). Moral reasoning and achievement motivation in sport: A qualitative inquiry. *Journal of Sport Behavior*, 24 (3).
- Toma, J. D., & Cross, M. E. (1998). Intercollegiate athletics and student college choice: Exploring the impact of championship seasons on undergraduate applications. *Research in Higher Education*, 633-661.
- Tucker, I. (1992). The impact of big-time athletics on graduation rates. *Atlanta Economic Journal*, 20 (4), 65-72.
- Turner, N., Barling, J., Epitropaki, O., Butcher, V., & Milner, C. (2002). Transformational leadership and moral reasoning. *Journal of Applied Psychology*, 87 (2), 304.
- Turner, S., Meserve, L., & Bowen, W. (2001). Winning and giving: Football results and alumni giving at selective private colleges and universities. *Social Science Quarterly*, 82 (4), 812-826.
- Tyree, T. (1998). Designing an instrument to measure socially responsible leadership using the social change model of leadership development. University of Maryland-College Park.
- Umbach, P., Palmer, M., Kuh, G., & Hannah, S. (2006). Intercollegiate athletics and effective educational practices: Winning combination or losing effort? *Research in Higher Education*, 47 (6), 709-733.
- United States Department of Education. (2014, January 21). *Equity in athletics data*. Retrieved from The Equity in Athletics Data Analysis Cutting Tool: <http://ope.ed.gov/athletics/>
- University of Iowa Athletic Department. (2013). *The University of Iowa athletics department strategic plan 2013-2018*. Iowa City, IA.
- Wabash College. (n.d.). *The Socially Responsible Leadership Scale (SRLS)*. Retrieved from Wabash College: [http://wabash.edu/news/displaystory.cfm?news\\_ID=2647](http://wabash.edu/news/displaystory.cfm?news_ID=2647)
- Watterson, J. (2000). *College football. History, spectacle, controversy*. Baltimore: John Hopkins University Press.
- Whitt, E., Edison, M., Pascarella, E., Terenzini, P., & Nora, A. (2001). Influences on students' openness to diversity and challenge in the second and third years of college. *Journal of Higher Education*, 172-204.
- Winter, D., McClelland, D., & Stewart, A. (1981). *A new case for the liberal arts: Assessing institutional goals and student development*. San Francisco: Jossey-Bass.

- Wolf-Wendel, L., Toma, D., & Morphew, C. (2001). How much difference is too much difference? Perceptions of gay men and lesbians in intercollegiate athletics. *Journal of College Student Development*, 465-479.
- Wolniak, G., Pierson, C., & Pascarella, E. (2001). Effects of intercollegiate athletic participation on male orientations toward learning. *Journal of College Student Development*, 42 (6), 604-624.
- Wolverton, B. (2008). Athlete's hours renew debate over college sports. *Chronicle of Higher Education*.
- Zimbalist, A. (1999). *Unpaid professionals*. Princeton, NJ: Princeton University Press.

## Appendix

**Table A1 - Descriptive Statistics for Variables Included**

| N=2,178                                    |             |                 |            |            |
|--|-------------|-----------------|------------|------------|
| <b>Variable</b>                            | <b>Mean</b> | <b>St. Dev.</b> | <b>Min</b> | <b>Max</b> |
| 1. SRLS – Pre-test                         | 0.0006      | 1.0014          | -6.709     | 2.3694     |
| 2. SRLS – Post-test                        | 0.0002      | 0.9999          | -7.0767    | 2.0742     |
| 3. Athlete (athlete=1)                     | 0.123       | 0.3285          | 0          | 1          |
| 4. Team Sport - Collision Athlete          | 0.01836     | 0.1342          | 0          | 1          |
| 5. Team Sport – Non-Collision Athlete      | 0.0523      | 0.2227          | 0          | 1          |
| 6. Individual Team Athlete                 | 0.0518      | 0.2218          | 0          | 1          |
| 7. Gender (male=1)                         | 0.3659      | 0.4818          | 0          | 1          |
| 8. Race (white=1)                          | 0.7952      | 0.4036          | 0          | 1          |
| 9. Pre-College Tested Academic Preparation | 0           | 1               | -3.1116    | 2.0608     |
| 10. High School Involvement                | 0           | 1               | -3.6582    | 2.3959     |
| 11. Need for Cognition at Time 1           | 0           | 1               | -3.8992    | 2.4677     |
| 12. Institutional Type (liberal arts = 1)  | 0.5633      | 0.496           | 0          | 1          |
| 13. Co-Curricular Involvement - Time 3     | 0           | 1               | -1.1214    | 3.2931     |
| 14. Out of Class Experiences - Time 3      | 0           | 1               | -4.6817    | 0.8145     |
| 15. Work Hours at Time 3                   | 0           | 1               | -1.0491    | 5.3162     |
| 16. Entrepreneurial Interest - Time 3      | 0           | 1               | -1.0159    | 1.7595     |
| 17. Community Leader Interest - Time 3     | 0           | 1               | -1.3538    | 1.6062     |
| 18. MGUDS Total Score - Time 3             | 0           | 1               | -4.2433    | 2.0439     |
| *all continuous variables are standardized |             |                 |            |            |

**Table A2 – Correlation Matrix**

|                                |         |         |         |         |         |         |         |         |         |         |         |         |         |        |        |        |        |        |
|--------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|--------|--------|--------|--------|
|                                | 1       | 2       | 3       | 4       | 5       | 6       | 7       | 8       | 9       | 10      | 11      | 12      | 13      | 14     | 15     | 16     | 17     | 18     |
| 1. SRLS (T1/Pre-test)          | 1.0000  |         |         |         |         |         |         |         |         |         |         |         |         |        |        |        |        |        |
| 2. Athlete (athlete=1)         | -0.0373 | 1.0000  |         |         |         |         |         |         |         |         |         |         |         |        |        |        |        |        |
| 3. Team Sport - Collision      | 0.0122  | 0.3655  | 1.0000  |         |         |         |         |         |         |         |         |         |         |        |        |        |        |        |
| 4. Team Sport - Non-Collision  | -0.0690 | 0.6283  | -0.0327 | 1.0000  |         |         |         |         |         |         |         |         |         |        |        |        |        |        |
| 5. Individual Sport            | 0.0109  | 0.6224  | -0.0324 | -0.0557 | 1.0000  |         |         |         |         |         |         |         |         |        |        |        |        |        |
| 6. Sex (male=1)                | -0.1020 | 0.1334  | 0.1604  | 0.0533  | 0.0439  | 1.0000  |         |         |         |         |         |         |         |        |        |        |        |        |
| 7. Race (white=1)              | 0.0076  | 0.1186  | 0.0361  | 0.0898  | 0.0624  | 0.0283  | 1.0000  |         |         |         |         |         |         |        |        |        |        |        |
| 8. Pre-College ACT Equiv.      | 0.0710  | -0.0926 | -0.0862 | -0.0642 | -0.0186 | 0.0609  | 0.2736  | 1.0000  |         |         |         |         |         |        |        |        |        |        |
| 9. High School Involvement     | 0.2902  | -0.0922 | -0.0472 | -0.0682 | -0.0327 | -0.2420 | -0.0527 | 0.0683  | 1.0000  |         |         |         |         |        |        |        |        |        |
| 10. Need for Cognition (T1)    | 0.3739  | -0.1140 | -0.0697 | -0.0933 | -0.0290 | 0.0008  | 0.0562  | 0.2941  | 0.1577  | 1.0000  |         |         |         |        |        |        |        |        |
| 11. Institutional Type (LAC=1) | -0.0076 | 0.2420  | 0.1009  | 0.1590  | 0.1355  | 0.0438  | 0.0567  | -0.1561 | -0.0719 | 0.0742  | 1.0000  |         |         |        |        |        |        |        |
| 12. Co-Curricular Inv. (T3)    | 0.0507  | 0.3154  | 0.1164  | 0.1775  | 0.2193  | 0.1270  | 0.0430  | -0.0137 | 0.0836  | 0.0356  | 0.1337  | 1.0000  |         |        |        |        |        |        |
| 13. Out of Class Exp. (T3)     | 0.1885  | -0.0106 | -0.0243 | 0.0196  | -0.0194 | -0.0796 | 0.0307  | 0.0482  | 0.1141  | 0.1181  | 0.0462  | 0.0848  | 1.0000  |        |        |        |        |        |
| 14. Work Hours (Time 3)        | 0.0377  | 0.0055  | 0.0263  | 0.0300  | -0.0413 | -0.0625 | -0.1071 | -0.2085 | 0.0478  | -0.0496 | -0.0095 | -0.0086 | 0.0113  | 1.0000 |        |        |        |        |
| 15. Entr. Interest (T3)        | 0.0049  | 0.0579  | 0.0451  | 0.0347  | 0.0218  | 0.2062  | -0.1611 | -0.2063 | -0.0480 | -0.0514 | -0.0024 | 0.0939  | -0.0272 | 0.0982 | 1.0000 |        |        |        |
| 16. Comm. Leader Int. (T3)     | 0.2021  | 0.0273  | 0.0077  | 0.0040  | 0.0346  | -0.0051 | -0.0853 | -0.0813 | 0.1802  | 0.0953  | 0.0339  | 0.2245  | 0.1730  | 0.0915 | 0.1988 | 1.0000 |        |        |
| 17. MGUDs (Time 3)             | 0.2726  | -0.0948 | -0.0909 | -0.0508 | -0.0329 | -0.1495 | -0.1653 | 0.0086  | 0.2034  | 0.2623  | 0.0525  | -0.0051 | 0.2438  | 0.0191 | 0.0071 | 0.2312 | 1.0000 |        |
| 18. SRLS (T3/Post-test)        | 0.3684  | -0.0534 | -0.0436 | -0.0416 | -0.0102 | -0.0875 | -0.0241 | -0.0078 | 0.2230  | 0.1874  | -0.0025 | 0.1383  | 0.3482  | 0.0648 | 0.0789 | 0.3428 | 0.4529 | 1.0000 |

**Table A3 - Socially Responsible Leadership Scale Questions**

Below are examples of SRLS questions relating to the each specific "C."

From Wabash College Website SRLS page (Wabash College).

|   |   |   |
|---|---|---|
| Respondents rate each statement from strongly disagree (1) to strongly agree (5). |   |   |
| <i>Consciousness of Self:</i>   | The things about which I feel passionate have priority in my life.                            | I am usually self-confident.  |
| <i>Congruence:</i>  | It is important to me to act on my beliefs.   | My behaviors are congruent with my beliefs.                           |
| <i>Commitment:</i>  | When I work with others on something, I think it is important that all members are dedicated. | I stick with activities that are important to me.                     |
| <i>Collaboration:</i>   | I can make a difference when I work with others on a task.                                    | I believe that better outcomes result when many people work together. |
| <i>Common Purpose:</i>  | I am committed to the collective purpose of the group.  | I believe in having a shared vision.                                  |
| <i>Controversy with Civility:</i>   | I am open to others' ideas.   | I value differences in others.  |
| <i>Citizenship:</i>   | It is important to me that I play an active role in my communities.                           | I volunteer my time to the community.                                 |
| <i>Change:</i>  | Change brings new life to an organization.  | There is energy in doing something a new way.                         |

**Table A4 - Miville-Guzman Universality-Diversity Scale**  
(Fuertes, Miville, Mohr, Sedlacek, & Gretchen, 2000)

| Indicate how descriptive each statement is of you by circling the number corresponding to your response.  | Strongly Disagree | Disagree | Disagree a little bit | Agree a little bit | Agree | Strongly Agree |
|---|-------------------|----------|-----------------------|--------------------|-------|----------------|
| 1. I would like to join an organization that emphasizes getting to know people from different countries.  | 1                 | 2        | 3                     | 4                  | 5     | 6              |
| 2. Persons with disabilities can teach me things I could not learn elsewhere.                             | 1                 | 2        | 3                     | 4                  | 5     | 6              |
| 3. Getting to know someone of another race is generally an uncomfortable experience for me.               | 1                 | 2        | 3                     | 4                  | 5     | 6              |
| 4. I would like to go to dances that feature music from other countries.                                  | 1                 | 2        | 3                     | 4                  | 5     | 6              |
| 5. I can best understand someone after I get to know how he/she is both similar to and different from me. | 1                 | 2        | 3                     | 4                  | 5     | 6              |
| 6. I am only at ease with people of my race.  | 1                 | 2        | 3                     | 4                  | 5     | 6              |
| 7. I often listen to music of other cultures.   | 1                 | 2        | 3                     | 4                  | 5     | 6              |
| 8. Knowing how a person differs from me greatly enhances our friendship.                                  | 1                 | 2        | 3                     | 4                  | 5     | 6              |
| 9. It's really hard for me to feel close to a person from another race.                                   | 1                 | 2        | 3                     | 4                  | 5     | 6              |
| 10. I am interested in learning about the many cultures that have existed in this world.                  | 1                 | 2        | 3                     | 4                  | 5     | 6              |
| 11. In getting to know someone, I like knowing both how he/she differs from me and is similar to me.      | 1                 | 2        | 3                     | 4                  | 5     | 6              |
| 12. It is very important that a friend agrees with me on most issues.                                     | 1                 | 2        | 3                     | 4                  | 5     | 6              |
| 13. I attend events where I might get to know people from different racial backgrounds.                   | 1                 | 2        | 3                     | 4                  | 5     | 6              |
| 14. Knowing about difference experiences of other people helps me understand my own problems better.      | 1                 | 2        | 3                     | 4                  | 5     | 6              |
| 15. I often feel irritated by persons of a different race.  | 1                 | 2        | 3                     | 4                  | 5     | 6              |