

THE EFFECTS OF GENDER, SOURCE OF EVALUATION AND SPORT
ON PERCEIVED LEADERSHIP ABILITIES
OF STUDENT-ATHLETES ON OLYMPIC SPORTS
AT THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

Shelley Hartford Johnson

A thesis submitted to the faculty of the University of North Carolina at Chapel Hill in partial fulfillment of the requirements for the degree of Master of Arts in the Department of Exercise and Sport Science (Sport Administration).

Chapel Hill
2006

Approved by

Advisor: Barbara Osborne, Esq.

Committee Member: Ed Shields, PhD

Committee Member: Jeff Janssen, MA

© 2006
Shelley Hartford Johnson
ALL RIGHTS RESERVED

ABSTRACT

SHELLEY HARTFORD JOHNSON: The Effects of Gender, Source of Evaluation and Sport on Perceived Leadership Abilities of Student-Athletes on Olympic Teams at the University of North Carolina at Chapel Hill
(Under the direction of Barbara Osborne)

This study examined the effects of gender, source of evaluation and sport on perceived leadership ability. The participants include varsity student-athletes and coaching staffs. The survey instrument is the Janssen Peak Performance Team Leadership Evaluation© consisting of 24 questions with a 5-point Likert scale which will serve be used for 360-degree feedback, the three sources of evaluation being the leader, teammates and coaches. The results found the following significant. Coach evaluations for male leaders on team sports scored higher than those on individual sports. Self evaluations for male leaders on individual sports were higher than the coach evaluations had for them. Coach evaluations for male leaders on team sports scored higher than those of the female leaders. More specifically, the evaluations of the male coaches of female leaders were higher than the evaluations of their female coaches. Finally, there was a significant relationship between leadership by example and vocal leadership.

ACKNOWLEDGEMENTS

I would like to thank the following who helped in the research and writing of this thesis:
the Department of Athletics at the University of North at Chapel Hill, the Carolina
Leadership Academy, Jeff Janssen, Barbara Osborne and Dr. Ed Shields.

TABLE OF CONTENTS

	Page
LIST OF TABLES.....	viii
LIST OF FIGURES.....	x
Chapter	
I INTRODUCTION.....	1
Introduction.....	1
Importance of Leadership.....	1
Lack of Leadership (Sociology).....	1
Carolina Leadership Academy.....	2
Statement of Purpose.....	3
Research Questions and Hypotheses.....	3
Main Effects.....	3
Interaction Effects.....	4
Definition of Terms.....	7
Assumptions.....	9
Limitations.....	10
Delimitations.....	11
Significance of the Study.....	12

II	LITERATURE REVIEW.....	15
	Leadership Theory.....	15
	Leadership Development.....	16
	Evaluation of Leadership (Ability).....	18
	Perceived Leadership Ability.....	19
	Student-Athletes.....	21
	360-Degree Feedback.....	23
	Sociology of Gender.....	25
	Team versus Individual Sports.....	26
III	METHODOLOGY.....	29
	Development of Survey Instrument.....	29
	Survey Instrument Description.....	30
	Selection of Survey Participants.....	30
	Survey Distribution and Collection Procedures.....	32
	Survey (Data) Analysis.....	32
IV	RESULTS.....	35
	Descriptive Summary Statistics.....	35
	Demographics.....	35
	Descriptives for Leadership by Example.....	38
	Descriptives for Vocal Leadership.....	41
	Inferential Test Results.....	44
V	DISCUSSION.....	53
	Interpretation/Discussion.....	54

Summary.....	64
Suggestions.....	65
Recommendations for the Carolina Leadership Academy.....	65
Recommendations for Further Study.....	67
APPENDICES.....	79
I. Janssen Peak Performance Team Captain’s Leadership Model©.....	79
II. Janssen Peak Performance Team Captain’s Leadership Model© Description.....	80
III. Janssen Peak Performance Team Captain’s Leadership Self Evaluation©.....	81
IV. Janssen Peak Performance Team Captain’s Leadership Evaluation©.....	82
V. Directions for Survey Administration and Collection.....	83
VI. Paradigm for 3-Way (2 X 3 X 2) Totally Between Subjects ANOVA.....	84
REFERENCES.....	85

LIST OF TABLES

Table	Page
1 Participation numbers by source of evaluation and sport (totals).....	36
2 Participation numbers by gender, source of evaluation and sport.....	69
3 Participation numbers by teams and gender.....	70
4 Descriptive statistics for leadership by example.....	71
5 Rankings for mean leadership by example by gender.....	39
6 Rankings for mean leadership by example by source.....	40
7 Rankings for mean leadership by example by sport.....	40
8 Rankings for mean leadership by example: overall.....	41
9 Descriptive statistics for vocal leadership.....	72
10 Rankings for mean vocal leadership by gender.....	41
11 Rankings for mean vocal leadership by source.....	42
12 Rankings for mean vocal leadership by sport.....	42
13 Rankings for mean vocal Leadership: Overall.....	43
14 Tests of between-subjects effects for leadership by example.....	45
15 Tests of between-subjects effects for vocal leadership.....	46
16 Independent samples t-test for pair-wise comparison: CI vs. CT.....	48
17 Independent samples t-test for pair-wise comparison: SI vs. CI.....	48
18 Independent samples t-test for pair-wise comparison: MCI vs. MSI.....	49
19 Independent samples t-test for pair-wise comparison: MCT vs. MSI.....	50
20 Independent samples t-test for pair-wise comparison: MCT vs. FCT.....	50
21 One-way ANOVA: male coaches vs. female coaches on female leaders.....	51

22	Bi-variate correlation: leadership by example and vocal leadership.....	52
23	Between-subjects factors for 3-way ANOVA.....	73
24	Descriptives for Gender of Coach for Female Leaders.....	73

LIST OF FIGURES

Figure	Page
1 Profile plots of estimated marginal means of leadership by example: gender * source of evaluation.....	74
2 Profile plots of estimated marginal means of vocal leadership: gender * source of evaluation.....	74
3 Profile plots of estimated marginal means of leadership by example: source of evaluation * sport.....	75
4 Profile plots of estimated marginal means of vocal leadership: source of evaluation * sport.....	75
5 Profile plots of estimated marginal means of leadership by example: gender * sport.....	76
6 Profile plots of estimated marginal means of vocal leadership: gender * sport.....	76
7 Clustered bar graph comparing males vs. females: leadership by example.....	77
8 Clustered bar graph comparing males vs. females vocal leadership.....	77
9 Scatterplot with line of best fit for bi-variate correlation between leadership by example and vocal leadership.....	78

CHAPTER I INTRODUCTION

INTRODUCTION

Importance of Leadership

Any coach – collegiate or otherwise – will extol the importance of leadership. Anson Dorrance (2004), head coach of the women's soccer team at the University of North Carolina at Chapel Hill (UNC-CH), explains, "The final piece of a championship team is leadership. The most attractive type of leadership to me is the student-athlete who is a coach on the field. I want a driving verbal force who won't let standards slip. That's how teams with ordinary talent can win championships. Without leadership, even a team with great talent will struggle to become champions." He should know: Carolina women's soccer has won 18 of the 25 Division I national championships contested in women's soccer. Leadership is paramount to success.

Lack of Leadership (Sociology)

Currently, coaches lament the lack of leadership ability among their student-athletes. Coaches such as Karen Shelton with 23 years of tenure observe that student-athletes are increasingly unprepared to assume leadership roles on her field hockey squads (Shelton, 2004). Leadership development expert, Jeff Janssen and his industry colleagues believe that the lack of leadership skills can be linked to the proliferation of adult-run youth sports

programs (Janssen, 2004, xix). Organized sport opportunities inhibit the development of leadership skills among today's youth.

In the past, children – independently and spontaneously - provided the structure now implemented by adults. Children played sports on their own terms. Such conditions inevitably fostered leadership skills. Neighborhood children gathered at a vacant lot. They designated the location, hauled the equipment, chose sides, negotiated the rules, enforced them, determined the line-up, officiated and arbitrated disagreements. Now adults control the process. They reallocate such responsibilities to commissioners, managers, coaches, carpool parents, team moms, officials/umpires/referees, sponsors, groundskeepers – all adults. In the process – while well intentioned, adults sacrifice their children's opportunity to lead. In short, with fewer opportunities to lead, there will be fewer leaders.

Given these circumstances, Janssen (2004a, xix) identifies the need for formal leadership development. He explains that for whom much is expected, little is taught. Team captains shoulder added responsibility than their teammates but lack the skills with which to deal. Formal instruction will provide them with the skills to do the job effectively. Like physical skills, leadership skills must be systematically taught, developed and practiced in order to be mastered.

Carolina Leadership Academy

Athletics Director Dick Baddour (2004) speaks for all the coaches at the University of North Carolina at Chapel Hill when he makes the point, "Our coaches were clear - the single most important characteristic necessary to build a winning program is leadership among the student-athletes." In response to this, he provided the vision and initiative necessary to create

a comprehensive leadership program for student-athletes, coaches and administrative staff. The Carolina Leadership Academy (CLA) provides comprehensive and cutting edge leadership development programming through interactive workshops, 360-degree feedback, one-on-one coaching, peer mentoring and educational resources. Effective leadership plays a critical role in the overall success of an athletics department.

STATEMENT OF PURPOSE

The purpose of the research is to examine the effects of gender, source of evaluation and sport on perceived leadership ability of student-athletes on Olympic sports at the University of North Carolina at Chapel Hill.

RESEARCH QUESTIONS AND HYPOTHESES (null and research)

Main Effects

- (1) What is the effect of gender on perceived leadership ability of student-athletes on Olympic sports at the University of North Carolina at Chapel Hill?

NULL HYPOTHESIS: There will be no statistically significant difference in the effect of gender on perceived leadership ability of student-athletes on Olympic sports at the University of North Carolina at Chapel Hill.

RESEARCH HYPOTHESIS: Women tend to undervalue themselves; men tend to overvalue. Consequently, the perceived leadership ability of males will be ranked higher than that of females.

- (2) What is the effect of evaluation source (i.e., self, coach, peers) on perceived leadership ability of student-athletes on Olympic sports at the University of North Carolina at Chapel Hill?

NULL HYPOTHESIS: There will be no statistically significant difference in the effect of evaluation source (i.e., self, coach, peers) on perceived leadership ability of student-athletes on Olympic sports at the University of North Carolina at Chapel Hill.

RESEARCH HYPOTHESIS: Coaches tend to evaluate most harshly. Teammates tend to evaluate most leniently. Consequently, peers evaluations will rank higher than self which will rank higher than coaches.

- (3) What is the effect of sport (i.e., individual or team) on perceived leadership ability of student-athletes on Olympic sports at the University of North Carolina at Chapel Hill?

NULL HYPOTHESIS: There will be no statistically significant difference in the effect of sport (i.e., individual or team) on perceived leadership ability of student-athletes on Olympic sports at the University of North Carolina at Chapel Hill.

RESEARCH HYPOTHESIS: Individual sport athletes tend to put the individual ahead of the team. They exhibit more concern for their individual performances than that of the team.

Without the context of a team, the individual sport athlete has little opportunity or need to practice leadership skills much less actually demonstrate them. Consequently, the leaders on team sports will rank higher than those on individual sports.

Interaction Effects

- (4) What is the effect of gender and source of evaluation on perceived leadership ability of student-athletes on Olympic sports at the University of North Carolina at Chapel Hill?

NULL HYPOTHESIS: There will be no statistically significant difference in the effect of gender and source of evaluation on perceived leadership ability of student-athletes on Olympic sports at the University of North Carolina at Chapel Hill.

RESEARCH HYPOTHESIS: Taking into consideration the proposed main effects of gender and source of evaluation, there will be a flip-flopping of ranking within the sources of evaluation. Male leaders will tend to rank themselves higher than teammates which will be ranked higher than coaches (males > teammates > coaches). Conversely, female leaders will tend to rank themselves lower than coaches which will be lower than teammates (teammates > coaches > females).

(5) What is the effect of gender and sport on perceived leadership ability of student-athletes on Olympic sports at the University of North Carolina at Chapel Hill?

NULL HYPOTHESIS: There will be no statistically significant difference in the effect of gender and sport on perceived leadership ability of student-athletes on Olympic sports at the University of North Carolina at Chapel Hill.

RESEARCH HYPOTHESIS: Taking into consideration the proposed main effects of gender and sport – male team sports will rank highest, and female individual sports will rank lowest.

(6) What is the effect of source of evaluation and sport on perceived leadership ability of student-athletes on Olympic sports at the University of North Carolina at Chapel Hill?

NULL HYPOTHESIS: There will be no statistically significant difference in the effect of source of evaluation and sport on perceived leadership ability of student-athletes on Olympic sports at the University of North Carolina at Chapel Hill.

RESEARCH HYPOTHESIS: Taking into consideration the proposed main effects of source of evaluation and sport, the rankings will be as follows: peer then self then coach team sport evaluations will rank highest with individual peer, self and finally coach evaluations.

(7) What is the effect of gender, source of evaluation and sport on perceived leadership ability of student-athletes on Olympic sports at the University of North Carolina at Chapel Hill?

NULL HYPOTHESIS: There will be no statistically significant difference in the effect of gender, source of evaluation and sport on perceived leadership ability of student-athletes on Olympic sports at the University of North Carolina at Chapel Hill.

RESEARCH HYPOTHESIS: Self evaluations of males on team sports will rank highest; self evaluation for females on individual sports will rank lowest.

(8) What is the effect of the gender of coach on perceived leadership ability of female student-athletes on Olympic sports at the University of North Carolina at Chapel Hill?

NULL HYPOTHESIS: There will be no statistically significant difference in the effect of gender of coach on perceived leadership ability of female student-athletes on Olympic sports at the University of North Carolina at Chapel Hill.

RESEARCH HYPOTHESIS: Male coaches will rate female leaders higher than female coaches will rate female leaders. There is the tendency to rate more harshly someone more similar to oneself; therefore, cross-gender evaluations tend to be more lenient, more generous.

(9) Is there is relationship between leadership by example and vocal leadership?

NULL HYPOTHESIS: There will be no relationship between leadership by example and vocal leadership.

RESEARCH HYPOTHESIS: According to the Janssen Peak Performance Leadership Model©, one must lead oneself before one leads others. Vocal leaders are leaders by example first. It is their actions which provide the platform upon which their vocal leadership is based. In this regard leadership by example would be a predictor variable for vocal leadership

DEFINITION OF TERMS

Carolina Leadership Academy (CLA)

As the nation's premier leadership development program in collegiate athletics, CLA develops, challenges and supports coaches, student-athletes and staff in their continual quest to become world class leaders in academics, athletics and life. CLA sets the standard in leadership excellence. It is comprehensive in scope and substantive in depth. Leadership training begins freshmen year. All leadership begins with Personal Leadership; therefore, freshmen are taught skills to effectively lead themselves. The Rising Stars program is designed for a select group of "high potential" sophomores and juniors. The program provides future leaders with insights, strategies and skills necessary to become effective leaders. The Veteran Leaders program targets team captains and senior leaders. It provides advanced leadership training and support, teaches the critical skills and insights necessary to be effective Vocal Leaders and fosters a strong peer network.

Janssen Peak Performance Team Captain's Leadership Model©

This model describes two kinds of leaders: Leaders by Example and Vocal Leaders. Leadership by Example involves four main building blocks: commitment, confidence, composure and character. Ultimately, leaders must lead themselves before they can lead others (before others will follow). Vocal Leaders display the same set of characteristics as Leaders by Example; however, the vocal aspect includes encouragement and enforcement. Encouragers are servants to their teammates, confidence-builders, refocusers and team builders. In essence, such leaders are doers of deeds and speakers of words. [Appendix I, II]

Janssen Peak Performance Team Leadership Evaluation©

The Team Leadership Evaluation is divided into two parts. The top 12 questions rate Leader-by-Example ability. Then the first 12 questions are combined with the final 12 to rate Vocal Leadership ability. The Leader by Example Evaluation Section measures the four critical areas needed to be an effective Leader by Example: commitment, confidence, composure and character. The Vocal Leader Evaluation Section measures the four critical areas needed to be an effective Vocal Leader: encourager (servant, confidence builder, refocuser and team builder) and enforcer. [Appendix III, IV]

360-Degree Feedback

In this case of this study, veteran student-athlete leaders receive feedback on their leadership ability via a 360-degree feedback process using an instrument called the Janssen Peak Performance Team Leadership Evaluation©. The tool assists student-athlete leaders in assessing and analyzing their effectiveness as perceived by their coaching staffs and teammates (peers). Action plans are created to maximize the student-athlete leaders'

strengths and develop any areas of improvement. Follow-up assessment is provided to monitor progress on a regular basis.

Source of Evaluation

The sources of evaluation for the Janssen Peak Performance Leadership Evaluation© is based upon 360-degree feedback. The sources are the self (the veteran student-athlete leaders), supervisors (their coaching staffs), and peers (their teammates).

Sport

The University of North Carolina at Chapel Hill sponsors 28 varsity sports. This study will involve target 24 Olympic sports: 10 team and 14 individual sports. Olympic team sports include softball, baseball, basketball, field hockey, volleyball, women's rowing and basketball as well as men's and women's soccer and lacrosse. Olympic individual sports include gymnastics, wrestling as well as men's and women's cross country, fencing, golf, swimming & diving, tennis and track & field.

Perceived Leadership Ability

The Janssen Peak Performance Team Leadership Evaluation© measures perceived leadership ability as defined by the Janssen Peak Performance Team Captain's Leadership Model©. Namely, there are two measures of perceived leadership ability, that of leadership by example and vocal leadership.

ASSUMPTIONS

It was assumed that the procedures provided were followed, that an honest rather than coercive/controlling environment was created, which would potentially affect the answers provided by respondents. Participation in the study did not effect a participant's standing on the team. It was assumed that the subjects answered objectively and honestly in completing the evaluations of leadership ability.

LIMITATIONS

- (1) Faulty administration of tests or training programs: The evaluations were administered for all three sources of evaluation simultaneously. That way, the leader, coaches and teammates rated the leader on the same snapshot (stage of leadership development) of his/her leadership ability. However, all evaluations did not occur at the same stage of leadership for all leaders in the sample. For example, the fall sports conducted their evaluations during pre-season when the remaining teams completed theirs throughout the fall semester. It would have been ideal for the data collection to have occurred at the end of the year in order to maximize the sample size to include freshmen.
- (2) Generalizability of the data: This is a case study whose findings should only be localized to such. UNC-CH sponsors a broad-based athletics program thereby sponsoring any sport found in another athletics department. That being said, it is reasonable to expect that findings could be generalized to other Division I student-athletes considered veteran leaders on their respective Olympic-sport teams.
- (3) Representativeness of subjects: The subjects represent the given population: Carolina Leadership Academy veteran student-athlete leaders of Olympic sports. Revenue-generating sports are not represented.

- (4) Reliability and validity of the research instruments: Previously, coefficients for reliability and validity had not been determined for the Janssen Peak Performance Leadership Evaluation©. A pilot study was conducted to provide a preliminary basis for the measurements. Furthermore, other industry experts examined the evaluations for surface-level validity and reliability.

DELIMITATIONS

- (1) Number and kinds of subjects: There were three sub-sets of subjects: leaders, teammates and coaches. The leaders were varsity student-athletes and on Olympic sports at the University of North Carolina at Chapel Hill who were to participate in the Veteran Leaders program of the Carolina Leadership Academy in the following academic year. They were elected as team captains or identified by their respective coaching staffs as members of their team's "senior leadership." Subjects ranged in age from 20 years old to 23 years old. Leaders ranged from 2 to 6 on a team. The teammates were varsity student-athletes on Olympic sports at the University of North Carolina at Chapel Hill. Subjects ranged from 18-23 years old. Rosters ranged from 4 to 32. The coaches were members of coaching staffs for Olympic sports at the University of North Carolina at Chapel Hill. Staffs ranged from 1 to 5. Olympic team sports included field hockey, rowing, lacrosse, basketball, baseball/softball, soccer, volleyball and basketball. Olympic individual sports included cross country, fencing, golf, gymnastics, swimming & diving, tennis, track & field and wrestling. Subjects were full-time students, currently registered for at least twelve credit hours during the semester. Student-athletes in this study were an experimentally accessible population.

- (2) Number and kinds of variables: For the 3-way ANOVA, the independent variables were gender, source of evaluation and sport. The dependent variable is perceived leadership ability, specifically leadership by example and vocal leadership. For the 1-way ANOVA, the independent variable was gender of coach; the independent variable was perceived leadership ability. For the bi-variate correlation, the predictor variable was leadership by example; the criterion variable was vocal leadership.
- (3) Tests, measures or instruments utilized in the study: Perceived leadership ability is measured by the Janssen Peak Performance Team Leadership Evaluation©.
- (4) Time and duration (date, number of weeks, time of year, etc): Fall 2006. Times were be scheduled with teams during the fall semester. Each evaluation took 5 minutes to complete, 20 minutes total (directions and completion of 3 evaluations).
- (5) Analytical procedures: I performed two 3-way (2 X 3 X 2) totally between subjects ANOVA with Bonferroni-adjusted post hoc tests, a 1-way ANOVA and a bi-variate correlation.

SIGNIFICANCE OF THE STUDY

Leadership development is a burgeoning field in collegiate student-athlete services. Athletic training initiated the trend of like specialized services, then with that, came academic support, similar skills and sport psychology. With anything new, evaluation and assessment of objectives are requisites. There has been a lack of this for leadership development on the whole, especially of the quantifiable sort. 360-degree feedback provides just that: quantifiable evaluation means. Furthermore, it offers varied perspectives of evaluation from teammates, coaches and self.

This particular study examines leadership development, an area with a relatively small body of research with any even smaller portion of its research dedicated to that of collegiate student-athletes. The findings of this study will identify gender, source of evaluation and sport-specific trends in perceived leadership ability: how males' perceived leadership ability differ from females'; how self evaluations differ from teammates' evaluations and coaches' evaluations; how team sports' evaluations differ from individual sports' evaluations; if or when trends deviate from projected norms, how the evaluations for male coaches for female leaders differ from that of female coaches and finally, the relationship between leadership by example and vocal leadership. In short, the findings will assist in better understanding the the relationship between leadership by example and vocal leadership in addition to the perception of leadership ability given the variables of gender, source of evaluation and sport as well as gender of coach. Such implications will provide for improved and more effective means of leadership development. The Carolina Leadership Academy will be prepared to appropriately appeal to the specific leadership development needs of female soccer players as well as male golfers. CLA will understand how the female soccer player perceives her leadership ability in light of her coaches' and teammates' perceptions and in comparison to a male golfer. Such measures will ensure that CLA remains on the cutting edge of leadership development. It is important to remember that this is a case study for the University of North Carolina at Chapel Hill and the Carolina Leadership Academy. Therefore, the significance of the study should be localized to that. It should not be generalized to other schools and athletics departments at this time. No other school has the scope and depth of leadership development that UNC-CH possesses. That being said though, it would not be so far-fetched to do so given how broad-based the program is.

The study has the potential to make the 360-degree evaluation process less intimidating to student-athletes as well as coaches and administrators alike. The intimidation rests in the opening oneself up (making oneself vulnerable) to critical feedback. However with anonymity, the student-athletes are able to receive feedback about general trends of the process and consequently be more open to individualized feedback. In effect, administrators are asking student-athletes to undergo a process that they themselves are not willing to undergo.

Inevitably, those leaders who have participated in 360-degree feedback through CLA have benefited greatly. They identified their own strengths and weaknesses relative teammates' and coaches' assessments and then implemented an action plan. The only regret of those who participated was to have participated sooner.

CHAPTER II

Literature Review

Examining the effects of gender, source of evaluation and sport on perceived leadership ability among student-athletes on Olympic sports crosses a multitude of disciplinary lines. Parsing the study down into its constitutive elements involves the following concepts: leadership theory in athletics, leadership development, evaluation of leadership (ability), student-athletes, 360-degree feedback, aspects of gender and differences between team sports and individual sports. Previous studies have examined these factors in other contexts, mostly business or academic settings. In and of themselves, these factors are not novel. The novelty of this study rests in its fusion of these particular elements as well as its context, that of leadership ability of collegiate student-athletes.

Leadership Theory

Chelladurai and Saleh (1980) developed a five-part Leadership Scale for Sports (LSS) for coaching behavior: training and instruction; democratic behavior; autocratic behavior; social support; and positive feedback. Training and instruction are aimed at improving the athletes' performance by emphasizing and facilitating hard and strenuous training; instructing them in the skills, techniques and tactics of sport; clarify the relationship among the members; and structuring and coordinating the members' activities. Democratic behavior allows greater athlete participation in decisions pertaining to group goals, practice methods and game tactics and strategies. Autocratic behavior involves independence in decision making and stresses

personal authority. Social support is characterized by a concern for the welfare of individual athletes, positive group atmosphere and warm interpersonal relations with members. Positive feedback reinforces an athlete by recognizing and rewarding good performance.

The Leadership Scale for Sports developed by Chelladurai and Saleh focuses on coaching behavior as leadership. It is conceivable that such a scale could be applied to student-athlete behavior as leadership. There is overlap between the five-part LSS and the two-part Janssen Peak Performance Team Leadership Evaluation. What Chelladurai and Saleh term democratic behavior, social support and positive feedback Janssen terms encourager behavior; what they term autocratic behavior and training and instruction, Janssen terms enforcer behavior.

Leadership Development

Zimmerman-Oster and Burkhardt (1999) examined the impact of leadership development programs on college students. The findings revealed the following positive impacts of leadership development activities: processes, program characteristics, perceived outcomes, individual outcomes, community outcomes, hallmarks of successful programs, grantee self-evaluations, short-term outcomes and long-term impact. The results supported the original findings: college students who participate in leadership development develop knowledge skills and values that are consistent with the objectives of the programs.

Given this topic, Zimmerman-Oster and Burkhardt claim that there is a dearth of literature (1999). The literature that does exist asserts that leadership can be taught successfully (“learning leadership theory”), and college campuses are the ideal locations in which to do so. Most institutional mission statements espouse leadership development as an

objective. However, few schools provide such resources, and even fewer evaluate the success of these programs (Zimmerman-Oster & Burkhardt, 1999). There has been an increase in popularity of these programs (Zimmerman-Oster & Burkhardt, 1999). Evaluation criteria address strategy/methodology, short/long-term impact on students, the college and community, as well as sustainable efforts for systemic/integrated initiatives. According to Zimmerman-Oster & Burkhardt, the review of literature revealed a glaring lack of evidence about the broader impact.

The sample included 31 college leadership development programs involving 58,000 students from schools in the midwest and northeastern United States. The projects were funded by the W.K. Kellogg Foundation (WKKF) and administered through student or academic affairs on campus. The majority of the programs targeted the general student population while others were race, ethnicity or gender-specific. They based their evaluations upon “action research” strategies which assess the process and outcomes. The researchers used action research methodology to develop and test programs. This type of research consists of continual collaborations between researchers, program developers and other stakeholders in order to identify and refine effective procedures. The examination used 8 collection strategies. The leadership assessment instruments, measures and techniques included a review panel of experts, 1-page logic models, discrepancy analysis, key questions, site visits, a networking conference, short and long-term outcome studies.

Zimmerman-Oster and Burkhardt corroborate the importance of this study: there is a dearth of literature on the subject. Furthermore, their findings suggest that leadership development is effective among college students: leadership can be taught and that college campuses are ideal spots for such development. This study examines that same notion in the

context of collegiate student-athletes; however, the effects will be quantitative rather than qualitative. The (simplified and quantitative) format of the evaluation allows for long term analysis as recommended by the researchers.

Evaluation of Leadership (Ability)

Fields and Herold (1997) explained that many leadership training programs use assessments by subordinates of leaders as a vehicle for providing feedback and focusing the leader's attention on key behaviors thought to be associated with effective leadership. On the whole – they researchers continued to explain – the dimensions of leadership assessed vary from instrument to instrument and often focus on fairly specific behavioral dimensions. Fields and Herold (1997) proposed – along with others in the field – the use of broader conceptualizations of leadership behaviors such as transactional and transformational leadership (Bass, 1990; Yukl & Van Fleet, 1992). Transactional leadership is based on the transactional leader-follower relationship which is based on an exchange model, where the follower makes contributions in anticipation of, or response to, rewards, support and various accommodations from the leader. Transformational leadership reflects followers' strong personal identification with the leader and a shared vision of the future, resulting in followers' attitudes and behaviors that go above and beyond those linked to an exchange of rewards or compliance.

Fields and Herold (1997) used the five-dimension Leadership Practices Inventory (LPI; Posner & Kouzes, 1988, 1993) to demonstrate that while the scale was not made with these types of leadership behaviors in mind, both can be inferred. The researchers understood the LPI to be a widely used instrument in leadership development. The five dimensions of

leadership behaviors are challenging the process; inspiring a shared vision; enabling others to act; modeling the way; and encouraging the heart.

The teammates' evaluations from the 360-degree feedback methodology of this study uses assessments by subordinates of leaders as a vehicle for providing feedback and focusing the leader's attention on key behaviors thought to be associated with effective leadership. In addition, the Janssen Peak Performance Team Leadership Evaluation addresses similar concepts to that of the LPI: modeling the way being similar to Janssen's leader by example and character, encouraging the heart similar to encourager and confidence, inspiring a shared vision similar to commitment.

Perceived Leadership Ability

McGhee (2000) examined the leadership perceptions given culture, leadership experience and education of African American college students. The researcher used the Leadership Skills Inventory (LSI) to measure the student's self-perceived leadership skills and the Leadership Practices Inventory (LPI) to measure the student's self-perceived leadership practice and behavior. LSI consists of 21 statements describing various leadership and life skills. LPI consists of 30 statements describing various leadership behaviors and actions. Responses were based on a five-point Likert scale. The sample consisted of 131 African-American collegiate leaders from various colleges and universities throughout the U.S. who attended the Spring 2000 Southwestern Black Student Leadership Conference (SBSLC).

The results of the McGhee study (2000) concluded that gender, education and geographical location and setting have no influence on collegians' perceptions of their leadership skills and practices. Even then, the researcher found that the more experience

participants had in leadership courses and activities, the weaker their perceived ability of their skills and practices. The study revealed an inverse relationship between leadership perception and cultural background: as participants' fathers' educational level increased, participants' perception of leadership skills was weaker. This also applied to number of siblings.

The form and function of the LSI and LPI survey is closely related to the Janssen Peak Performance Leadership Evaluation. Janssen has 24 statements describing perceived skill with responses based upon a five-point Likert scale. McGhee's study goes to the measurement of the dependent variable.

Sywensky and Madden (1996) investigated the effects of gender and sex type on perceived leadership abilities using 33 resident assistants at a state university. Participants completed the Bem Sex Role Inventory (BSRI; Bem, 1974) to identify sex-typed individuals according to their self-concepts or self-ratings of their personal attributes and a sociometric instrument (Treadwell, Saxton & Mulholland, 1995) that measured perceived leadership abilities in the form of leadership qualities, leadership abilities, disciplinary leadership and interpersonal receptiveness.

The researchers based their study on the leadership categorization theory of Nye & Forsyth (1991): a leader who possesses a high number of characteristics that match the observer's schematic conception will be perceived as effective. Likewise, if the leader possesses few or none of the schematic characteristics, the leader will be perceived as ineffective. Accordingly, men more than women tend to be viewed as effective leaders. Because stereotypical gender characteristics are often associated with leadership

effectiveness, it can be inferred that both physical gender and psychological gender can influence others' perceptions of the leader's abilities. The findings showed that even if a leader was single faceted in leadership strengths still was still perceived as a leader. Furthermore, a female-sex typed individual who has all the qualities and characteristics of an effective leader will still have difficulty in persuading others that she is capable of being a leader.

Swensky and Madden's study goes to the effect of the independent variable gender on perceived leadership ability within the realm of college just not athletics. Their findings would suggest that male student-athletes are perceived to be more effective leaders than females.

Student-Athletes

Beam, Serwatka and Wilson (2004) found that male student-athletes demonstrated significantly greater preference for autocratic and social support behaviors. Female student-athletes demonstrated significantly greater preference for situational consideration and training and instruction behaviors. There was a significant interaction effect of gender and task variability for autocratic and democratic behaviors. More specifically, male closed sport student-athletes gave higher ratings to autocratic behavior than did female closed sport student-athletes. Independent sport student-athletes showed a significantly greater preference for democratic, positive feedback, situational consideration and social support behaviors. No significant difference in student-athletes preferences were found on competition level.

The purpose of the study was to examine the differences of student-athletes' preferred leadership behavior for their coaches based on gender, competition level, task dependence

and task variability. A total of 408 student-athletes completed the Revised Leadership Scale for Sport (Zhang, Jensen & Mann, 1997) based upon the Leadership Scale for Sport (Chelladurai & Saleh, 1979). The sample consisted of (a) 179 male and 229 female student-athletes, (b) 171 student-athletes participated at Division I universities and 237 student-athletes at Division II universities, (c) 293 student-athletes involved in open variability sports and 115 student-athletes involved in closed variability sports, and (d) 172 student-athletes engaged in independent sports and 236 student-athletes engaged in interdependent sports. The Revised Leadership Scale for Sport (RLSS) contains 60 leadership items distributed among six dimensions of coaching leadership behavior: autocratic, democratic, positive feedback, situational consideration, social support and training and instruction leader behaviors. Responses were made on a five-point Likert scale. Each item was preceded by the phrase “I prefer my coach to” and then followed by quantifications and frequency-related wordings. The five-point Likert scale consisted of: A = always (100% of the time), B = often (75% of the time), C = occasionally (50% of the time), D = seldom (25% of the time) and E = never (0% of the time).

The Beam, Serwatka and Wilson study share three of the four variables used in this study: the independent variables of gender and task variability (termed sport in this study) and the dependent variable of perceived leadership ability, granted the researchers were concerned with leadership behavior demonstrated by coaches not student-athletes. Furthermore, the subject sample size provides a basis for this study. With that, this study will examine a population not a sample. Even then, in both cases, more women participated than men, more individual sports than team sports. The Likert scale used different

terminology than that of Janssen. Janssen's Likert scale differentiates among agreement toward a statement not percentage of time a behavior is demonstrated.

360-Degree Feedback

The Fletcher and Baldry study (2000) examined the relationship of personality and cognitive ability measures to self-awareness measure (SAw) in a group of managers participating in a multi-source (360-degree) feedback process. Generally, multi-source feedback involves a process whereby a target manager is rated by bosses, peers, subordinates and (sometimes) customers, and the aggregate of these ratings from each group is presented in a report to the target and compared to his or her own self-ratings.

Fletcher and Baldry (2000) explain that a great deal of research has focused on how and why ratings from different sources (self, bosses, peer, subordinate) vary. The ratings differentials belie the lack of a self-other congruence (Fletcher & Baldry, 2000). Those with high self-other congruence exhibit a high level of congruence with other ratings of them without exposure to any special feedback processes (Fletcher & Baldry, 2000; Nilson & Campbell, 1993). High SAw individuals are more able to incorporate comparisons of behavior into their self-perception and that their self-perceptions are both more reliable and more valid (Fletcher & Baldry, 2000; Nasby, 1989). Conversely, low SAw individuals are more likely to ignore or discount feedback about them, suffer career setbacks and have negative attitudes about work (Fletcher & Baldry, 2000; Ashford, 1989). Consequently, high SAw has been found to be associated with higher performance ratings in the context of multi-source feedback (Fletcher & Baldry, 2000; Atwater, Ostroff, Yammarino & Fleenor, 1998; Bass & Yammarino, 1991; Furnham & Stringfield, 1994).

A model of the self-other agreement process (Atwater & Yammarino, 1997) has suggested sources – which influence an individual's self-assessment and the ratings they receive from external feedback providers: biographical characteristics, individual characteristics and cognitive processes. Biographical characteristics (namely age, gender, educational level, tenure and minority group membership) influence self-perceptions and exaggeration of differences between minority and majority groups. Individual characteristics can influence ratings by the manner in which they gather information in light of their personal schemas, beliefs and expectations. Ability for higher cognitive complexity permits better use of feedback cues and more accuracy in self-evaluations.

Fletcher and Baldry (2000) reported that bosses' ratings of target managers were the lowest of the external raters and that colleagues provided the highest ratings. With this, there nonetheless existed a correlation between the assessments of the target managers by the bosses and colleagues thereby demonstrating some degree of agreement. The target managers rated themselves lower than the colleagues but higher than the bosses. According to Fletcher and Baldry (2000), this is commonly found to be true. However, another Fletcher-Baldry finding differed from those frequently found elsewhere. Other researchers have shown that female show more SAw than males: Fletcher and Baldry (2000) found that there were no gender differences in the distribution of self-awareness.

The sample included 45 target managers (25male, 20 female). Three hundred and fifty-three raters provided feedback: 110 bosses and 243 colleagues. On average, each target manager received feedback from 2.38 bosses (range: 0 to 4 raters) and 5.24 colleagues (range: 2 to 10 raters). The target managers were in middle management positions with an

average age of 35 years, 4 months (range: 27 to 49 years) and average tenure of 12.38 years (range: 3 months to 27 years).

SAw measurement explains the intimidation that many student-athletes, coaches and administrators experience with 360-degree feedback. The important variables of Fletcher and Baldry's study are the independent variables source of evaluation and gender. They found that peer ratings to be higher than self ratings to be higher than superiors with no gender difference.

Sociology of Gender

Todd and Kent (2003) found that male athletes are especially proud of their athletic involvement and accomplishments and that there is a carry-over to their psychological development and construction of self. While not statistically significant, females on the self-worth subscale scored slightly higher (Todd & Kent, 2003). Other studies have shown to the contrary: females scored lower and significantly so (Harper & Marshall, 1991; Marsh, 1989; Simmons & Blyth, 1987).

The purpose of the study was to describe the development of self-perception in adolescent athletes and make comparisons with respect to gender and class level. The sample of the study consisted of 175 student-athletes from three high schools in a southeastern U.S. city. There were 121 males and 54 females: 43 freshmen, 55 sophomores, 59 juniors and 16 seniors. All were between the ages of 14 and 19. Each was a member of either a girl's or boy's team in one of the following sports: basketball, football, baseball, softball, volleyball, soccer, swimming, track and field, equestrian, tennis, cross country, wrestling and crew. The researchers used a modified (Wichstrom, 1995) Self-Perception

Profile for Adolescents (Harter, 1988). The original Self-Perception Profile for Adolescents (SPPA) is a 45-item questionnaire that consists of five items for each of nine categories. For the purpose of the Todd and Kent study, only five of the original nine subscales were of interest: scholastic competence, athletic competence, physical appearance, social acceptance and self-worth.

Again, the variable of interest is the independent variable gender. The context of the study is specific to student-athletes but adolescent ones. Todd and Kent found that female scored slightly higher though not statistically significant so when other studies found that females scored lower and significantly so. Those findings would suggest that females will receive lower scores on the evaluations.

Team versus Individual Sports

The literature review of the Beam, Serwatka and Wilson study (2004) claimed that researchers examining student-athletes have revealed significant differences in behavior preferences based on variables such as gender and the type of sport in which the student-athlete is participating. Consequently, Beam, Serwatka and Wilson specified two independent variables as task dependence and task variability. The researchers used Chelladurai's (1979) definition of task dependence: the degree of interaction a student-athlete has with others during the execution of the task. Task dependence has two levels: independent sport and dependent sport. An independent (individual) sport does not require interaction among teammates for the successful completion of the task. An interdependent (team) sport requires efficient interaction among teammates for the successful completion of the task. The researchers used another Chelladurai (1979) definition to explain task

variability: the degree the environment changes and the extent to which the student-athletes respond to these changes. Similarly, task variability has two levels: open sport and closed sport. An open sport requires the student-athlete to respond to objects that move in space. A closed sport requires the student-athlete to perform in an environment with relatively unchanging stimuli.

Lin, Chen and Esposito (2005) compared the results of different studies which explored preferred leadership behaviors in sports with different task dependence and variability. Chelladurai and Saleh (1978) reported that team sport (interdependent) athletes' preference for training and instruction was significantly higher than that of individual sport (independent) athletes. Closed-sport (low-task variability) athletes also preferred significantly more training and instruction than did the open-sport (high-variability tasks) athletes. The researchers also found that interdependent closed-sport athletes preferred the greatest level of training and instruction. Terry and Howe (1984) showed that independent sport athletes preferred more democratic and less autocratic behavior than did the athletes in interdependence sports. Team sport athletes preferred significantly more training and instruction, autocratic behavior, and positive feedback, but less democratic behavior and social support than individual sport athletes. Given this, athletes whose tasks were varied and interdependent preferred greater structure and closer supervision. House (1971) developed a path-goal theory which earlier postulated as much.

McCutcheon and Ashe (1999) believed that individualists would be less satisfied than collectivists about participation in sports that place a premium on conformity and require much interpersonal interaction. An individualist is a person who devalues group efforts in achievement-related contexts, values privacy, devalues the importance of groups for personal

well-being and prefers a high degree of personal autonomy and self-sufficiency; a collectivist is the opposite (McCutcheon & Ashe, 1999; Dion & Dion, 1991). Consequently, the researchers posited the possibility of an inverse relationship between cohesion and individualism: cohesion requires a willingness to fit in with an interactive team; individualists devalue group efforts but value self-sufficiency. McCutcheon and Ashe (1999) cited Cratty (1973) and Schurr, Ashley and Joy (1977) as proof. Both sets of researchers reported that coactive sport athletes appeared to be less dependent on others and more self-sufficient than athletes from interactive team sports. In short, high self-sufficiency, low affiliation and low dependency are associated with being an individualist. The results of the study suggested that extreme individualists were no less coachable and no less satisfied with participation in a team sport than extreme collectivists.

Finally, the six cited studies address the effects of the independent variable of sport (team versus independent) on preferred leadership behavior of coaching. Again, there may be implications on this study as far as the perceived leadership abilities of team sports versus individual sports.

CHAPTER III

Methodology

The purpose of the study was to examine the effects of gender, source of evaluation and sport on perceived leadership ability of student-athletes on Olympic sports at the University of North Carolina at Chapel Hill.

DEVELOPMENT OF SURVEY INSTRUMENT

The study required the development of an instrument to accurately measure student-athletes' perceived leadership ability as reported by the student-athletes themselves, their respective teammates and coaching staffs. Jeff Janssen had already developed an instrument to measure the perceived leadership ability of student-athletes. The survey was based upon the Janssen Team Captain's Leadership Model©. The Leadership Model contains two primary elements of leadership: leadership by example and vocal leadership.

Prior to this study, the survey had not been tested for validity and reliability; however, it had been used in the field by Jeff Janssen and his colleagues in the leadership development field since October 2003. A panel of experts in leadership development, specifically among collegiate student-athletes, were asked to critique the survey on how well they felt it measured what it proposed to measure, namely perceived leadership ability among student-athletes. The experts included Dr. Greg Dale from Duke University and Dr. Greg Shelley from Ithaca College. Their comments provided the survey with a measure of validity. They concluded that the survey did indeed what it proposed.

Furthermore, an initial survey was piloted by a student-athlete on an Olympic sport at the University of North Carolina at Chapel Hill, the respective team members and coaching staff. The pilot survey was administered using the same procedures planned for actual survey administration then repeating the procedure one week later. Given the test/retest format, the primary researcher determined stability reliability. A significant relationship was found between the pre-test perceived leadership ability score and the post-test ($p = .003$). The relationship is of moderate, positive strength ($r = .760$). Only 57.8% of the perceived post-test leadership ability score can be explained by the pre-test ($R^2 = .578$).

SURVEY INSTRUMENT DESCRIPTION

Survey development procedures lent themselves to the composition of the leadership model. Part I of the survey asked student-athletes to respond to specific statements regarding leadership by example. Characteristics included commitment, confidence, composure and character. Each characteristic had three questions pertaining to it. Ultimately, Part I measures ability to lead by example. Part II asked respondents to do the same for vocal leadership. Characteristics included offering encouragement as a servant, encouragement as a confidence builder, encouragement as a refocuser, encouragement as a team builder and enforcement. Each encouragement characteristic has two questions pertaining to it, except the enforcer characteristic which had four. Ultimately, Part II measures ability to lead vocally. Part I and II had 12 questions each for a total of 24.

All statements asked that respondents rate their perception of leadership ability for a given aforementioned characteristic on a 5-point Likert scale from strongly disagree (1), disagree (2), undecided (3), agree (4), strongly agree (5). Two versions of the survey existed:

one by which a student-athlete self-evaluated and a second by which teammates and the coaching staff evaluated the given student-athlete. Versions varied only from first-person statements to third-person. For example, first-person statements read like this; “I am one of the hardest workers on the team.” Third-person statements read like this: “[insert name of leader] is one of the hardest workers on the team.”

SELECTION OF SURVEY PARTICIPANTS

Immediately, revenue-generating sports were eliminated due to lack of accessibility. Given this stipulation, the eligible participant pool remained: lacrosse, soccer, softball/baseball, cross country, basketball, fencing, golf, swimming & diving, tennis and track & field. UNC-CH fields both men’s and women’s teams for these sports. Other women’s teams are field hockey, gymnastics, basketball, rowing and volleyball. Another men’s sport is wrestling. Baseball, field hockey, lacrosse, rowing, soccer, softball, and volleyball constitute team sports (10); cross country, fencing, golf, gymnastics, swimming & diving, tennis, track & field and wrestling constitute individual sports (14). Each of the eligible teams (24) participated in the Carolina Leadership Academy, specifically in the Veteran Leaders program. It was the Veteran Leaders on the eligible teams who were considered “leaders” to be evaluated by themselves, their peers and coaches.

Initial contact was made with the head coaches of all teams eligible for participation. Eighty-three leaders (30 males, 53 females) participated; 336 teammates (165 males, 171 females) and 61 coaches. The subjects of the study ($n = 239$) include the three data points associated with the three sources of evaluation for every leader.

SURVEY DISTRIBUTION AND COLLECTION PROCEDURES

After a coach from an eligible team agreed to allow the respective team to participate in the study, the primary researcher explained the survey procedure to the coach. Together, they determined a time and a place that could accommodate survey participation. The time was such that every team member, including leaders, and members of the coaching staff could meet at once. The place provided sufficient room for the numbers and writing surfaces. The primary researcher served as the survey administrator.

Once gathered, the primary researcher read an explanation of the study and the participants' roles in the study and then the instructions necessary for participation [Appendix V]. The survey administrator distributed coded surveys. The code did not indicate identity only the gender of the team (male/female), source of evaluation (self/peer/coach), sport (individual/team) as well as team. Although confidentiality and anonymity were guaranteed, this procedure further reduced and/or eliminated any potential retaliatory effects to student-athletes for negatively responding to the sensitive nature of the survey. The procedure also ensured honesty in responses. Coaches and peers completed the survey [Appendix IV]; the specified leader completed a self-evaluation [Appendix III]. The survey was administered to the team and coaches for as many Veteran Leaders present on the team.

SURVEY (DATA) ANALYSIS

Survey data was entered using SPSS 13.0 for Windows XP. All completed surveys were identified with an identification code and subject number. For example, "mst" stood for a self evaluation of a male student-athlete on a team sport. Subjects were numbered in no

particular order only to verify accuracy of data entry. Scores (of perceived leadership ability) were entered into a data set. The scores for evaluations by coaches and evaluations by peers were the means of perceived leadership scores for members of the entire coaching staff and teams, respectively. Each mean then served as a single score (a single data point) of perceived leadership ability.

Due to the high number of research questions and hypotheses being examined, the data analysis proved an intricate procedure. Descriptive statistics supplied the means for the main effects (gender, source of evaluation and sport), two-factor marginal means (gender*source of evaluation, gender*sport and source of evaluation*sport) and three-factor marginal means (gender*source of evaluation*sport).

Two three-way totally between analysis of variance (ANOVA) with an alpha level of .05 applied to all statistical tests and several independent samples t-tests with varying adjusted alpha levels were utilized. Each three-way ANOVA determined whether or not there was a significant difference in perceived leadership ability score – one for perceived leadership by example and the other for perceived vocal leadership - in the main effects (gender, source of evaluation, sport), two-factor interaction effects (gender*source of evaluation, gender*sport, source of evaluation*sport) and three-factor interaction effects (gender*source of evaluation*sport). Having only two levels, gender and sport did not require further post hoc tests. Source of evaluation required otherwise. It possessed three levels thereby requiring Bonferroni-adjusted post hoc tests. Independent sample t-tests were run to determine significant difference between relevant combinations of two-factor interactions and then three-factor interactions.

In addition, a one-way ANOVA with an alpha level of .05 was utilized. The one-way ANOVA determined whether or not there was a significant difference in perceived leadership ability scores for the effect of gender of coach on female leaders. Having only two levels, gender of coach did not require further post-hoc tests. Finally, a bi-variate correlation with an alpha level of .01 were utilized to determine the relationship between perceived leadership by example and vocal leadership.

CHAPTER IV

Results

The purpose of the study is to examine the effects of gender, source of evaluation and sport on perceived leadership ability of student-athletes on Olympic sports at the University of North Carolina at Chapel Hill (UNC-CH).

Perceived leadership ability was measured using the Janssen Team Captain's Leadership Evaluation©. The survey instrument contained two parts: measurements of leadership by example and measurements of vocal leadership. Part I of the survey asked student-athletes to respond to specific statements regarding leadership by example. Part II asked respondents to do the same for vocal leadership. Part I and II had 12 questions each for a total of 24.

All statements asked that respondents rate their perceptions of leadership ability for characteristics described in the Janssen Team Captain's Leadership Model©. Questions were answered based upon a 5-point Likert scale: strongly disagree (1), disagree (2), undecided (3), agree (4), strongly agree (5).

DESCRIPTIVE SUMMARY STATISTICS

Demographics

Student-athletes were asked to complete the survey at a team meeting during the 2005 Fall semester. Of the 28 sports at UNC-CH, 24 teams completed the survey. Men's basketball and football did not complete the survey as they were deemed experimentally inaccessible in so far as the depth and scope their participation – or lack thereof - in the

Carolina Leadership Academy differs from that of student-athletes on Olympic sports. Men's and women's indoor track & field did not complete the survey because their rosters were considered redundant to that of men's and women's outdoor track & field. Finally, freshmen, transfers and members of coaching staffs not present the previous spring were excluded for the reason that they would not have had sufficient time to develop realistic and significant perceptions of their respective veteran leaders. Overall, there were 421 participants, more specifically 83 veteran leaders, 336 teammates and 61 coaches, from 24 teams (10 male, 14 female; 10 team sports, 14 individual sports) who completed 1,493 evaluations. All the teams deemed experimentally accessible and their respective veteran leaders participated. The completion rate for veteran leaders and teams was 100.0%. The completion for teammates was 93.1%. The completion rate for coaches was 72.6%. The completion rate for total participants was 89.8%.

TABLE 1:
Participation Numbers by Source of Evaluation and Sport (Totals)

	Male	Female	TOTAL
Leaders on Team Sports	9	27	36
Leaders on Individual Sports	21	25	47
<i>Total</i>	30	53	83
Teammates on Team Sports	70	96	166
Teammates on Individual Sports	95	75	170
<i>Total</i>	165	171	336
Coaches for Team Sports	9	18	27
Coaches for Individual Sports	17	17	34
<i>Total</i>	26	35	61
Student-Athletes on Team Sports	82	121	203
Student-Athletes on Individual Sports	119	99	218
<i>Total</i>	201	220	421
Number of Team Sports	3	7	10
Number of Individual Sports	7	7	14
<i>Total</i>	10	14	24

Total participants: 421

Total leaders: 83

Total evaluations: 1493

Total peers: 336
Total coaches: 61

Of the 421 total participants, there were almost as many male participants (201) as female participants (220). More participants completed evaluations for male veteran leaders on individual sports (119) than team (82); conversely for female participants, more completed evaluations for veteran leaders on team sports (121) than individual (99). Similar trends were found for the numbers regarding number of teammates who completed evaluations on their respective veteran leaders: near parity in overall numbers (165 male, 171 female) but with more male individual sports (95) than team (70) and more female team sports (96) than individual (75). Of the 61 coaches who completed evaluations, 27 completed evaluations on male student-athletes, and 34 completed evaluations on female student-athletes for a 44.3/55.7% split. Of the 34 coaches who completed evaluations on females, 16 were male coaches, and 18 were females. In short, almost half the coaches (47.1%) who evaluated female student-athletes were male.

Of the 83 total veteran leaders evaluated, there were more female veteran leaders (53) evaluated than male (30). Among the female veteran leaders, there were almost as many from team sports (27) as individual sports (26). Quite the contrary for male veteran leaders, 21 veteran leaders came from individual sports and only nine from team sports. Similar trends were found for the numbers regarding number of coaches who completed evaluations on their respective veteran leaders: higher numbers for females (35 female, 26 male) with almost equal parts for female team (18) and individual sports (17) but more lopsided numbers for male coaches (9 team sports, 17 individual sports).

Of the 1,493 total evaluations, there were almost equal parts team sports (735) and individual sports (758), but there was a more marked difference by gender with more

evaluations being completed for female veteran leaders (846) than male (647). The number of evaluations for female veteran leaders on team sports (476) outnumbered those for female individual sports (370). Conversely, the number of evaluations for male veteran leaders on individual sports (388) outnumbered those for male team sports (259). See Table 2.

The ratio among the sources of evaluation remained constant. There were 83 self evaluations, 83 peer evaluations and 83 coach evaluations each representing one-third of the sources. Again, the mean was used for coaches' and teammates' scores. Thus, the mean score consolidated numerous teammate evaluations into one data point for each dependent variable and the same for the numerous coach evaluations.

On average per team, 17.91 participants completed 59.71 evaluations for 3.34 veteran leaders. These averages included the following ranges: 2-6 veteran leaders per team, 4-32 teammates per team, 1-5 coaches per team and 7-37 participants per team. Overall, 36.1% of the veteran leaders evaluated were male while the remaining two-thirds (63.9%) were women. Overall, evaluations for female veteran leaders comprised 56.7% while those for males were 43.3%. Also, overall, evaluations for veteran leaders on team sports comprised 49.2% while those for individual sports were 50.8%. Given these percentages, there is a fairly equitable distribution by gender, source of evaluation and sport. The numerical parity and high completion rate bode well for the representativeness of the sample. See Table 3.

Descriptive Statistics for Leadership by Example

The mean score of perceived Leadership by Example was 51.6 out of a 60-point scale. The levels of the independent variables ranked as follows. Self evaluations scored highest then coach evaluations and finally peer evaluations (range: 50.96-52.78). Team sports

ranked ahead of individual sports (range: 51.36-51.89). Female evaluations were ahead of males (range: 51.41-51.69).

Among the interaction of gender and sport, male leaders from team sports received the top score on average while male leaders from individual sports scored lowest. In the middle, females from individual sports were second and then females from team sports. The scores ranged from 50.91 to 52.57. See Table 4.

Among the interaction of source of evaluation and sport, self evaluations from individual sports and then team sports, respectively, ranked highest. The remaining evaluations (coach and peer) from team sports scored higher than those of individual sports.

The scores ranged from 50.48 to 52.94.

Among the interaction of gender and source of evaluations, self evaluations from males and females, respectively, ranked highest. Coach evaluations for females were next while the same evaluations from male ranked last. In between coach evaluations were peer evaluations, first males and then female. The scores ranged from 50.34 to 52.85.

Among the three-way interactions, the ranking by gender scored as follows. Specifically, the evaluations for males were coaches from team sports, self from individual sports, self and then peers from team sports, self from team sports, peer from individual sports and finally, coaches from individual. The scores ranged from 48.63-54.33. The evaluations for females were self from team and then individual sports, coach from individual sports, peer and then coach from team sports and then peer for individual sports. The scores ranged from 50.50 to 52.81.

TABLE 5:	
Rankings of Mean Leadership by Example by Gender	
MCT	54.33
MSI	53.26
MST	51.89
MPT	51.50
MPI	50.86
MCI	48.63
FST	52.81
FSI	52.67
FCI	51.98
FPT	51.31
FCT	50.88
FPI	50.50

The evaluations of males on individual sports were ordered from highest to lowest with self, peer and then coach as were the females on team sports (range: 48.63-53.26 for males on individual sports, 50.88-52.81 for females on team sports). Females on individual sports are ordered self, coach and then peer (range: 50.50-52.67). Males on team sports were rated highest by their coaches, their self evaluations and then by their peers (range: 51.50-54.33).

Among the three-way interactions, the rankings by source of evaluation scored as follows. Specifically, self evaluations were males on individual sports, females on team and then individual sports and lastly, males on team sports (range: 51.89-53.36). Peer evaluations were males and then females on team sports followed by males and then females on individual sports (range: 50.50-51.50). Coach evaluations were males on team sports, females on individual and then team sports, and finally, males on individual sport (range: 48.63-54.33).

Among the three-way interactions, the rankings by sport scored as follows. Specifically, the evaluations for individual sports were self evaluations for males and then females, coach evaluations for females, peer evaluations for males and then females and finally, coach evaluations for males. The scores ranged between 48.63 and 53.26. The evaluations for team sports were coach evaluations for males and then self evaluations for females, self and then peer evaluations for males, and finally, peer and then coach evaluations for females. The scores ranged 50.88 and 54.33.

TABLE 6:	
Rankings of Mean Leadership by Example by Source	
MSI	53.26
FST	52.81
FSI	52.67
MST	51.89
MPT	51.50
FPT	51.31
MPI	50.86
FPI	50.50
MCT	54.33
FCI	51.98
FCT	50.88
MCI	48.63

TABLE 7:	
Rankings of Mean Leadership by Example by Sport	
MCT	54.33
FST	52.81
MST	51.89
MPT	51.50
FPT	51.31
FCT	50.88
MSI	53.26
FSI	52.67
FCI	51.98
MPI	50.86
FPI	50.50
MCI	48.63

On average overall among the three-way interactions, coach evaluations for male leaders on team sports received the highest scores while coach evaluations for males on individual sports received the lowest average overall scores. Self evaluations for male leaders on individual sports scored just below the former while peer evaluations for males and females on individual sports scored just ahead of the latter. Self evaluations for females on team and individual sports were third and fourth. Overall, the scores ranged between 48.63 and 54.33.

TABLE 8:	
Rankings of Mean Leadership by Example: Overall	
MCT	54.33
MSI	53.26
FST	52.81
FSI	52.67
FCI	51.98
MST	51.89
MPT	51.50
FPT	51.31
FCT	50.88
MPI	50.86
FPI	50.50
MCI	48.63

Descriptives for Vocal Leadership

The mean score of perceived Vocal Leadership was 99.5 out of a 120-point scale. The levels of the independent variables ranked as follows. Self evaluations scored highest then coach evaluations and finally peer evaluations (range: 99.51-101.54). Team sports ranked ahead of individual sports (range: 98.17-101.29). Male evaluations were ahead of females (range: 99.45-99.67). See Table 9.

Among the interaction of gender and sport, male leaders from team sports received the top score on average while male leaders from individual sports scored lowest. In the middle, females from team sports were second and then females from individual sports. The scores ranged from 98.08 to 103.39.

TABLE 10:	
Rankings of Mean Vocal Leadership by Gender	
MCT	108.9
MSI	103.6
MPT	101.1
MST	100.1
MPI	98.4
MCI	92.2
FST	102.6
FPT	99.7
FCT	99.7
FSI	99.2
FCI	99.1
FPI	96.5

Among the interaction of source of evaluation and sport, self evaluations from team sports, then coach evaluation from team sports and self evaluations from individual sports

ranked highest. Rounding out the remaining interaction effects were peer evaluations from team and then individual sports and lastly coach evaluations from individual sports. The scores ranged from 95.99 to 102.00.

Among the interaction of gender and source of evaluations, self evaluations from males and females, respectively, ranked highest. Coach evaluations for females were next while the same evaluations from males ranked last. In between coach evaluations were peer evaluations, first males and then females. The scores ranged from 97.19 to 102.60.

Among the three-way interactions, the ranking by gender scored as follows. Specifically, the evaluations for males were coaches from team sports, self from individual sports, peers from team sport, self from team sport, peer from individual sports and finally, coaches from individual. The scores ranged from 82.16-108.92. The evaluations for females were self, coach and then peer from team sports and then the same for individual sports. The scores ranged from 92.16 to 103.67.

The evaluations of males on individual sports were ordered from highest to lowest with self, peer and then coach (range: 92.16-103.67) as were the females on individual (range: 96.47-99.20) and team sports (range: 99.66-102.63). Males on team sports were rated highest by their coaches, their self evaluations and then by their peers (range: 100.11-108.92).

TABLE 11:	
Rankings of Mean Vocal Leadership by Source	
MSI	103.6
FST	102.6
MST	101.1
FSI	99.2
MPT	101.1
FPT	99.7
MPI	98.4
FPI	96.5
MCT	108.9
FCT	99.5
FCI	99.1
MCI	92.2

TABLE 12:	
Rankings of Mean Vocal Leadership by Sport	
MCT	54.33
FST	52.81
MST	51.89
MPT	51.50
FPT	51.31
FCT	50.88
MSI	53.26
FSI	52.67
FCI	51.98
MPI	50.86
FPI	50.50
MCI	48.63

Among the three-way interactions, the rankings by source of evaluation scored as follows. Specifically, self evaluations were males on individual sports, females and then males on team sports and lastly, females on individual sports (range: 99.20-103.67). Peer and coach evaluations ranked the same: males and then females on team sports followed by males and then females on individual sports (range: 96.47-101.14 for peer, 92.16-108.92 for coach).

Among the three-way interactions, the rankings by sport scored as follows. Specifically, the evaluations for individual sports were self evaluations for males and then females, coach evaluations for females, peer evaluations for males and then females and finally, coach evaluations for males. The scores ranged from 99.66 to 103.67. The evaluations for team sports were coach evaluations for males and then self evaluations for females, peer and then self evaluations for males, and finally, coach and then peer evaluations for females. The scores ranged from 92.16 to 103.67.

On average overall among the three-way interactions, coach evaluations for male leaders on team sports received the highest scores while coach evaluations for males on individual sports received the lowest average overall scores. Self evaluations for male leaders on individual sports scored just below the former while peer evaluations for males and females on individual sports scored just ahead of the latter. Self evaluations for females on team sports were third. Overall, the scores ranged from 92.16-108.92.

TABLE 13:	
Rankings of Mean Vocal Leadership: Overall	
MCT	108.9
MSI	103.6
FST	102.6
MPT	101.1
MST	100.1
FPT	99.7
FCT	99.5
FSI	99.2
FCI	99.1
MPI	98.4
FPI	96.5
MCI	92.2

Another aspect of descriptive statistics includes the percentages of score differentials over or under with respect to sources of evaluation, for example the percentage of leaders

whose self evaluations were higher than their peer evaluations. Overall, 59% of self evaluations were higher than their peer evaluations. Fifty percent of self evaluations were higher than their coach evaluations. Fifty-five percent of coach evaluations were higher than the peer evaluations. By gender, 57% of male self evaluations were higher than their peer evaluations; 60% of female self evaluations were higher. Self-coach differentials were 50/50% for both genders: just as many self evaluations scored higher than coach evaluations as they were coach evaluations which scored higher than self. Fifty-seven percent of coach evaluations for female leaders were higher than peer; 53% of coach evaluations for male leaders were higher. By sport, 53% of peer evaluations for leaders on team sports were higher than their respective self evaluations while 68% of self evaluations for leaders on individual sports were higher. Fifty-six percent of coach evaluations for leaders on team sports were higher than their self evaluations; conversely, 55% of self evaluations for leaders on individual sports were higher. Sixty-one percent of coach evaluations for leaders on team sports were higher than their coach evaluations. Individual sports were practically 50/50%.

INFERENTIAL TEST RESULTS

Two 2 X 3 X 3 totally between-subjects ANOVA's were performed to compare the perceived leadership ability of males and females for three different sources of evaluation and two different sports for veteran leader student-athletes on Olympic sports at UNC-CH. The first ANOVA compared the perceived ability of leading by example; the second compared the perceived ability of vocal leadership.

The first research question examined the effect of gender (male or female) on perceived leadership ability – both leadership by example and vocal leadership - among student-athletes

on Olympic sports at UNC-CH. The main effect of gender on leadership by example was not significant ($F_{(1,237)} = .004, p = .950$). The main effect of gender on vocal leadership was not significant ($F_{(1,237)} = .923, p = .338$). The results showed that there was no statistically significant difference in perceived leadership - both leadership by example and vocal leadership - of males and females.

The second research question examined the effect of source of evaluation (self, peer or coach) on perceived leadership ability – both leadership by example and vocal leadership - among student-athletes on Olympic sports at UNC-CH. The main effect of source of evaluation on leadership by example was not significant ($F_{(2,237)} = 1.607, p = .203$). The main effect of source of evaluation for vocal leadership was not significant ($F_{(2,237)} = 1.109, p = .331$). The results showed that there was no statistically significant difference in perceived leadership ability – both leadership by example and vocal leadership - of self evaluations, peer evaluations and coach evaluations.

The third research question examined the effect of sport (individual or team) on perceived leadership ability – both leadership by example and vocal leadership – among student-athletes on Olympic sports at UNC-CH. The main effect of sport on leadership by example was not significant ($F_{(1,237)} = 1.111, p = .293$). A significant main effect of sport for vocal leadership was found ($F_{(1,237)} = 7.838, p = .006$) with team sports having a mean perceived vocal leadership score of 101.2944 and individual sports 98.1752. The results showed that there was no statistically significant difference in perceived leadership ability for leadership by example, but there was for team sport and individual sports with regard to vocal leadership.

TABLE 14:
Tests of Between-Subjects Effects for Leadership by Example

Dependent Variable: Leadership by Example

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	443.589(a)	11	40.326	1.349	.198
Intercept	548191.063	1	548191.063	18339.968	.000
Gender of Leader	.120	1	.120	.004	.950
Source of Evaluation	96.088	2	48.044	1.607	.203
Sport	33.221	1	33.221	1.111	.293
Gender of Leader * Source of Evaluation	1.608	2	.804	.027	.973
Gender of Leader * Sport	37.271	1	37.271	1.247	.265
Source of Evaluation * Sport	72.973	2	36.486	1.221	.297
Gender of Leader * Source of Evaluation * Sport	170.079	2	85.039	2.845	.060
Error	7084.052	237	29.891		
Total	670350.290	249			
Corrected Total	7527.641	248			

a. R Squared = .059 (Adjusted R Squared = .015)

TABLE 15:

Tests of Between-Subjects Effects for Vocal Leadership

Dependent Variable: Vocal Leadership

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2857.445(a)	11	259.768	2.713	.003
Intercept	2052557.905	1	2052557.905	21432.926	.000
Gender of Leader	88.403	1	88.403	.923	.338
Source of Evaluation	212.498	2	106.249	1.109	.331
Sport	750.618	1	750.618	7.838	.006
Gender of Leader * Source of Evaluation	4.740	2	2.370	.025	.976
Gender of Leader * Sport	112.815	1	112.815	1.178	.279
Source of Evaluation * Sport	657.090	2	328.545	3.431	.034
Gender of Leader * Source of Evaluation * Sport	1238.796	2	619.398	6.468	.002
Error	22696.678	237	95.767		
Total	2492109.570	249			
Corrected Total	25554.123	248			

a. R Squared = .112 (Adjusted R Squared = .071)

The fourth research question examined the effect of gender and source of evaluation on perceived leadership ability – both leadership by example and vocal leadership - among student-athletes on Olympic sports at UNC-CH. The interaction effect of gender and source of evaluation on leadership by example was not significant ($F_{(2,237)} = .027, p = .973$). The interaction effect of gender and sport on vocal leadership was not significant ($F_{(2,237)} = .025, p = .976$). The results showed that there was no statistically significant difference in the effect of gender and source of evaluation on perceived leadership ability – both leadership by example and vocal leadership.

The fifth research question examined the effect of gender and sport on perceived leadership ability – both leadership by example and vocal leadership - among student-athletes on Olympic sports at UNC-CH. The interaction effect of gender and sport on leadership by example was not significant ($F_{(1,237)} = 1.247, p = .265$). The interaction effect of gender and sport on leadership by example was not significant ($F_{(1,237)} = 1.178, p = .279$). The results showed that there was no statistically significant difference in the effect of gender and sport on perceived leadership ability – both leadership by example and vocal leadership.

The sixth research question examined the effect of source of evaluation and sport on perceived leadership ability – both leadership by example and vocal leadership - among student-athletes on Olympic sports at UNC-CH. The interaction effect of source of evaluation and sport on leadership by example was not significant ($F_{(2,237)} = 1.221, p = .297$). A significant interaction was found in the effect of source of evaluation and sport on vocal leadership ($F_{(2,237)} = 3.431, p = .034$) indicating that perceived vocal leadership ability depended on the interaction of source of evaluation and sport. Independent t-tests, utilizing the Bonferroni Procedure to determine a critical p-value for each comparison, were

performed for post-hoc examination of the interaction. Of all possible 15 pairwise comparisons, 9 addressed specific research questions. Self evaluations, peer evaluations and coach evaluations were compared at each level of sport. For self evaluations, comparisons were made between team sports and individual sports. The same comparisons were made for peer evaluations and coach evaluations. Two comparisons were significant. Team sports were significantly different from individuals for coaching evaluations ($p = .025$), and self evaluations were significantly different from coach evaluations for individual sports ($p < .029$)

TABLE 16:
Independent Samples T-Test Pair-wise Comparison: CI vs. CT

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Vocal Leadership	Equal variances assumed	.008	.927	-2.253	81	.027
	Equal variances not assumed			-2.288	79.074	.025

** The mean difference is significant at the 0.05 level (2-tailed).

TABLE 17:
Independent Samples T-Test Pair-wise Comparison: SI vs. CI

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Vocal Leadership	Equal variances assumed	.967	.328	2.216	92	.029
	Equal variances not assumed			2.216	89.478	.029

** The mean difference is significant at the 0.05 level (2-tailed).

The seventh research question examined the effect of gender, source of evaluation and sport on perceived leadership ability – both leadership by example and vocal leadership -

among student-athletes on Olympic sports at UNC-CH. The interaction effect of gender, source of evaluation and sport on leadership by example was not significant ($F_{(2,237)} = 2.845$, $p = .060$). A significant interaction was found in the effect of gender, source of evaluation and sport on vocal leadership ($F_{(2,237)} = 6.468$, $p = .002$) indicating that perceived leadership vocal leadership ability depended on the interaction of gender, source of evaluation and sport. Independent t-tests, utilizing the Bonferroni Procedure to determine a critical p-value for each comparison, were performed for post-hoc examination of the interaction. Of all 66 possible pairwise comparisons, 24 addressed specific research questions. Self evaluations, peer evaluations and coach evaluations were evaluated at each level of gender and sport. For self evaluations, comparisons were made between male veteran leaders on team sports, male veteran leaders on individual sports, female veteran leaders on team sports and female veteran leaders on individual sports. The same comparisons were made for peer evaluations and coach evaluations. Three comparisons were significant with another approaching significance. For male veteran leaders on individual sports, self evaluations were different from coach evaluations ($p = .003$). For male veteran leaders on team sports, the difference between self evaluations and coach evaluations nears significance. For coaching evaluations on team sports, males were different from females ($p = .011$). For coaching evaluations for male veteran leaders, team sports were different from individual sports ($p < .0005$).

TABLE 18:
Independent Samples T-Test for Pair-wise Comparison: MSI vs. MCI

			Levene's Test for Equality of Variances		t-test for Equality of Means		
Sport			F	Sig.	t	df	Sig. (2-tailed)
Individual	Vocal Leadership	Equal variances assumed	2.294	.138	3.248	40	.002

Team	Vocal Leadership	Equal variances not assumed	.025	.877	3.248	35.916	.003
		Equal variances assumed			-2.458	16	.026
		Equal variances not assumed			-2.458	15.965	.026

** The mean difference is significant at the 0.0083 level (2-tailed).

TABLE 19:

Independent Samples T-Test for Pair-wise Comparison: MCI vs. MCT

Gender of Leader			Levene's Test for Equality of Variances		t-test for Equality of Means		
			F	Sig.	t	df	Sig. (2-tailed)
Male	Vocal Leadership.	Equal variances assumed	2.442	.129	-3.516	28	.002
		Equal variances not assumed			-4.311	24.911	.000
Female	Vocal Leadership	Equal variances assumed	1.276	.264	-.136	51	.893
		Equal variances not assumed			-.136	50.987	.893

** The mean difference is significant at the 0.025 level (2-tailed).

TABLE 20:

Independent Samples T-Test for Pair-wise Comparison: MCT vs. FCT

Source of Evaluation			Levene's Test for Equality of Variances		t-test for Equality of Means		
			F	Sig.	t	df	Sig. (2-tailed)
Self	Vocal Leadership	Equal variances assumed	.210	.650	-.902	34	.374
		Equal variances not assumed			-.888	13.408	.390
Peer	Vocal Leadership	Equal variances assumed	.849	.363	.532	34	.598
		Equal variances not assumed			.635	19.702	.533
Coach	Vocal Leadership	Equal variances assumed	1.335	.256	2.379	34	.023
		Equal variances not assumed			2.822	19.465	.011

** The mean difference is significant at the 0.017 level (2-tailed).

The eighth research question examined the effect of the gender of coach on perceived leadership ability – both leadership by example and vocal leadership - among female student-athletes on Olympic sports at the UNC-CH. To do this, a one-way independent measures ANOVA was performed. A significant effect for gender of coach on perceived leadership by example on females student-athletes was found ($F_{(1,123)} = 4.251, p = .041$). There was a significant difference in the perceived leadership by example score of female student-athletes between male coaches and female coaches. No significant difference for gender of coach on perceived vocal leadership of female student-athletes was found ($F_{(1,123)} = 3.743, p = .055$) although it approaches significance.

TABLE 21:
One-Way ANOVA: Male Coaches vs. Female Coaches on Female Leaders

		Sum of Squares	df	Mean Square	F	Sig.
Leadership by Example	Between Groups	178.151	1	178.151	4.251	.041
	Within Groups	5112.276	122	41.904		
	Total	5290.427	123			
Vocal Leadership	Between Groups	533.814	1	533.814	3.743	.055
	Within Groups	17401.428	122	142.635		
	Total	17935.242	123			

** The mean difference is significant at the 0.05 level (2-tailed).

The ninth research question examined the relationship between leadership by example and vocal leadership. To do this, a correlation and simple regression were performed. A significant relationship between leadership by example and vocal leadership was found ($p < .0005$). The relationship is of moderate, positive strength ($r = .601$).

TABLE 22:
Bi-variate Correlation: Leadership by Example and Vocal Leadership

		Leadership by Example	Vocal Leadership
Leadership by Example	Pearson Correlation	1	.601(**)
	Sig. (2-tailed)		.000
	N	249	249
Vocal Leadership	Pearson Correlation	.601(**)	1
	Sig. (2-tailed)	.000	
	N	249	249

** Correlation is significant at the 0.01 level (2-tailed).

CHAPTER V

Discussion

The purpose of the study is to examine the effects of gender, source of evaluation and sport on perceived leadership ability of student-athletes on Olympic sports at the University of North Carolina at Chapel Hill (UNC-CH).

Coaches contend that the single most important characteristic for a winning program is leadership among the student-athletes (Baddour, 2004). That being said, coaches lament the lack of leadership among today's student-athletes (Janssen, 2004). However, the current method of leadership development consists of a coach instructing a student-athlete, most probably a captain, "You are a leader; now lead" (Janssen, 2004). The student-athlete wants to lead but lacks the insight, experience, skills and understanding to do so (Janssen, 2004).

UNC-CH's solution to this predicament is the Carolina Leadership Academy. It is based upon the premise that leaders are not born, that they are made - in the Vince Lombardi tradition - with effort and hard work. Leadership is a skill just like any physical skill: it may be systematically taught and mastered (Janssen, 2004). With the comprehensive scope and substantive depth of its curriculum, the Carolina Leadership provides the development programming not only throughout the course of a year but throughout a student-athletes' tenure. In short, there is a ready-made line of leaders. Now when a coach implores a student-athlete, "you're a leader; now lead," the student-athlete has the desire and the ability.

While schools frequently espouse leadership development as a mission, few provide the means to do so (Zimmerman-Oster & Burkhardt, 1999). Even fewer evaluate the

effectiveness of the program, and an even smaller sum quantitatively - rather than qualitatively – evaluate them (Zimmerman-Oster & Burkhardt, 1999). Fields & Herold (1997) further support assessments by the subordinates of the leaders as a vehicle for feedback. The following interpretations are just that: quantitative evaluation. More specifically, it is an evaluation of perceived leadership ability. Consideration has been given to the similarities and differences in perceived leadership ability given gender, source of evaluation and sport. In effect, how others perceive a leader is how they respond to her, and how they respond to her goes to her ability to lead them. Such considerations permit CLA instructors (researchers) to adequately identify and address the needs of emerging and veteran leaders participating in the program. These considerations are then appropriately incorporated into the curriculum of the Carolina Leadership Academy.

INTERPRETATION/DISCUSSION

The demographics of the participants for the study were comprehensive for UNC-CH: 89.8% participation. While past studies drew participants from multiple institutions, this study drew from the athletics department at UNC-CH which represents as broad-based a program as any other school. By virtue of this, there is an element of representativeness to this. McGhee (1999) and Todd and Kent (2003) included more leaders (131 and 175, respectively); Sywensky and Madden (1996) included less (33). Beam, Serwatka and Wilson (2004) had a quarter as many participants (408). Percentages for sport remained consistent between the current study and Beam et al: both entertained a 45/55% split between individual and team sports. Todd and Kent (2003) went practically 50/50. However, there was a more equitable gender split in this study – almost 50/50 – than Beam et al's 42% male/58% female

and Todd and Kent's 69/31%. With regard to the dimensions of the 360-degree process, the numbers from Fletcher and Baldry (2000) were comparable. In the Fletcher and Baldry study (2000), 110 bosses and 243 colleagues evaluated 45 managers (more males than females). On average, 2.83 bosses evaluated each manager (bosses ranging from 0 to 4), and 5.43 colleagues evaluated each manager (colleagues ranging from 2 to 10). In this study, fewer bosses (81) and more teammates (335) evaluated more leaders (65 with more females than males). On average, 2.55 coaches evaluated each leader (coaches ranging from 1 to 5), and more teammates (14.36) evaluated each leader (teammates ranging from 4 to 32).

The results have identified trends of statistical and descriptive significance in perceived leadership ability which in turn can be used to address the specific needs with regard to leadership development of certain demographics of collegiate student-athletes. All but one of the significant findings dealt with vocal leadership. However, there is significance in this lack of significance for perceived leadership by example ability. It suggests that the participating leaders in this study had already established a platform for their leadership from the actions: they are in fact leading by example. Given this, they have earned the respect of their peers and coaches setting the stage for, providing the opportunity for effective vocal leadership. The Janssen Peak Performance Leadership Model© says as much. Most noticeably, the results for vocal leadership pertain to the coach evaluations of male leaders on individual sports, that they are significantly lower than that of team sports. The following section provides an explanation – an understanding of why that might be.

With the first research question, it was hypothesized that the perceived leadership ability of male leaders would be significantly different than that of females. In fact, there was no significant difference between males and females although the males scored higher in

perceived vocal leadership as conceded by Todd and Kent (2003). The females scored higher in perceived leadership by example which was also similar to the findings of Todd and Kent (2003) and Fletcher and Baldry (2000). Their results were contrary to Sywensky and Madden (1996) who found males to be significantly more effective leaders than females. Beam et al (2004) found a gendered significance in preferred coaching behavior. Consequently, the null hypothesis was accepted, and the research hypothesis was rejected. The lack of significance could be attributed to the fact that there was no cross-gender evaluation - only same-gender - in that males were evaluating males and female were evaluating females. The impact of cross-gender evaluations is explained by Sywensky and Madden (1996) who found that female sex-typed individuals with all qualities and characteristics of a leader will still have difficulty being perceived as a capable leader. In this context, opposite-gender evaluation would result in different findings for perceived leadership ability.

With the second research question, it was hypothesized that there would be significance in the source of evaluation: peer evaluations would be significantly higher than self evaluations which would be significantly higher than coach evaluations. In fact, there was no significant difference between self, peer and coaches. Fletcher and Baldry (2000) found no differences either. While not significant, this study found self evaluations scored highest, then coach and finally peer evaluations. Consequently, the null hypothesis was accepted, and the research hypothesis was rejected.

While not significant, 59% of self evaluations were higher than their respective peer evaluations, and 55% of coach evaluations were higher than their respective peer evaluations. Finally, just as many self evaluations were higher than their respective coach evaluations

than there were coach evaluations which were higher than their respective self evaluations. In short, there were as many self evaluations which scored higher than there were coach evaluations which did.

The difference in percentages could be explained by the following. The high ratings for self evaluations speak to a leader's confidence – a core element of the Janssen leadership model - in his ability. Leadership requires a healthy self esteem. Leaders need to think highly of themselves in order to do what they do. They must project confidence in order to have others believe in them and follow their lead.

By percentage, coaches ranked leaders higher than did their peers because of self-fulfilling recruiting and instruction. Coaches recruit athletes which resonate with their personality: they recruit athletes similar to themselves who are compatible with the coaches' personality and coaching style. Furthermore, the coaches then teach the athletes in their way, how to be more similar to the coaches. Their athletes – in particular their leaders – become a more highly polished reflection of the coaches. Those who do this best catch the coaches' attention, rise to the top and then are identified as "leaders." For this reason, coach evaluations are higher than peer evaluations.

With the third research question, it was hypothesized that there would a significant difference between individual sports and team sports. In fact, there was a significant difference: team sports scored higher in perceived vocal leadership ability. Beam et al (2004) found significance in sport: individual sports preferred democratic behavior and positive feedback from coaches than did team sports. Chelladurai and Saleh (1978) found significance: team sports preferred training and instruction more than individual sports. Terry and Howe (1984) found significance as well: individual sports preferred more

democratic and less autocratic leadership behaviors while team sports preferred more training and instruction, autocratic behavior and positive feedback with less democratic behavior and social support. Consequently, the null hypothesis was rejected, and the research hypothesis was accepted.

The significant difference in perceived leadership ability in individual and team sports could be two-fold. One, the nature of individual sports may be similar to that of the adult-run youth sport organizations in that the individual-sport athlete is deprived of opportunities to lead. In this situation, parents, coaches and event organizers take the reigns, and the individual-sport athlete is merely the passive recipient of their leadership, i.e., parenting, coaching and organizing. As sport researchers claim, with fewer opportunities to lead there will be fewer leaders in individual sports. Two, the individual-sport athlete is a very capable leader by example. For individual sports, performance is black and white: you win, or you lose. Therefore, only the ability to lead by example matters. Again, an element of self fulfillment plays itself out: athletes who pick individual sports do so for that reason, namely they do not want to rely on or lead others, just themselves. To wit, there was no significant difference in their leadership by example compared to team sports only a significant difference in their perceived vocal leadership.

Individual sports must be able to lead themselves; however, they may never have had the chance to lead others especially in a team setting. Most successful individual-sport athletes came up through the ranks on the junior circuit of their respective sports (i.e., junior tennis or junior golf) or played for a club (gymnastics or swimming & diving). In this setting, there is little or no team element to lead. Even with club teams – there is no collective sense of team: the club serves as a means to training, instruction and competition. They are little more than

individuals competing for themselves wearing the same uniforms. Due to the format of the individual-sport competition, athletes compete not only against those from other clubs but also against their club-mates in the individual standings. Once they arrive in the college, this is the first opportunity for them to be in a team setting much less lead. Consequently, they ask the question why would they ever help a teammate who could turn around and then beat them with that help. On the other hand, team sports have been “practicing” their leadership skills in team settings up until this point. For them it is not such a foreign concept. In this regard, individual-sport athletes are handicapped in their leadership skills and team concept.

With the fourth research question, it was hypothesized that there was a significant difference in the effect of gender and source of evaluation. In fact, there was none. However, the evaluations for male leaders held true to the research hypothesis though not with any significance: male self evaluations scored higher than peer evaluations which scored higher than coach evaluations. Male evaluations did not outrank female evaluations on the whole, nor did they follow the peer, self, coach prescribed order. Instead, male and female evaluations alternated with self evaluations ranking highest and male coach evaluations ranking last. Female coach evaluations scored higher than their peers; conversely male peers scored higher than coaches. Again, the lack of significance could be due in large part to the explanation provided for the lack of significance in gender: there is no cross-gender evaluation. When males evaluate males or females evaluate females, there will be minimal differences in perceived ability. Only when males evaluate females or vice versa will the difference be more substantial. This is coupled by the lack of significance in source of evaluation as well.

With the fifth research question, it was hypothesized that there was a significant difference in the effect of gender on sport. In fact, there was none. However, the results held true – to a certain degree - with the research hypothesis though not with any significance: male team-sport evaluations ranked highest while male individual sports ranked lowest rather than what was expected with the female individual sports ranking lowest. Both male and female team-sport evaluations outranked the individual sports, but then female individual-sport evaluations outranked the male. Again, it is suggested that like-gender evaluations negate any significant differences which might be apparent in sport.

With the sixth research question, it was hypothesized that there was a significant difference in the effect of source of evaluation and sport. In fact, there were two: coach evaluations for team sports were higher than those of individual sports; self evaluations on individual sports were higher than coach evaluations on individual sports. The results for the first pair-wise comparison are based upon the aforementioned explanations of sport but also incorporate the element of coach evaluations. Neither peer nor self evaluations showed the same significant difference. Peers share the same handicap – perhaps a skewed, ignorant or oblivious - view of vocal leadership as the leader. The leaders and their peers are not aware of what they do not know in terms of vocal leadership in a team setting – which goes to the results of the second relevant and significant pair-wise comparison. However, the coaches – even individual-sport coaches - have developed a better understanding for the need of leadership than have the athletes. At this time, coaches should be aware of the circumstances, namely the team setting, in which they coach. Specific to the study, these are collegiate coaches, not club or professional coaches, where the team component is a much more prevalent part of competition than with their counterparts. Professionally, team

competition would only occur during something like the occasional Federation Cup in tennis or the Solheim and Ryder Cups in golf. Furthermore, team-sport coaches are constantly trying to identify and possibly even develop the leaders on their respective teams.

Consequently, the high coach scores for team sport could be a reflection of wish thinking on their part. The coaches could have an inflated perception of the leaders' abilities. Because the coaches want so much for particular student-athletes to be leaders, they project the abilities onto them.

With the seventh research question, it was hypothesized that there was a significant difference in the effect of gender, source of evaluation and sport, specifically that male self evaluations on team sports would rank highest and female self evaluations on individual sport would rank lowest. In fact, there was significance but not as hypothesized. The results showed a significant difference in three relevant pair-wise comparisons. The first is that the coach evaluations for male leaders on team sports scored higher than that of individual sports. The second is that the coach evaluations for male leaders on individual sports were lower than that of self evaluations. The third is that the coach evaluations for male leaders on team sports scored higher than that of female leaders. The results further specified the significant findings in sport then to the coach evaluations with regard to sport and finally to those of male leaders.

The first pair-wise comparison revisited the explanations set forth regarding coach evaluations and sport. For both, there is an element of self-fulfillment. Coaches recruit in their own image, then teach in it and then resonate with those leaders who more closely resemble their personalities. Individual-sport athletes chose such sports to be a "team of one." With that, it is their ability to lead by example which matters most (not perceived

vocal leadership): the nature of win/lose performance is black and white. It is important to note that it is the males not females where there is significant difference. This may suggest that women are more collaborative (communal) and men are more competitive (ego-centric). Males are more resistant and possibly more stubborn to join a team believing that they can rely on themselves, that they do not need others. Atleast, the setting for males on team sports require that they share resources, listen to eachother and collaborate. With that, there is humility as well as the hierarchy of position and year.

This may go to the second significant finding in the pair-wise comparisons that self evaluations for males on individual sports scored higher than coach evaluations for the same. In short, they have an inflated sense of self worth and efficacy. Conditions in individual sports for males (lucrative professional payouts) require them to be self absorbed and ego maniacal. They would never consider sharing resources, facilities, coaches, trainers and equipment with competitors, and this is precisely what is asked of them by their coaches when they arrive on campus. Then, it is no surprise why their self evaluations would far surpass – with statistical significance – their coach evaluations. Males on team sports have been asked to do this all along. For females, there are fewer and less lucrative options for a professional career. They understand their sport as a means to an alternative end outside of sport where being a team player and leadership are sought-after skills. Consequently, there is no significance for the same pair-wise comparison for females. Finally, the results for coach evaluations for the perceived vocal leadership of male leaders on individual sports are particularly alarmingly because their score is the lowest ranked of all cross-sections of three-way interaction. This is further compounded by the fact that the same evaluations for males

on team sports ranked the highest. The results are red flags which merit immediate attention for rationale and curriculum development.

Even with team sports, there was a significant difference between the perceived vocal leadership ability of male and females on team sport by coaches. As mentioned before, team sports have more experience not only leading themselves but also leading others – more so than individual-sport athletes. That being said, there is still a significant difference in the perceived ability of males versus females. This can be explained by societal norms: men are expected to be leaders. There are more examples (role models) of men in leadership positions as Directors of Athletics, athletics senior administrators, coaches, University Presidents/Chancellors, Professors, etc... in the collegiate athletics and academics arenas alone.

With the eighth research question, it was hypothesized that there was a significant difference in the effect of the gender of the coach. In fact, there was significance for perceived leadership by example, while it only approached significance for perceived vocal leadership. Specifically, male coaches ranked female leaders higher than did female coaches. This may be better understood in light of the other results in this study. From high to low scoring, coach evaluations for male and female leaders went this way: male coach evaluations on male leaders, male coach evaluations on female leaders and female coaches on female leaders. The high scores from male coaches – versus female coaches - for female leaders may seem like a positive finding upon first glance. However, this may not be the case. In cross-gender coach evaluations, males might be patronizing the female leaders with inflated scores. These male coaches would not necessarily hold the female athletes to the same standards of leadership ability as they would male leaders. In effect, they have

gendered standards for perceived leadership ability. Conversely, female coaches tend to be much harder on female leaders. To an extent, this perception is more based upon reality. The female coaches understand that there are so few women in positions of power. Once they have achieved that status, they are very protective of what they have and are very reluctant to share. No studies exist which examine this exact research question regarding the effect of coaches' gender on perceived leadership ability. However, Sywensky & Madden (1996) found that female sex-typed individuals with all qualities and characteristics of a leader will still have difficulty being perceived as a capable leader. In this context, opposite-gender evaluation would result in different findings for perceived leadership ability.

With the ninth research question, it was hypothesized that there was a relationship between leadership by example and vocal leadership. In fact, there was a significant – moderate and positive - relationship. No studies exist which examine this specific relationship, that of perceived Leadership by Example and Vocal Leadership abilities as defined in the Janssen Peak Performance Team Captain's Leadership Model©. Thirty-six percent of perceived vocal leadership can be explained by perceived leadership by example ($R^2 = .361$). Finally, the correlation between perceived leadership by example and vocal leadership suggested a significant but moderate, positive relationship between the two. Perceived leadership by example sets a platform for vocal leadership. Just as the leadership model suggests, one must lead oneself before one can lead others. Again, the lack of significance in leadership by example scores suggests as much as well: there was no statistical significance in the scores of perceived ability. The leaders who participated in this study had already established a platform for leadership by their actions (e.g. action) thereby setting the stage for their vocal leadership.

SUMMARY

The results found seven statistically-significant differences in the effects of gender, source of evaluations and sport on the perceived leadership abilities of student-athletes on Olympic sports at UNC-CH. Most related to perceived vocal leadership. There was also a significant relationship in perceived leadership ability. There was a significant difference in sport and the interaction of source of evaluation and sport: team sports scored higher than individual sports, then the same held true for the coach evaluations of each. For individual sports, self evaluations were higher than the coach evaluations. The 24 relevant three-way interactions produced three significant effects. The first pair-wise comparison showed that the coach evaluations for male leaders on team sports scored higher than those on individual sports. The second pair-wise comparison showed that the self evaluations for male leaders on individual sports had higher perceived leadership abilities than the coach evaluations had for them. The third pair-wise comparison showed that the coach evaluations for male leaders on team sports were higher than those of the female leaders. More specifically, the evaluations of the male coaches of female leaders were higher than the evaluations of their female coaches. Finally, there was a significant relationship between a leader's ability to lead by example and vocally lead.

SUGGESTIONS

Recommendations for the Carolina Leadership Academy

The Carolina Leadership Academy should continue to quantitatively evaluate the effectiveness of its overall program – in accordance with the recommendation of

Zimmerman-Oster & Burkhardt (1999). While comprehensive, this study merely provides a snapshot of insight into perceived leadership ability of student-athletes. A five-year evaluation is recommended to sufficiently evaluate overall program effectiveness.

Part and parcel of program evaluation should include a similar evaluation of the 360-degree feedback which the leaders receive. The evaluation would consist of determining the effectiveness of the 360-degree process, namely the effectiveness of a Leadership Development Plan, an action plan generated based upon the feedback (Fields & Herold, 1997). The initial feedback received by the leaders would serve as the pre-test. Another round of 360-degree evaluations would occur after the back-end of the process: after the implementation of the action plan and the opportunity for follow-up. The back-end 360 would serve as the post-test. A pre-test/post-test comparison would provide another quantitative and routine method of effectiveness for leadership development programs.

In light of the significant findings in perceived leadership ability of sport, this necessitates follow-up research on these differences. An aforementioned study might be beneficial in this regard. Beam, Serwatka and Wilson (2004) examined the effect of gender and sport, specifically task variation (open or closed) and task dependence (individual or team) on the preference of coaches' leadership styles by student-athletes. The findings would give insight into the preferred leadership style of male athletes on individual sport teams. In effect, the leadership training curriculum could be modified to best meet their needs.

As well, in light of the significant – and nearly significant - findings in perceived leadership ability by male coaches on female leaders, this necessitates follow-up research on these cross-gendered differences. It would be of interest to examine the reverse: the

perceived leadership ability by female coaches on male leaders (Sywensky & Madden, 1996). It is the cross-gendered evaluations which most realistically resemble future evaluations these student-athletes would encounter in the work environment after collegiate athletics. Men would not be evaluated solely by men, nor women solely by women. The Carolina Leadership Academy purports to “develop leaders for a lifetime of service and success.” The development not only prepares for their time at UNC-CH but for life after as well.

Recommendations for Future Study

Previous studies have examined leadership development programs (Zimmerman-Oster & Burkhardt, 1999), leadership perceptions of (African-American) college students (McGhee, 1999), leadership perceptions given gender of college students (Sywensky & Madden, 1996), student-athlete preferences of coaching leadership style (Beam, Serwatka & Wilson, 2004). Furthermore, this initial study would serve as the basis for follow-up studies. One such could examine the perceived leadership ability of club sport athletes and then compare their composite average to that of varsity student-athletes. Club sport athletes would most closely resemble youth sports before adults became overly involved: they are responsible for reserving practice facilities, determining days and times, planning and running practices and serving as equipment managers. It is with that comparison that a quantifiable examination of the effects of adult-run youth sports programs on inhibiting leadership abilities. If this theory holds, it would be useful to compare perceived leadership ability by division. Like club sports, Division III provides the opportunity for increased leadership autonomy by the student-athletes.

In addition, a longitudinal study could examine whether leadership could be taught. This would consist of a pre-test/post-test format comparing the results of a school, like UNC-CH, and another of comparable to UNC-CH demographically: enrollment, geography, department size (i.e. sports sponsored) and relative success in Director's Cup standings. Participants at each school would be evaluated at the end of their freshmen, sophomore, junior and senior years. Their net progress in leadership development and ability would be tracked over the course of that time and then compare the net progress.

Another longitudinal study would involve whether leadership training translates to wins on the field - as Athletics Director Baddour contends. This could be quantified by comparing the wins (or winning percentage) of programs the five years preceding the inception of the Carolina Leadership Academy and the five years subsequent to its inceptions. Another method to quantify wins would be Director's Cup Standings. Arguably, this measures overall success of an athletics department. Again, if this theory holds, another consideration would be a comparison of perceived leadership ability of the top-25 schools in Director's Cup standings and the bottom-25.

TABLE 2:
Participation Numbers by Gender, Source of Evaluation and Sport

Gender	Source of Evaluation	Sport	N
Male	Self	Individual	21
		Team	9
		Total	30
	Peers	Individual	21
		Team	9
		Total	30
	Coaches	Individual	21
		Team	9
		Total	30
	Total	Individual	63
		Team	27
		Total	90
Female	Self	Individual	26
		Team	27
		Total	53
	Coaches	Individual	26
		Team	27
		Total	53
	Peers	Individual	26
		Team	27
		Total	53
	Total	Individual	78
		Team	81
		Total	159
Total	Self	Individual	47
		Team	36
		Total	83
	Coaches	Individual	47
		Team	36
		Total	83
	Peers	Individual	47
		Team	36
		Total	83
	Total	Individual	141
		Team	108
		Total	249

TABLE 3:

Participation Numbers by Teams and Gender

	Male (10)					Female (14)				
	Leaders	Teammates	Coaches	Participants	Evaluations	Leaders	Teammates	Coaches	Participants	Evaluations
Baseball	2	19	4	24	48	n/a	n/a	n/a	n/a	n/a
Basketball	n/a	n/a	n/a	n/a	n/a	3	11	5	17	51
Cross Country	2	8	2	11	22	3	5	2	8	24
Fencing	3	4	2	7	21	6	4	2	7	42
Field Hockey	n/a	n/a	n/a	n/a	n/a	4	13	2	16	64
Golf	2	10	2	13	26	3	7	2	10	30
Gymnastics	n/a	n/a	n/a	n/a	n/a	2	8	2	11	22
Lacrosse	4	32	4	37	148	5	19	2	22	110
Rowing	n/a	n/a	n/a	n/a	n/a	6	15	1	17	102
Soccer	3	19	1	21	63	4	14	2	17	68
Softball	n/a	n/a	n/a	n/a	n/a	2	11	3	15	30
Swimming & Diving	5	27	4	32	160	4	18	4	23	92
Tennis	4	10	3	13	52	4	6	2	9	36
Track & Field	3	17	2	21	63	4	27	3	31	124
Volleyball	n/a	n/a	n/a	n/a	n/a	3	13	3	17	51
Wrestling	2	19	2	22	44	n/a	n/a	n/a	n/a	n/a
TOTALS	30	165	26	201	647	53	171	35	220	846
Team Sports (3)	9	70	9	9	259	27	96	18	121	476
Individual Sports (7)	21	95	17	17	388	26	75	17	99	370

Average	2.90	16.50	2.60	20.10	59.00	3.79	12.21	2.50	15.71	60.43
Overall Average	3.34	14.36	2.55	17.91	59.71					

Range	2-5	4-32	1-4	7-37	21-160	2-6	4-27	1-5	7-31	22-124
Overall Range	2-6	4-32	1-5	7-37	21-160					

Total Participants: 421
Total Evaluations: 1493

Total Team Sport Evaluations: 735
Total Individual Sport Evaluations: 758

TABLE 4:
Descriptive Statistics for Leadership by Example

Dependent Variable: Leadership by Example

Gender of Leader	Source of Evaluation	Sport	Mean	Std. Deviation	N
Male	Self Evaluation	Individual	53.2619	4.43740	21
		Team	51.8889	4.07567	9
		Total	52.8500	4.30947	30
	Peer Evaluation	Individual	50.8571	3.44972	21
		Team	51.5000	3.25461	9
		Total	51.0500	3.34950	30
	Coach Evaluation	Individual	48.6286	5.93600	21
		Team	54.3333	4.98121	9
		Total	50.3400	6.18188	30
	Total	Individual	50.9159	5.01942	63
		Team	52.5741	4.19978	27
		Total	51.4133	4.82575	90
Female	Self Evaluation	Individual	52.6731	9.94479	26
		Team	52.8148	4.18823	27
		Total	52.7453	7.50488	53
	Peer Evaluation	Individual	50.5077	4.12940	26
		Team	51.3185	3.97860	27
		Total	50.9208	4.03487	53
	Coach Evaluation	Individual	51.9808	4.45511	26
		Team	50.8852	6.41145	27
		Total	51.4226	5.51375	53
	Total	Individual	51.7205	6.70197	78
		Team	51.6728	4.98969	81
		Total	51.6962	5.87336	159
Total	Self Evaluation	Individual	52.9362	7.89924	47
		Team	52.5833	4.12224	36
		Total	52.7831	6.50290	83
	Peer Evaluation	Individual	50.6638	3.80426	47
		Team	51.3639	3.76648	36
		Total	50.9675	3.78096	83
	Coach Evaluation	Individual	50.4830	5.38005	47
		Team	51.7472	6.20491	36
		Total	51.0313	5.75048	83
	Total	Individual	51.3610	6.00190	141
		Team	51.8981	4.80148	108
		Total	51.5940	5.50939	249

TABLE 9:
Descriptive Statistics for Vocal Leadership

Dependent Variable: Vocal Leadership

Gender of Leader	Source of Evaluation	Sport	Mean	Std. Deviation	N
Male	Self Evaluation	Individual	103.6667	9.34523	21
		Team	100.1111	7.42369	9
		Total	102.6000	8.84191	30
	Peer Evaluation	Individual	98.4143	7.52611	21
		Team	101.1444	5.40881	9
		Total	99.2333	6.98236	30
	Coach Evaluation	Individual	92.1619	13.27383	21
		Team	108.9222	7.77766	9
		Total	97.1900	14.11474	30
	Total	Individual	98.0810	11.21396	63
		Team	103.3926	7.78672	27
		Total	99.6744	10.55024	90
Female	Self Evaluation	Individual	99.1962	10.90470	26
		Team	102.6296	7.20656	27
		Total	100.9453	9.28113	53
	Peer Evaluation	Individual	96.4692	11.45184	26
		Team	99.6630	7.70275	27
		Total	98.0962	9.76292	53
	Coach Evaluation	Individual	99.0885	10.71165	26
		Team	99.4926	10.95719	27
		Total	99.2943	10.73475	53
	Total	Individual	98.2513	10.95677	78
		Team	100.5951	8.79100	81
		Total	99.4453	9.95074	159
Total	Self Evaluation	Individual	101.1936	10.37519	47
		Team	102.0000	7.23878	36
		Total	101.5434	9.10568	83
	Peer Evaluation	Individual	97.3383	9.84158	47
		Team	100.0333	7.15442	36
		Total	98.5072	8.83105	83
	Coach Evaluation	Individual	95.9936	12.29150	47
		Team	101.8500	10.96187	36
		Total	98.5337	12.02365	83
	Total	Individual	98.1752	11.03294	141
		Team	101.2944	8.60204	108
		Total	99.5281	10.15090	249

TABLE 23:
Between-Subjects Factors for 3-Way ANOVA

		Value Label	N
Gender of Leader	1.00	Male	90
	2.00	Female	159
Source of Evaluation	1.00	Self Evaluation	83
	2.00	Peer Evaluation	83
	3.00	Coach Evaluation	83
Sport	1.00	Individual	141
	2.00	Team	108

TABLE 24:
Descriptives for Gender of Coaches of Female Leaders

		N	Mean
Leadership by Example	Male	70	52.0286
	Female	54	49.6111
	Total	124	50.9758
Vocal Leadership	male	70	101.0643
	female	54	96.8796
	Total	124	99.2419

FIGURE 1:

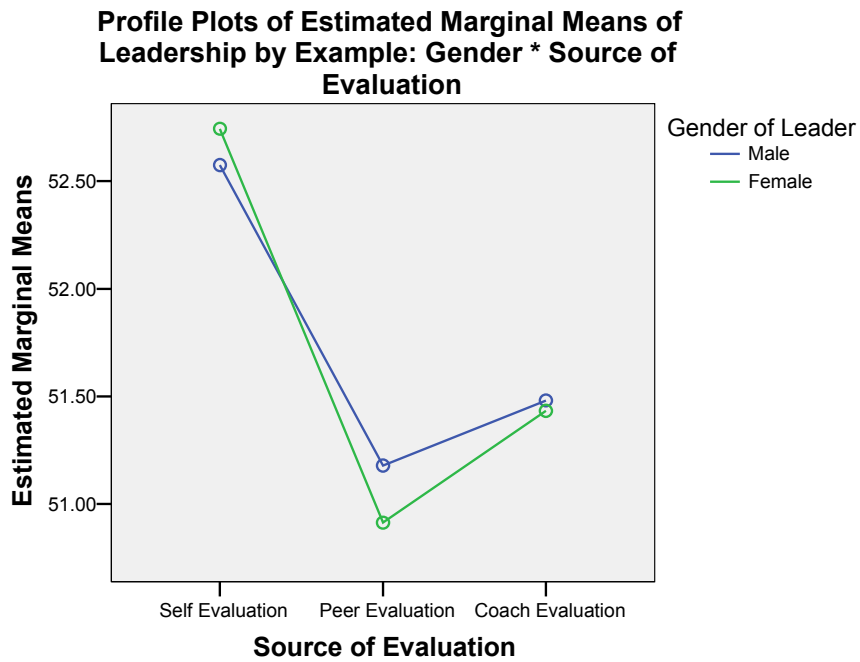


FIGURE 2:

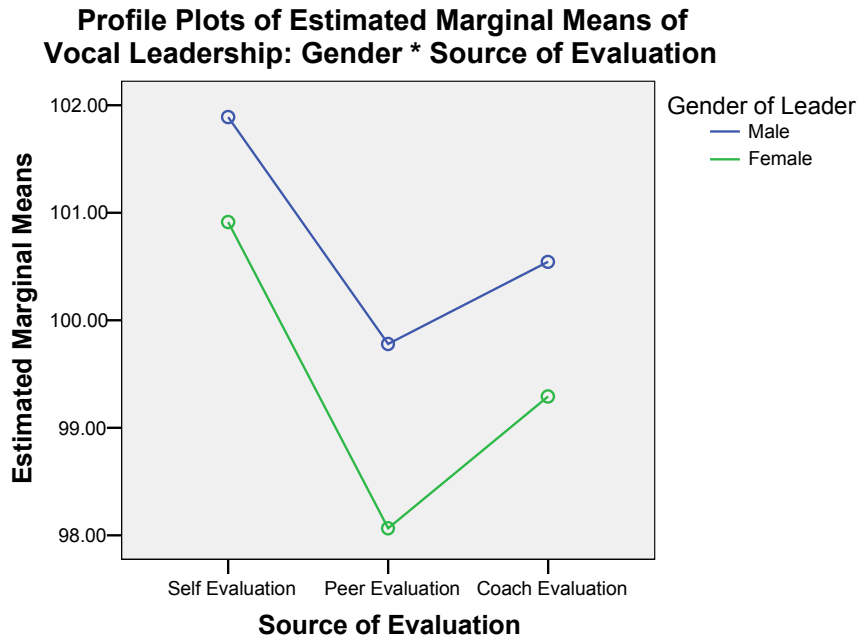


FIGURE 3:

Profile Plots of Estimated Marginal Means of Leadership by Example: Source of Evaluation * Sport



FIGURE 4:

Profile Plots of Estimated Marginal Means of Vocal Leadership: Source of Evaluation * Sport

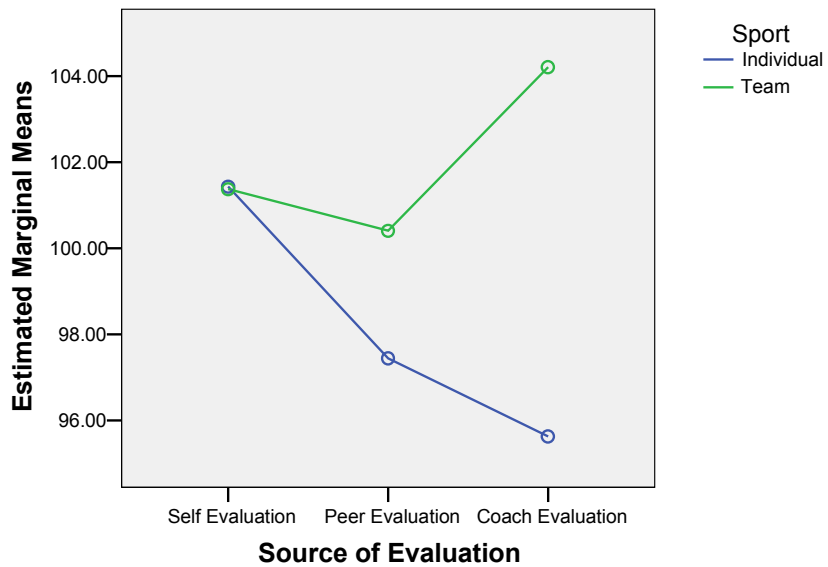


FIGURE 5:

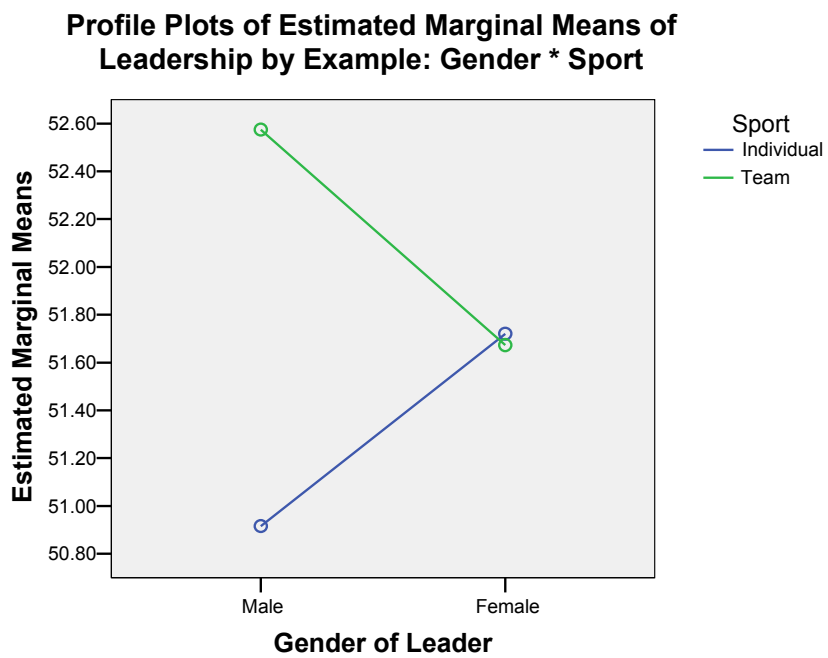


FIGURE 6:

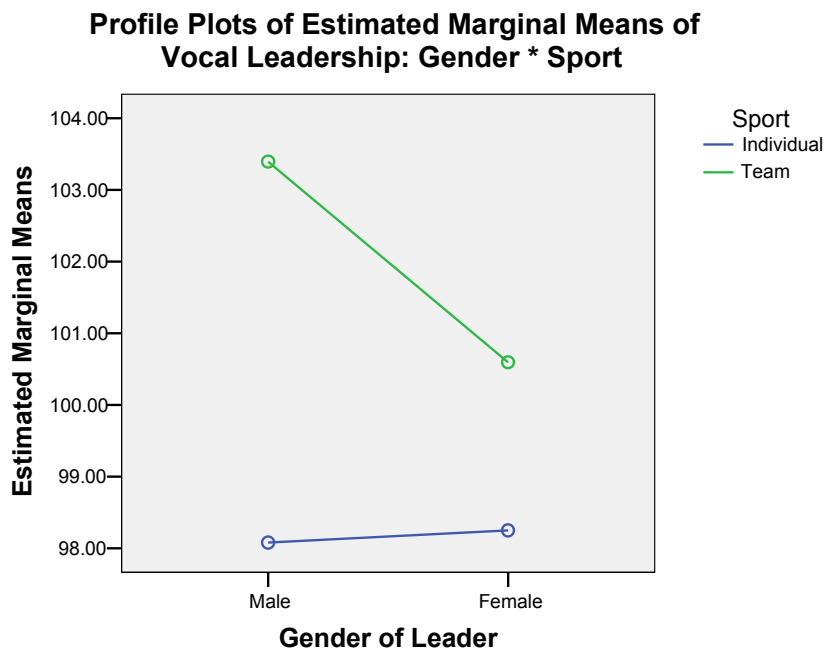


FIGURE 7:

**Clustered Bar Graph Comparing Males
vs. Females: Leadership by Example**

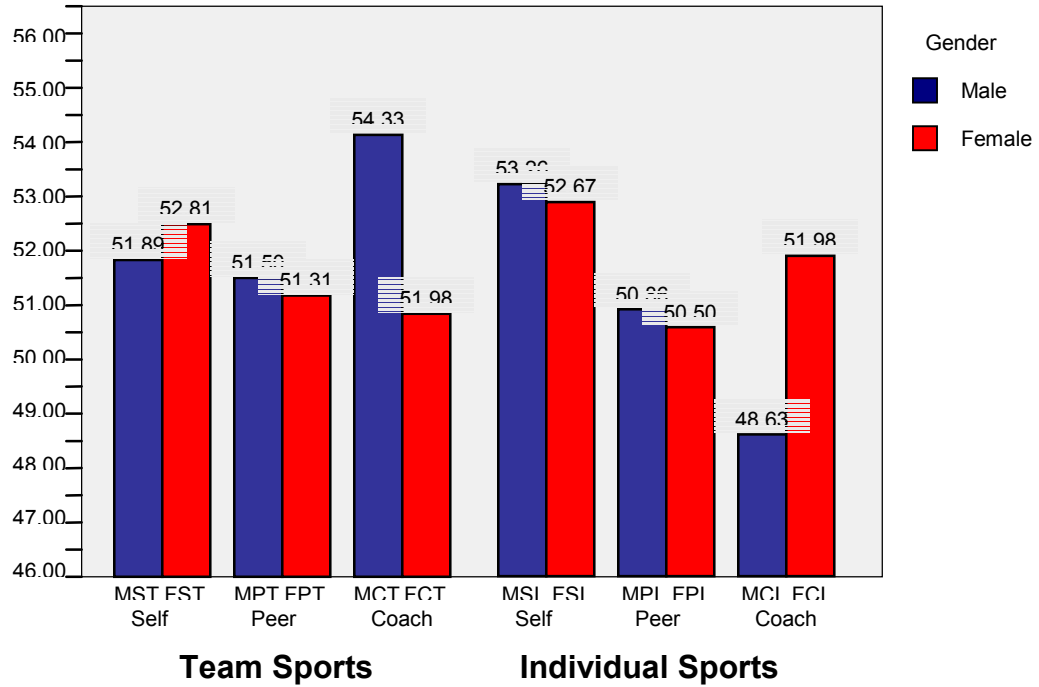


FIGURE 8:

**Clustered Bar Graph Comparing Males vs.
Females: Vocal Leadership**

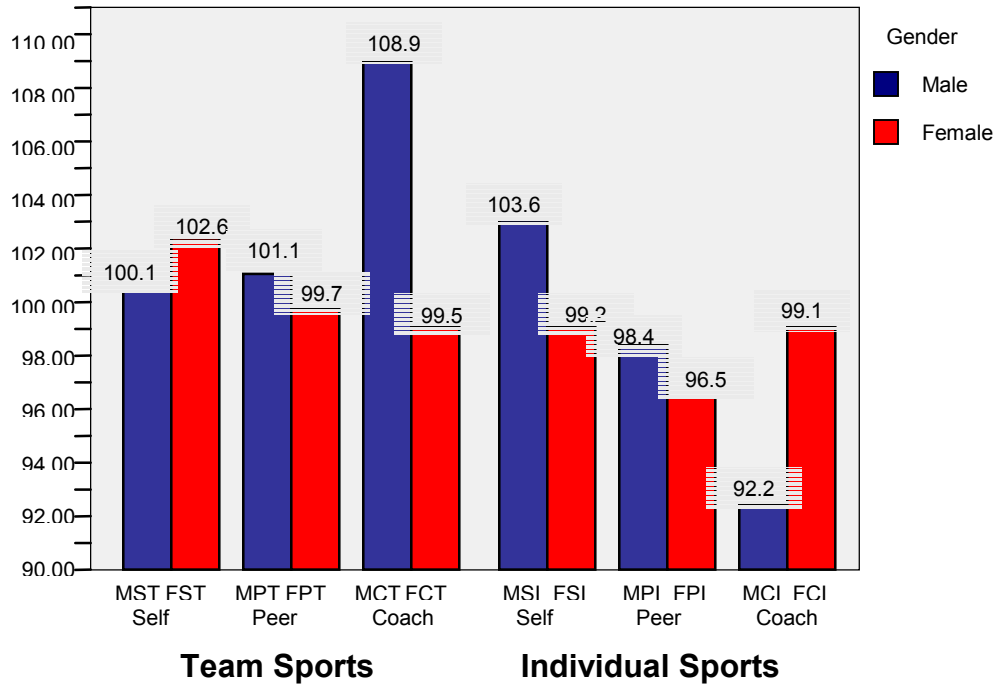
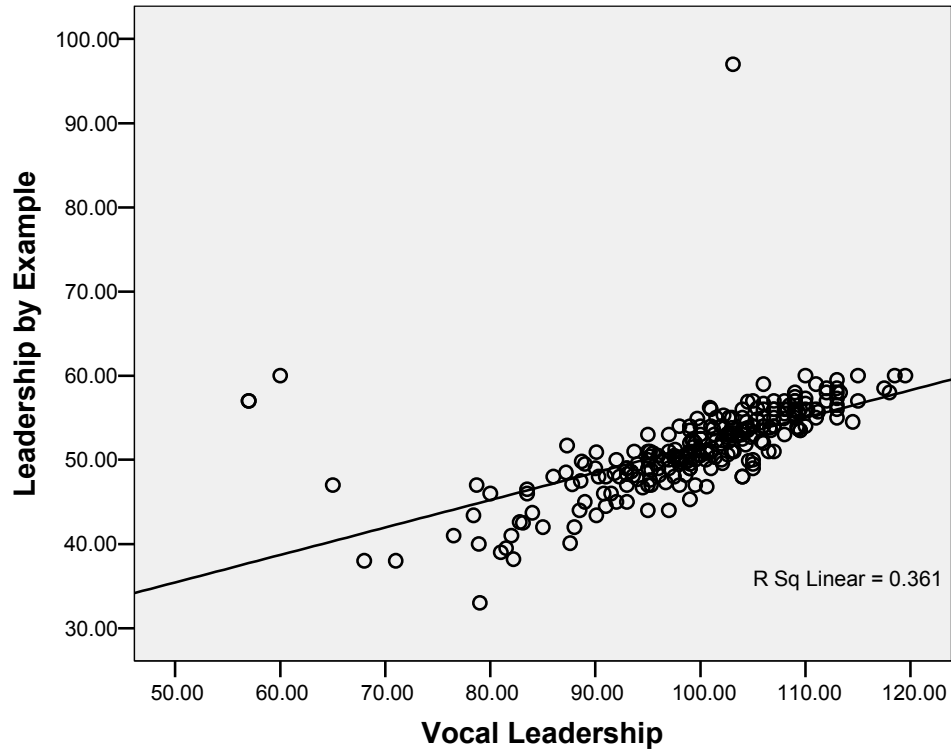


FIGURE 9:

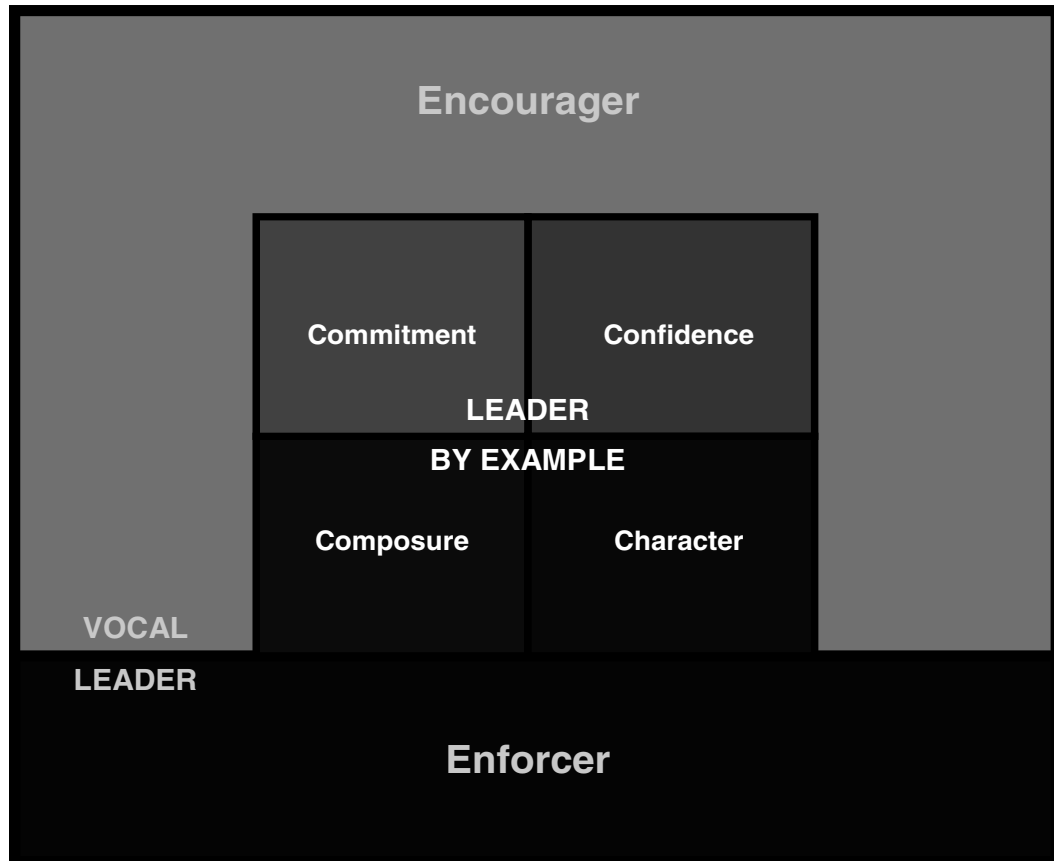
**Scatterplot with Line of Best Fit for Bi-variate Correlation of
Leadership by Example and Vocal Leadership**



APPENDIX I

Janssen Peak Performance Team Captain's Leadership Model©

TEAM CAPTAIN'S LEADERSHIP MODEL



LEADER BY EXAMPLE

1. Commitment
2. Confidence
3. Composure
4. Character

VOCAL LEADERSHIP

1. Commitment
2. Confidence
3. Composure
4. Character
5. Encourager
6. Enforcer

The Team Captain's Leadership Manual

© Janssen Peak Performance • www.jeffjanssen.com • 1-888-721-TEAM

APPENDIX II

Janssen Peak Performance Team Captain's Leadership Model© Description

LEADERSHIP BY EXAMPLE

1. Commitment

- Self motivated, doesn't need someone watching over shoulder
- One of the hardest workers on the team
- Sport is a big priority for them, care, passionate
- Competitive

2. Confidence

- Believes in self, solid sense of self, comfortable with self, maturity
- Wants to perform in big moments
- Aggressively plays to win instead of not to lose
- Mentally and emotionally resilient following failure

3. Composure

- Able to manage emotions
- Plays and practices with enthusiasm, positive attitude
- Stays calm under pressure
- Tempers negative emotions

4. Character

- Does the right thing on and off the court/field
- Responsible, accountable, reliable, punctual
- Honest with coaches and teammates/trustworthy
- Treats teammates and coaches with respect – no gossip

VOCAL LEADERSHIP

5. Encourager

- A. Servant – put needs of team ahead of their own, team player
 - Takes the young kids under their wing
 - Does the dirty work
- B. Confidence Builder
 - Understands each teammates – knows their strengths, weaknesses, frustrations, fears
 - Helps teammates feel good about themselves – focuses on strengths/progress
 - Reaches out to struggling teammates and provides support and encouragement
- C. Refocuser
 - Emotionally intelligent to sense mood of team
 - Refocuses back on the present, positive, process
 - Purveyor of hope
- D. Team Builder
 - Establishes a common and compelling goal with teammates
 - Helps teammates understand and accept their roles
 - Helps teammates get to know each other and bond
- 6. Encourager – courage to confront**
 - Holds self and teammates accountable to high standards/demanding
 - Willing to constructively confront undisciplined teammates
 - Confront in the spirit to help/uphold standards, not belittle
 - Firm, fair, direct, honest
 - Stops gossip in tracks
 - Knows when to involve

The Team Captain's Leadership Manual

© Janssen Peak Performance • www.jeffjanssen.com • 1-888-721-TEAM

APPENDIX III

Janssen Peak Performance Team Captain's Leadership Self Evaluation©

Using a scale from one to five rate yourself on the following 24 questions.

1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly Agree

Commitment	sd	d	n	a	s
I am one of the hardest workers on the team.....	1	2	3	4	5
I care passionately about the team's success.....	1	2	3	4	5
I am a competitive person who wants to win.....	1	2	3	4	5

Confidence					
I believe in myself as a person and my ability to lead.....	1	2	3	4	5
I want to perform in pressure situations.....	1	2	3	4	5
I bounce back quickly following mistakes and errors.....	1	2	3	4	5

Composure					
I stay calm and composed in pressure situations.....	1	2	3	4	5
I stay focused when faced with distractions, obstacles, and adversity.....	1	2	3	4	5
I keep my anger and frustration under control.....	1	2	3	4	5

Character					
I consistently do the right thing on and off the court/field.....	1	2	3	4	5
I am honest and trustworthy.....	1	2	3	4	5
I treat my teammates, coaches, and others with respect.....	1	2	3	4	5

LEADER BY EXAMPLE (add questions 1-12)

TOTAL

Encourager – Servant					
I reach out to teammates when they need help.....	1	2	3	4	5
I take time to listen to teammates.....	1	2	3	4	5

Encourager – Confidence Builder					
I regularly encourage my teammates to do their best.....	1	2	3	4	5
I regularly compliment my teammates when they succeed.....	1	2	3	4	5

Encourager – Refocuser					
I communicate optimism and hope when the team is struggling.....	1	2	3	4	5
I know what to say to my teammates when they succeed.....	1	2	3	4	5

Encourager – Team Builder					
I have developed an effective relationship with each of my teammates.....	1	2	3	4	5
I am a team player who seeks to unify the team.....	1	2	3	4	5

Enforcer					
I hold my teammates accountable for following team rules and standards.....	1	2	3	4	5
I constructively confront my teammates when necessary.....	1	2	3	4	5
I am willing to address and minimize conflicts between teammates.....	1	2	3	4	5
I am firm, fair, and direct when dealing with conflicts and problems.....	1	2	3	4	5

VOCAL LEADER (add questions 1-24)

TOTAL

APPENDIX IV

Janssen Peak Performance Team Captain's Leadership Evaluation©

Using a scale from one to five rate the person listed on the following 24 questions.

1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly Agree

Commitment	sd	d	n	a	s
is one of the hardest workers on the team.....	1	2	3	4	5
cares passionately about the team's success.....	1	2	3	4	5
is a competitive person who wants to win.....	1	2	3	4	5
Confidence					
believes in him/herself as a person and his/her ability to lead.....	1	2	3	4	5
wants to perform in pressure situations.....	1	2	3	4	5
bounces back quickly following mistakes and errors.....	1	2	3	4	5
Composure					
stays calm and composed in pressure situations.....	1	2	3	4	5
stays focused when faced with distractions, obstacles, and adversity.....	1	2	3	4	5
keeps his/her anger and frustration under control.....	1	2	3	4	5
Character					
consistently does the right thing on and off the court/field.....	1	2	3	4	5
is honest and trustworthy.....	1	2	3	4	5
treats his/her teammates, coaches, and others with respect.....	1	2	3	4	5
LEADER BY EXAMPLE (add questions 1-12)	TOTAL _____				
Encourager – Servant					
reaches out to teammates when they need help.....	1	2	3	4	5
takes time to listen to teammates.....	1	2	3	4	5
Encourager – Confidence Builder					
regularly encourages his/her teammates to do their best.....	1	2	3	4	5
regularly compliments his/her teammates when they succeed.....	1	2	3	4	5
Encourager – Refocuser					
communicates optimism and hope when the team is struggling.....	1	2	3	4	5
knows what to say to his/her teammates when they succeed.....	1	2	3	4	5
Encourager – Team Builder					
has developed an effective relationship with each of his/her teammates.....	1	2	3	4	5
is a team player who seeks to unify the team.....	1	2	3	4	5
Enforcer					
holds his/her teammates accountable for following team rules and standards.....	1	2	3	4	5
constructively confronts my teammates when necessary.....	1	2	3	4	5
is willing to address and minimize conflicts between teammates.....	1	2	3	4	5
is firm, fair, and direct when dealing with conflicts and problems.....	1	2	3	4	5
VOCAL LEADER (add questions 1-24)	TOTAL _____				

The Team Captain's Leadership Manual

© Janssen Peak Performance • www.jeffjanssen.com • 1-888-721-TEAM

APPENDIX V

Directions for Survey Administration and Collection

Purpose of Study

The purpose of this study is to examine the effects of gender, source of evaluation and sport on perceived leadership ability of collegiate student-athletes on Olympic sports at the University of North Carolina at Chapel Hill. The study is being conducted for a master's thesis. The lead researcher is Shelley Johnson.

You are being asked to participate in the study. Participation in the study is voluntary. It will have no impact on your standing on the team if you choose not to participate. If this is the case – that you do not want to be a part of the study, then leave the evaluation blank. You will still turn in the incomplete evaluation.

There are no risks to being in the study. There is no financial reward, or any other benefit from being the study. Your evaluation will remain anonymous. There is no way for the researchers to link it back to you.

Methods

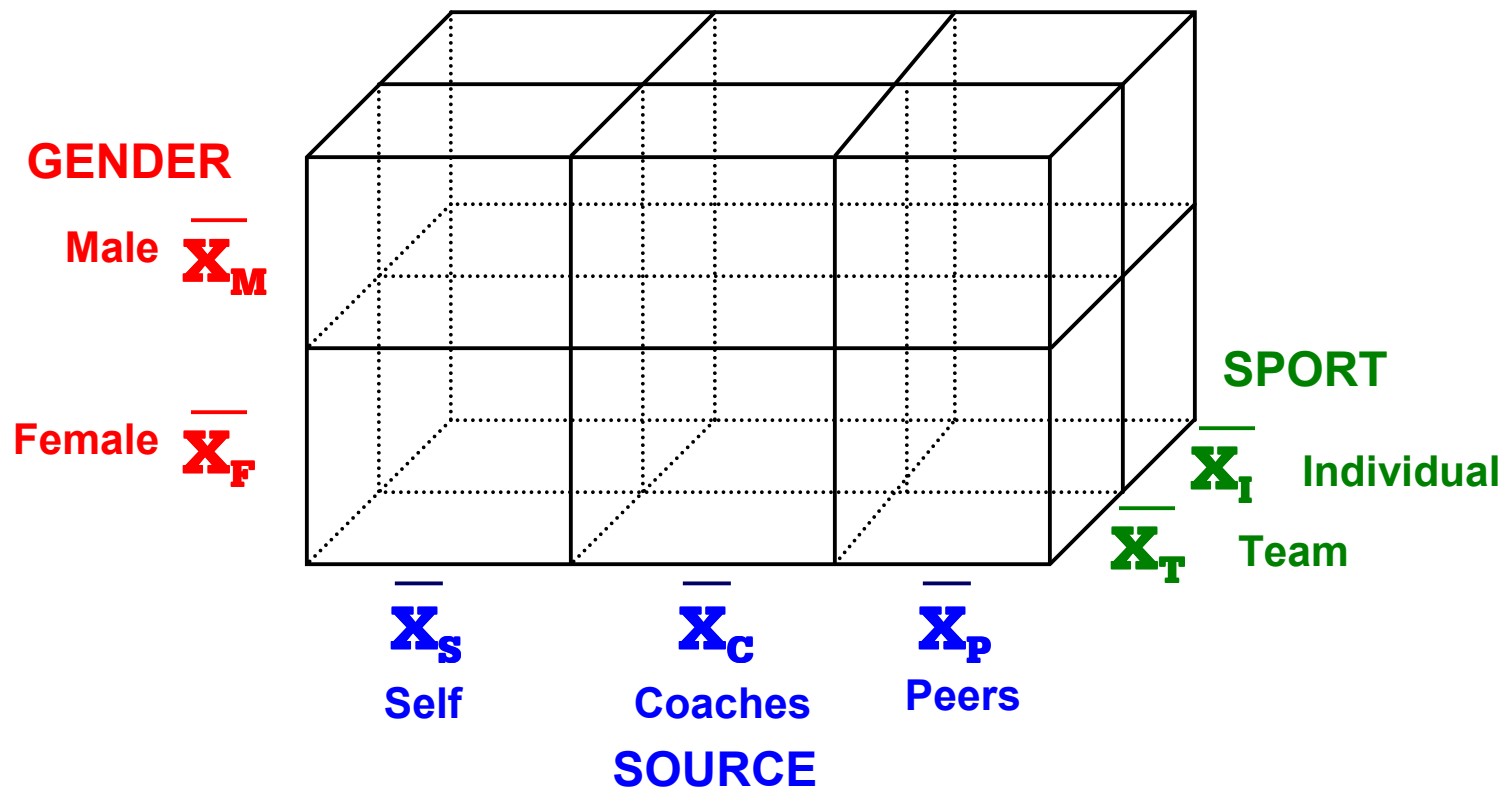
Please the verify code located in the upper right corner of the evaluation. Leaders: your code should read “[Male/Female] - S - [Team/Individual].” Coaches: your code should read “[Male/Female] - C - [Team/Individual].” Teammates: your code should read “[Male/Female] - P - [Team/Individual].” Freshmen are ineligible. Only teammates who were present last spring are eligible.

Each evaluation should take about 5 minutes. You will complete 3 sets of evaluations: one evaluation for each leader on the team.

Thank you for your participation.

APPENDIX VI

Paradigm for 3-Way (2 X 3 X 2) Totally Between Subjects ANOVA



REFERENCES

- Beam, J. W., Serwatka, T. S. & Wilson, W. J. (2004). Preferred leadership of NCAA division I and II intercollegiate student-athletes. *Journal of Sport Behavior*, 27(1), 3-18.
- Chelladurai, P. & Saleh, S. (1978). Preferred leadership in sports. *Canadian Journal of Sport Science*, 3, 85-92.
- Chelladurai, P. & Saleh, S. (1980). Dimension of leader behavior in sports: development of a leadership scale. *Journal of Sport Psychology*, 2, 34-35.
- Fields, D. L. & Herold, D. M. (1997). Using the leadership practices inventory to measure transformational and transactional leadership. *Educational and Psychological Measurement*, 57(4), 569-580.
- Fletcher, C. & Baldry, C. (2000). A study of individual differences and self-awareness in the context of multi-source feedback. *Journal of Occupational and Organizational Psychology*, 73(3), 303.
- House, R. J. (1971). A path-goal theory of leader effectiveness. *Administrative Quarterly*, 16, 321-338.
- Janssen, J. (2004a). *The Team Captain's Leadership Manual: the Complete Guide to Developing Team Leaders Whom Coaches Respect and Teammates Trust*.
- Janssen, J. (2004b). Carolina Leadership Academy Brochure. Retrieved from www.tarheelblue.com on February 15, 2005
- Janssen, J. (2003). Carolina Leadership Academy Proposal (unpublished).
- Lin, Z., Chen, J. & Esposito, E. (2005). Successful leadership behavior in sport. *The Sport Supplement: a supplement of the Sport Journal*, 13(1).
- McCutcheon, L. & Ashe, D. (1999). Can individualists find satisfaction in interactive team sports? *Journal of Sport Behavior*, 22(4), 570.
- McGhee, L. I. (2000). African American college students' leadership perceptions (Doctoral dissertation, Texas A&M University, 2000). *Dissertations Abstracts International*, 61(07), 2623.
- Sywwensky, J. M. & Madden, J. L. (1996). Effects of gender and sex type on perceived leadership abilities. *Journal of Group Psychotherapy, Psychodrama & Sociometry*, 49(2), 76-88.

- Terry, P. C. & Howe, B. L. (1984) Coaching preferences of athletes. *Canadian Journal of Applied Sport Sciences*, 9, 188-193.
- Todd, S. & Kent, A. (2003). Student athletes' perception of self. *Adolescence*, 38(152), 659-668.
- Zimmerman-Oster, K. & Burkhardt, J. (1999). Leadership in the making: A comprehensive examination of the impact of leadership development programs on students. *Journal of Leadership Studies*, Retrieved on (date) from (web address).