

This is to certify that the

dissertation entitled

A SOCIAL COGNITIVE PERSPECTIVE OF MOTIVATIONAL AND SELF-REGULATORY MECHANISMS OF LEADERSHIP IN FEMALE COLLEGIATE ROWERS

presented by

T. Michelle Magyar

has been accepted towards fulfillment of the requirements for

Ph.D. degree in Kinesiology

Dabra J. J. Major professor <u>lt</u>

Date October 4, 2002

MSU is an Affirmative Action/Equal Opportunity Institution

0-12771



PLACE IN RETURN BOX to remove this checkout from your record. TO AVOID FINES return on or before date due. MAY BE RECALLED with earlier due date if requested.

DATE DUE	DATE DUE	DATE DUE
AFR (° 3 2007		
032107	99.540 2008	
		6/01 c:/CIRC/DateDue c65-c 15

A SOCIAL COGNITIVE PERSPECTIVE OF MOTIVATIONAL AND SELF-REGULATORY MECHANISMS OF LEADERSHIP IN FEMALE COLLEGIATE ROWERS

By

T. Michelle Magyar

A DISSERTATION

Submitted to Michigan State University in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Department of Kinesiology

ABSTRACT

A SOCIAL COGNITIVE PERSPECTIVE OF MOTIVATIONAL AND SELF-REGULATORY MECHANISMS OF LEADERSHIP IN COLLEGIATE ROWERS

By

T. Michelle Magyar

The purpose of this investigation was to examine the motivational and self-regulatory mechanisms of leadership in collegiate rowers. Participants were 367 female intercollegiate rowers ages 18-37 (M = 19.75). Rowers completed a demographic questionnaire, a reduced version of the Bem- Sex Role Inventory (R-BSRI; Bem, 1974; Covey & Feltz, 1991), a modified version of the Task and Ego Orientation in Sport Ouestionnaire (M-TEOSO: Duda & Nicholls, 1992), and a modified version of the Perceived Motivational Climate in Sport Questionnaire (M-PMCSQ-2; Newton, Duda, & Yin, 2000). Regulatory mechanisms of leadership were measured with constructs developed for the purpose of this research to assess leadership skills, and efficacy beliefs (e.g., leadership efficacy, task self-efficacy, and collective efficacy). Leadership effects was classified into two dimensions, performance and motivational. Performance leadership was operationalized as someone who is considered to be the "go to" person, is competent, masterful, assertive, confident, and may lead a boat toward a successful performance outcome. Successful performance outcome was operationlized as an improved race time or winning a race. Motivational leadership was operationalized as someone who encourages teammates to stay tough and work through the pain (i.e., on the erg or during a race), resolves conflict between members of the boat, acts unselfishly, shows concern for others, or helps teammates calm their nerves before testing and competitions.

The conceptual model was tested using path analysis. Results from this analysis demonstrated that leader goal orientation and leadership efficacy emerged as the strongest predictors of leader effectiveness. Specifically, athletes who reported greater leader goal orientation and leadership efficacy obtained higher scores on leader effectiveness from their teammates. Perceptions of mastery motivational climate also demonstrated a consistent and significant relationship with leadership skills in sport. Leadership efficacy demonstrated the strongest mediating effect between personal and situational determinants with leader effects. Future research should examine leadership over the entire course of the season in order to assess the emergent patterns that may occur.

DEDICATION

To my family with love.

ACKNOWLEDGMENTS

A special thank you to my advisor and dissertation committee chair Dr. Deborah Feltz. Thank you to my dissertation committee members, Drs. Carole Ames, Marty Ewing, and Mark Reckase for providing guidance and direction on this project.

My admiration and gratitude go to the many athletes and coaches who donated their time and effort to participate in the study.

To my sister Janine, my grandparents, and my best friends Ian, Peggy, Lynette, and Lori, thank you for your support. Finally, I would like to express my deepest gratitude to my parents Jeff and Linda. I could not have accomplished this without your love and support.

TABLE OF CONTENTS

LIST OF APPENDICES	viii
LIST OF TABLES	ix
LIST OF FIGURES	xi
GLOSSARY	xii
CHAPTER 1	
INTRODUCTION	
Nature of the Problem	1
Statement of the Problem	7
Overview of Social-Cognitive Correlates of Leadership	9
Contextual Factors in the Current Study	17
Conceptual Model of Leadership in Athletes	18
Research Questions	20
Conceptual Model Hypotheses	24
Additional Hypotheses	23
Basic Assumptions	24
Delimitations.	25
CHAPTER 2	
REVIEW OF LITERATURE	
Trait/Personality Perspective	26
Rehavioral Perspective	20
Situational Derenective	20
Contingency Perspective	31
Transactional/Transformational Derspective	25
Conclusions	38
Social Cognitive Theory	J0 //1
Social Cognitive Theory of Leadership	43
Leadership Effects	
Self-Regulatory Mechanisms of Leadershin	46
Social Cognitive Determinants of Leadership	50
Gender Doles	51
Gender and Leadershin	51
Gender Poles in Sport	55 50
Achievement Goals	20
Structural Goals	66
Conclusion	72
	13

CHAPTER 3

METHODOLOGY	
Participants	74
Measures	76
Procedures	85
Treatment of the Data	86

CHAPTER 4

RESULTS	
Demographic Information	88
Descriptive Statistics	89
Leader Identification and Evaluation Patterns	90
Background Influences on Perceptions of Leadership	93
Confirmatory Factor Analyses	93
Path Analysis	10
Hypothesis 1	10
Hypothesis 2	10
Hypothesis 3	11
Hypothesis 4	11
Hypothesis 5	11
Hypothesis 6	11
Hypothesis 7	12
Hypothesis 8	12

CHAPTER 5

DISCUSSION	133
APPENDICES	143
TABLES	165
REFERENCES	177

LIST OF APPENDICES

	Page
Appendix A. Demographic Background Questionnaire	144
Appendix B. Gender Role Orientations	146
Appendix C. Goal Orientations	147
Appendix D. Motivational Climate	148
Appendix E. Task Self-efficacy	149
Appendix F. Leader Efficacy	150
Appendix G. Leadership Skills	151
Appendix H. Performance Leadership Identification	153
Appendix I. Motivational Leader Identification	154
Appendix J. Peer Performance Leader Evaluation	155
Appendix K. Peer Motivational Leader Evaluation	156
Appendix L. Self Performance and Motivational Leader Evaluation	157
Appendix M. Crew Efficacy	158
Appendix N. Coach's Packet	159

T. T. T T I 1 1]] 1 T T T

LIST OF TABLES

TABLE O. I. Description Statistics of Solf Regulatory Machanisms	Page
of Leadership	166
TABLE O-2. Descriptive Statistics of Leader Effects	167
TABLE O-3. Pearson Product Moment Correlations Among Leader Evaluation Scores, Self and Peer Leader Effectiveness Scores and Ranks	168
TABLE O-4. Distribution of Leader Rankings by Seat on Performance Leadership	169
TABLE O-5. Distribution of Motivational Leader Rankings by Seat	170
TABLE O-6. Pearson Product Moment and Bivariate Correlations of Personal Demographic Determinants and Leadership.	171
TABLE O-7. Leader Evaluation Fit Indices, Standardized Parameter Estimates, Standard Error, and T-values.	172
TABLE O-8. Efficacy Fit Indices, Standardized Parameter Estimates, Standard Error, and T-values.	173
TABLE O-9. A-LLSQ Fit Indices, Standardized Parameter Estimates, Standard Error, and T-values.	174
TABLE O-10. M-TEOSQ Fit Indices, Standardized Parameter Estimates, Standard Error, and T-values.	175
TABLE O-11. M-PMCSQ-2 Fit Indices, Standardized Parameter Estimates, Standard Error, and T-values.	176
TABLE 1. Correlations, Means, and Standard Deviations for Path Model	104
TABLE 2. Direct Effects for Hypothesis 1	106
TABLE 3. Direct Effects for Hypothesis 2	109
TABLE 4. Direct Effects for Hypothesis 3	111
TABLE 5. Direct Effects for Hypothesis 4	113
TABLE 6. Direct Effects for Hypothesis 5	115

	Page
IABLE /. Direct, Indirect, and Total Effects of Personal and Situational Determinants on Team and Leader Effects	118
TABLE 8. Descriptive Statistics for Athletes by Class Standing	
and Previous Leadership Experience	125
TABLE 9. Descriptive Statistics for Athlete ranked #1 Performance Leader versus Athletes Not Ranked #1 in Performance Leadership	128
TABLE 10. Descriptive Statistics for Athlete ranked #1 Motivational Leader versus Athletes Not Ranked #1 in Motivational Leadership	130
TABLE 11. Correlates of Coach, Peer, and Self Leadership Rankings	132

.

FI FI F F F F F F F ł. F F F

LIST OF FIGURES

	Page
FIGURE 1. Social Cognitive Conceptual Model of Leadership in Athletes	2
FIGURE 2. Example 2-factor Confirmatory Factor Analysis Model	95
FIGURE 3. Illustration of Full Hypothesized Model	102
FIGURE 4. Illustration of Direct Effects for Hypothesis 1	107
FIGURE 5. Illustration of Direct Effects for Hypothesis 2	110
FIGURE 6. Illustration of Direct Effects for Hypothesis 3	112
FIGURE 7. Illustration of Direct Effects for Hypothesis 4	114
FIGURE 8. Illustration of Direct Effects for Hypothesis 5	116
FIGURE 9. Direct and Indirect Pathways from Agentic Attributes to Peer Scores of Leader Effectiveness	119
FIGURE 10. Direct and Indirect Pathways from Agentic Attributes to Self Scores of Leader Effectiveness	120
FIGURE 11. Direct and Indirect Pathways from Agentic Attributes to Collective Efficacy	121
FIGURE 12. Direct and Indirect Pathways from Communal Attributes to Self Scores of Leader Effectiveness	122

Inc
Ag
be
C
be
ex
E
SC
Su
L
e)
te
L
di
De
lea
co
co

Glossary

Independent Variables: Hypothesized Determinants

Agentic Attributes: characteristics that are used to describe stereotypic masculine behavior (e.g., independent, masterful, assertive, and competent).

Communal Attributes: characteristics that are used to describe stereotypic feminine behavior (e.g., friendly to others, unselfish, concerned for others, and emotionally expressive).

Ego Orientation: the dispositional tendency to use normative referenced standards (i.e., social comparison) for evaluating personal ability, task difficulty, performance, and successful experiences in sport.

Leadership Climate: perceptions that depict the extent to which the coach promotes leadership by encouraging the use of leadership skills and providing leadership experiences for athletes.

Leadership Experience: previous experience with a leadership role of any kind (e.g., team captain, student council).

Leader Orientation: the dispositional tendency to use leader-referenced standards (i.e, directing group members/others) for evaluating personal ability, task difficulty, performance, and successful experiences in sport.

Mastery Climate: perceptions that reflect the extent to which a coach emphasizes learning and improvement, makes each athlete feel like he or she provides an important contribution to the success of the team, and encourages all athletes to work together collectively.

Per
riva
erro
Ro
Ro
for
Tas
per
Suc
Me
Lea
groi
Moi
dim
Neg
(e.g
Perf
dime
Rest
and (
main
Task
Perfo
1

Performance Climate: perceptions that represent the degree to which a coach encourages rivalry among athletes on the same team, uses punitive tactics in response to performance errors, and provides differential attention (e.g., favoritism) to athletes.

Rowing Experience: months/years of experience in the sport of rowing.

Rowing Ability: an objective assessment of rowing ability using an individual's time for a 2000 meter (2K) rowing ergometer test.

Task Orientation: the dispositional tendency to use self-referenced standards (i.e., personal mastery) for evaluating personal ability, task difficulty, performance, and successful experiences in sport.

Mediating Variables: Hypothesized Regulatory Mechanisms

Leadership Efficacy: An individual's belief in his/her ability to successfully lead the group to a certain degree or level (Bandura, 1997; Chemers, 1997).

Motivational-Interpersonal Leadership Skills: skills that emphasize interpersonal dimension of leadership (e.g., console teammates when they are frustrated).

Negative Tactics Leadership Skills: skills that reflect a leader's use of negative tactics

(e.g., encourage teammates to win at all costs).

Performance-Execution Leadership Skills: skills that emphasize performance dimensions of leadership (e.g., set performance goals for the team).

Respect-Communication Leadership Skills: skills that reflect a leader's use of respect and communication (e.g. communicate effectively with teammates) to develop and maintain leadership.

Task Self-Efficacy: an individual's belief in his/her capability to successfully execute a performance skill to a certain degree or level (Bandura, 1997).

Dependent Variables: Hypothesized Effects

Collective Efficacy: individual perceptions regarding the boat's collective belief in its capability to successfully execute a performance skill to a certain degree or level (Bandura, 1997).

Evaluation of #1 Motivational Leader: a score that denotes an athlete's evaluation of his/her #1 ranked motivational leader's stability as a leader in the boat.

Evaluation of #1 Performance Leader: a score that denotes an athlete's evaluation of his/her #1 ranked performance leader's stability as a leader in the boat.

Motivational Leader: the person who is considered to be inspirational, friendly, acts unselfishly, resolves conflict between members of the boat, and encourages teammates to work together.

Performance Leader: the person who is considered the "go to" person, is competent, masterful, assertive, confident, and may lead a group toward a successful performance outcome.

Peer-Rank Motivational Leader Effectiveness: a score that represents the average of rankings provided by peers in the boat regarding an athlete's rank as a motivational leader.

Peer-Rank Performance Leader Effectiveness: a score that represents the average of rankings provided by peers in the boat regarding an athlete's rank as a performance leader (e.g., average rank of 2 out of 9).

Peer-Score Motivational Leader Effectiveness: a score that reflects the average of scores provided by peers in the boat regarding an athlete's effectiveness as a motivational leader.

Pee
mer
nici C.L
Seij
ot c
3rd
Sel
of
(e.)
Sel
his
Set
his
Se
ev
- Co
Se
eva
Su
Cr
C0)
Cr

Peer-Score Performance Leader Effectiveness: an averaged score that reflects boat members' (peers) perceptions of an athlete's effectiveness as a performance leader. Self-Rank Motivational Leader Effectiveness: a rank that represents an athlete's ranking

of oneself relative to the group, of his/her ability as a motivational leader (e.g., ranked 3rd out of 9 athletes).

Self-Rank Performance Leader Effectiveness: a rank that represents an athlete's ranking of oneself relative to the group, of his/her perceived effectiveness as a performance leader (e.g., ranked 3rd out of 9 athletes).

Self-Score Performance Leader Effectiveness: a score that reflects an athlete's rating of his/her perceived effectiveness as a performance leader.

Self-Score Motivational Leader Effectiveness: a score that reflects an athlete's rating of his/her perceived effectiveness as a motivational leader.

Self-Evaluation of Performance Leader Ability: a score that reflects an athlete's evaluation of his/her own consistency of performance leadership in the boat.

Self-Evaluation of Motivational Leader Ability: a score that reflects an athlete's evaluation of his/her own consistency of motivational leadership in the boat.

Supplemental Terms

Crew Boat: collective members of a specific boat. This study examined the members of coxed eight (8+) and coxed four (4+).

Crew Team: the collection of individuals making up the school rowing team.

mana regar main leade of le cont achi whic com lead This follc synt athle relat lead thou

١

Chapter 1

INTRODUCTION

Nature of the Problem

Despite the extensive lines of research on leadership in the social behavior, management, and sport science domains, a lack of consensus exists among them regarding the conceptual definition and essential features of effective leadership. The main reason for these divergent perspectives is due to the inherent complexity of the leadership process. However, researchers from different viewpoints agree that the process of leadership involves social influence between a leader and followers, occurs in the context of a group, and reflects the aspiration of the group to attain collective action and achievement. Thus, in its purest form, leadership can be defined as a social process in which one individual influences a group of individuals toward the accomplishment of a common goal or objective (Bass, 1990; Chemers, 1997, 2000).

The purpose of this dissertation is to develop and test a conceptual model of leadership in athletes within the framework of social cognitive theory (Bandura, 1997). This chapter provides a general overview of research on leadership specific to athletes, followed by a brief synopsis of the theoretical tenets of social cognitive theory. This synthesis is provided as the backdrop from which a conceptual model of leadership in athletes (see Figure 1 on p. 2) was proposed in order to test the hypothesized, theoretical relationships between the determinants, self-regulatory mechanisms, and effects of leadership in athletes.

Drawing from the sport psychology literature, leadership has been traditionally thought of as a behavioral process that influences individuals and groups toward

Figure 1. Social Cognitive Conceptual Model of Leadership in Athletes



Determinants

Regulatory Mechanisms

Team and Leader Effects

Figure 1. Social Cognitive Conceptual Model of Leadership in Athletes

	establis
	focusin
	in spor
	process
	positio
	While
	& Che
	has rec
	designa
	to be a
}	relative
	reason
	examir
	team p
	were a
	the tea
	ability.
	compa
	interac
	Positic
	Positio
	betwee

established goals (Chelladurai, 1984; Chelladurai & Riemer, 1998). Although by focusing only on the behavioral mechanisms of leadership, the commonly used definition in sport has neglected to consider the social and cognitive dimensions of the leadership process. Furthermore, the inherent hierarchical power structure of a sport team has positioned the coach in the central leadership role exceedingly above his/her athletes. While ample research has been conducted on the leadership role of the coach (see Reimer & Chelladurai, 1995, for a review), the less clearly defined leadership role of the athlete has received limited empirical scrutiny.

Previous research on leadership in athletes has identified characteristics of designated leaders or team captains. Initially, leadership specific to athletes was thought to be associated with the centrality of position, or the actual location of the athlete relative to his/her teammates (Grusky, 1963). Subsequent work identified additional reasons why athletes were assigned a leadership position. Tropp and Landers (1979) examined interpersonal attraction and leadership as a function of spatial positioning (i.e., team position and structural system) in female collegiate field hockey players. Athletes were asked to rate each team member on the extent to which the athlete was a leader on the team. The authors compared athletes who received higher peer ratings on leadership ability with the athletes who were scored lower on leadership ability by their peers. This comparison revealed that athletes who performed in field positions requiring lower interaction with teammates received higher leader scores by their peers than athletes in positions requiring moderate to high interaction. In particular, athletes playing the goalie position were rated higher in leadership ability than any other position. Differences between designated team captains and non-captains were also considered and revealed

that te
experi
The a
amou
indiv
form
(198
soci
Part
athle
con
locu
perf
tear
wer
who
leve
resp
eac
is s
to y

that team captains who scored higher on peer-rated leadership had more years of experience at the varsity level, and were scored higher by their peers on attraction ratings. The authors concluded that the nature of the task required by the athlete, rather than the amount of interaction with teammates, explained leader emergence.

Opposing the concept of designated leaders was the notion of emergent leaders, or individuals perceived as leaders. These leaders did not necessarily receive the title of a formal leader, such as "team captain." With regard to informal leadership, Yukelson et al. (1983) identified certain characteristics of individuals classified as either high or low on sociometric prestige and status among intercollegiate baseball and soccer teams. Participants completed a nomination instrument that asked them to list the top five athletes they considered leaders on the field, in addition to the top five athletes they considered friends off the field. Athletes also completed a measure on internal/external locus of control. Coaches provided a score for each athlete on the overall level of performance during the season. The authors discovered that for baseball and soccer teams, athletes who scored higher on peer-rated leadership status were better performers, were upperclassmen, and reported an internal locus of control. In contrast, individuals who scored on the lower end of the peer-rated leadership distribution displayed lower levels of performance, were lowerclassman, and reported an external locus of control.

Unfortunately, initial attempts to operationalize leadership specific to the athlete's responsibilities were marginal at best. Tropp and Landers (1979) asked athletes to rate each teammate on leadership by responding to the question, "How much of a team leader is she?" Yukelson et al. (1983) assessed leadership with the question, "Who do you look to with admiration or for leadership within the group during practice or competitive

situ
the
lead
char
desc
mea
athle
mec
and (
meas
the to
harm
asses
types
differ
(e.g.
exclu
leade
instru
ехрге
peers

situations?" Furthermore, early work on the athletic leadership role neglected to consider the athlete's self-perception of leadership ability and the coach's perception of effective leadership. While both of these studies discovered that leaders share common characteristics (i.e., upperclassmen or years of experience), these qualities were descriptive at best and failed to disclose how coaches and athletes constructed the meaning of the athletic leadership role. Namely, the roles and responsibilities of the athlete leader were not clearly defined or associated with a theory that would examine the mechanisms associated with leadership.

Rees and Segal (1984) were among the first to provide an operational definition and contrast the different dimensions of the athletic leadership role. Specifically, they measured the instrumental leadership role (i.e., athlete(s) considered the best player(s) on the team), and the expressive leadership role (i.e., player(s) who contribute to group harmony). By examining more than one dimension of leadership, the authors were able to assess leader role differentiation. Thus, they determined the extent to which different types of leadership emerged, and the degree to which these leader roles were differentiated (e.g., different athletes designated for each type of leadership) or integrated (e.g., same athlete is identified as a leader in both dimensions). Each athlete was asked to exclude himself and rank the top five instrumental leaders and the top five expressive leaders on the team. Results demonstrated that first string starters were designated as instrumental leaders, while both first and second string starters were identified as expressive leaders. In addition to playing status, athletes designated as leaders by their peers were more likely to have higher class standing and greater degrees of interpersonal

attr
des
leac
pers
earl
athl
app
to le
desi
"cor
amh
tole
3550
C0
mos
lock
leade
1
leade
lead
leade
follo
athlet

attraction. The authors also found a high degree of integration, with many athletes designated as both instrumental and expressive leaders.

While Rees and Segal (1984) distinguished instrumental from expressive leadership, they considered the perception of effective leadership only from the perspective of followers. As a result, the exclusion of self-rankings and coach rankings in earlier research depicted an asymmetrical representation of effective leadership in athletes (Rees & Segal, 1984; Tropp & Landers, 1979; Yukelson et al., 1983). This approach failed to provide an understanding of athletes' perceptions of their own abilities to lead a group, and how they viewed their personal leadership abilities relative to their designated leaders. Moreover, the influence of "being the best athlete on the team" and "contributing to group harmony" as responsibilities of the athlete leader provided a rather ambiguous account of what athlete leaders were expected to do. Finally, the notion of role differentiation was not based on theory. In essence, this atheoretical approach assessing the followers' perspectives provided an important account of the descriptive correlates of leadership. However, Rees and Segal (1984) did not consider the mechanisms by which conceptions of leadership were constructed and translated into leader conduct and the normative expectations regarding leader responsibilities.

Glenn and Horn (1993) provided a comprehensive assessment of emergent team leadership by having high school female soccer athletes rate their personal abilities to lead the team, in addition to peer-rated and coach-rated assessments for each athlete's leadership ability. Their results demonstrated the disparity between coach, leader, and follower expectations of effective leadership in athletes. Specifically, they found that athletes who scored high on self-reported leadership ability also reported higher scores on

	mas
	rece
	perc
	of le
	was
	mot
	Per
	+= 1
	inve
	dete
	des
	con
	und
	con
	sup
	con
	the
	of in
	dete
e.	
1	L
	nave
masculinity, femininity, and perceived soccer competence. In contrast, athletes who received a higher peer score on leader ability reported higher scores on masculinity, perceived soccer competence, and competitive trait anxiety, whereas, the coaches' ratings of leader ability were associated with only the athlete's skill ranking.

While Glenn and Horn (1993) provided an assessment of leader identification that was more comprehensive (i.e., self, peer, and coach ratings), they did not determine the motivational mechanisms reflecting the reasons for engaging in leadership behaviors. Perceptions of competence in sport and soccer were measured, but competence specific to leadership ability was not. Furthermore, the authors employed a leader behavior inventory that provided one word descriptors of leader behaviors and characteristics (e.g., determined, impressionable, and honest). While this construct provided additional descriptive information on leader characteristics, the manner in which these skills were constructed and used by athletes to lead a group was not measured. In order to assess and understand individual differences in leadership, researchers must determine the conception and expectations of athlete leadership (i.e., "What is an athlete leader supposed to do to lead the group?") and the motivational mechanisms behind leader conduct ("How confident is the athlete leader in leading the group?"). More importantly, the hypothesized relationships between meaning and construction with the mechanisms of influence should be derived from theory that allows for researchers to test proposed determinants and regulatory mechanisms of athlete leadership.

Statement of the Problem

Based on the summary of findings on leadership in athletes, researchers in sport have yet to address both the conceptual and operational underpinnings of leadership that

are sp
somec
becau
athlet
leade
has s
of at
regul
from
fram
cond
lead
it is
anal
& S
раг
rega
at or
Psyc
to as
1998
a tea
 1

are specific to the athlete. Coaches have often been overheard saying, "We just need someone to step up and be the leader," or, "Our team performed poorly this season because there was no leadership." Yet, what exactly has "leadership" meant to the athlete? How have conceptions regarding leadership been rendered and translated into leader conduct? In summary, the main limitations of early work on leadership in athletes has shown the need for future research to (a) construct an adequate operational definition of athlete leaders' roles and responsibilities, (b) measure athletes' motivational and selfregulatory mechanisms regarding leadership, (c) triangulate conceptions of leadership from the leader, follower, and coach perspectives, and (d) develop a conceptual framework based on theory.

An additional issue regarding the limitations of past work on leadership in athletes concerns the assertion of the level or levels of analysis at which the perceptions of leadership are expected to occur. Given the influence of group composition and structure, it is possible for a team effect to emerge. Recent research on leadership has implemented analyses and methodologies that account for individual and team level effects (Cogliser & Schriesheim, 2000; Griffin & Mathieu, 1997; Kozlowski & Doherty, 1989). In particular, the examinations of group-level consensus have provided additional insight regarding the potential impact of group-level perceptions (James, 1982). Analyzing data at only the level of the athlete neglects considering the social-cognitive property of psychologically belonging to a group, may overestimate the findings, and may lead one to assume that the same relationship will also hold at the team level (Moritz & Watson, 1998). Therefore, it is not only important to examine whether certain variables represent a team-level construct, but also to determine whether, once aggregated to the group level,

it has any predictive power or implications for the leadership process. Research in sport has yet to explore correlates of leadership in athlete leadership as a team-level construct, however, consideration of this concept has both theoretical and practical significance given that the adoption of leadership beliefs may occur at both the individual and team levels.

Regardless of how it is designated, or how it emerges, leadership is an integral part of athletic performance. A leaderless group, with no guidance or direction, will often become a frustrated group. Additional empirical research on the leadership role of the athlete is necessary to understand the pertinent psychological, social, and regulatory correlates effective of peer leadership at both individual and group levels. Beyond the implications of improved performance, researchers must discern the positive psychological benefits of leadership, so that parents, coaches, and practitioners may continue to foster positive psychological and behavioral development (Larson, 2000). *Overview of Social-Cognitive Correlates of Leadership*

In order to obtain a better understanding of athletes' conceptions regarding leadership, researchers must ascertain their perceptions of competence, interest, valueorientations, and conduct specific to the leadership role of the athlete. To do so requires a comprehensive theory, which defines the determinants and mechanisms through which the leadership role and responsibilities are discernible. Social cognitive theory is one theory that takes into account the motivational and self-regulatory mechanisms of leadership, as well as the levels of individual and collective beliefs and behaviors among sport teams. By distinguishing the reciprocal influence between cognitive/personal factors, social influences, and behaviors to explain human functioning and motivation,

the social cognitive theoretical model can address limitations with previous research on leadership in athletes (Ames, 1992a; Bandura, 1997, 2001b; Nicholls, 1984).

Central to Bandura's (1997) notion of social cognitive theory is human agency, or the intentional thoughts, beliefs, and behaviors which ultimately reflect an individual's ability to generate actions relative to a specific goal or objective. Thus, one component of human agency is leadership, in which an individual may choose to lead a group, put forth a certain amount of effort to guide and direct a group, and persist to a certain degree in order to attain collective action. By adopting a social cognitive framework, sport psychology research can examine the interactions between the motivational components of choice, effort, and persistence in athlete leaders.

A primary mechanism believed to develop and maintain agency beliefs and behaviors, such as leadership, is self-efficacy. Self-efficacy can be defined as "the belief in one's capabilities to organize and execute courses of action required to produce given attainments" (Bandura, 1997, pg. 3). Research on self-efficacy in sport has predominately focused on the examination of efficacy specific to individual performance (Bandura, 1990, 1997; Feltz & Lirgg, 2001). However, recent research in sport has begun to examine the social cognitive properties of psychologically belonging to a group (i.e., collective efficacy).

Chemers and his colleagues have defined efficacy specific to the context of leadership as the confidence one has to lead a group of individuals (Chemers, 2000; Chemers, Watson, & May, 2000; Watson, Chemers, & Preiser, 2001). Watson et al. (2001) examined athletes' confidence about their general leadership capabilities (e.g., "I know what it takes to make a group accomplish its task."). Results indicated that teams

who h
athlet
team
resea
team
effic
athle
to th
cap.
oth
me
this
to
tec
the
mc
ind
tra
tur
var
OL

who had confident leaders reported stronger collective efficacy beliefs. Moreover, athletes who reported their leader as effective also reported greater confidence in their team than did athletes who perceived their leaders as less effective. However, this research is limited, as it is difficult to understand exactly what the leader must do for the team to accomplish a task. Furthermore, the social-cognitive correlates of leadership efficacy in any setting have yet to be examined. Thus, additional research is warranted on athletes' perceptions of their capabilities to perform leadership functions that are specific to their sport, and the determinants that lead to enhanced efficacy beliefs about their capabilities to lead the team toward the objective or goal.

In addition to one's efficacy to lead, more recent trends in leadership research in other settings (i.e., military and organizational) have focused on auxiliary self-regulatory mechanisms such as leadership skills (Mumford et al., 2000). Research stemming from this approach has centered on the development of skills (e.g., collaboration, or the ability to work well with others, proficient listening skills, empathy, effective confrontation techniques, etc.) that influence and regulate the leadership process rather than emphasize the effectiveness of leader behavior or outcome. The implication of the skills-based model is that this development may occur in a progressive systematic fashion, and that individual differences in leadership skills may reflect meaningful developmental transitions in the acquisition and use of sport-specific leadership skills, which may, in turn, reveal individual differences in leader emergence and effectiveness. For example, varsity leaders in sport may display different leadership characteristics than junior varsity or novice athletes with less experience. Therefore, further exploration of the viable skills

that are acquired and developed through sport experiences may serve as a possible regulating function of leadership.

In addition to the proposed regulatory mechanisms of leader efficacy beliefs and skills, social cognitive theory hypothesizes that certain contextual, personal, and situational factors may serve as determinants of achievement-related outcomes, such as leadership. While leader skills and efficacy beliefs may be considered as more proximal in nature (i.e., account for more variance in leadership and directly regulate leadership conduct), personal attributes may be considered as more distal predictors of leadership identification and effectiveness. Two personal attributes that have consistently emerged in leadership research are gender and achievement. One social cognitive view that has emphasized society's structural influence on gender differentiation is Eagly's social role theory (Eagly, 1987). The theoretical tenets of social role theory have postulated that gender differences in social behavior are a product of the social roles that regulate behavior in adult life. Eagly (1987) classified the traditional notion of masculinity as "agentic" and femininity as "communal." Men have been expected to possess predominately agentic attributes (i.e., independent, masterful, assertive, and competent), while women have been classified as having high levels of communal qualities (i.e., friendly to others, unselfish, concerned for others, and emotionally expressive). As a result of these roles, Eagly proposed that men and women bring differing dispositional skills and beliefs to leadership situations (Eagly & Johannesen-Schmidt, 2001; Eagly, Makhijani & Klonsky, 1992).

One way to continue to understand the simultaneous occupation of gender role and leader role is to examine this complex interaction in the traditionally masculine

cont
play
beha
athle
high
abili
sam
char
rega
conc
Prov
Won
Won
ofth
6 0.
cogr
ach ₁₆
Nich
defin
the p
& Le
orien

context of sport. For example, Glenn and Horn (1993) hypothesized that female soccer players who were more androgenous (i.e., able to exhibit both masculine and feminine behaviors) were more likely to emerge as team leaders. However, they found that female athletes who rated themselves as both masculine and feminine also rated themselves higher on leadership ability, whereas female athletes who were rated high in leadership ability by their peers exhibited high levels of masculinity. Therefore, for this particular sample of female athletes, masculinity was perceived by peers as a more favorable characteristic of the female leader. This finding reflects the emerging positive perspective regarding women's movement into sport as a viable way to challenge traditional conceptions of gender differences. Klenke (1996) has argued that the setting of sport provides a provocative context from which to examine the development of leadership in women, because women's position in sports has come to reflect the changing role of women, not only in this particular context, but also in society in general. Further scrutiny of the relationship between gender and leadership is necessary in order to have a more useful understanding of the influence of gender roles on leadership roles in sport.

In addition to personal determinants such as gender-role orientations, social cognitive theory proposes that value-laden beliefs that reflect the meaning behind achievement activities may also serve to influence agency-related beliefs (Bandura, 1997; Nicholls, 1992). Specifically, achievement goal orientations exemplify how individuals define personal ability, successful experiences, and task difficulty, which in turn, reflect the purpose for engaging in activities (Ames, 1992a; Bandura, 1997; Duda, 2001; Dweck & Leggett, 1988; Nicholls, 1984, 1989). Two achievement goals, task- and ego-orientation, have been extensively researched in athletic settings. With task orientation,

the indivi	
and perce	
state of e	
position	
ability (
propose	
but also	
correla	
Where:	
psycho	
the fur	
associ	
Temp	
orient	
predo	
cheat	
mean	
assoc	
such	
inve	
ego)	

the individual used self-referenced strategies to define perceived ability, task difficulty and perceptions of success. A more differentiated conception of ability characterized a state of ego involvement in which the individual was more concerned about one's position relative to others, ultimately relying on normative standards to demonstrate ability (Nicholls, 1984, 1989).

Nicholls (1992), whose work has focused on youth and emerging adults, has proposed that achievement goals not only reflect different perspectives of achievement, but also different views of the world. Specifically, he proposed that ego orientation may correlate with a relative lack of concern for social issues regarding fairness and justice. Whereas, task orientation may emphasize values such as fairness and cooperation. Sport psychology research on athletes' goal orientations, beliefs about success, and views about the functions of sport, has indicated that athletes' dispositional tendencies may be associated with variations in sport social behaviors (Duda, 2001; Duda, Olson, & Templin, 1991). In particular, the empirical findings on the relationship between goal orientations and sportspersonship attitudes have revealed that athletes with a predominance in ego orientation are more likely to endorse unsportsmanlike play and cheating behaviors, and report the use of aggressive acts in sport as a more legitimate means to succeed (Duda et al., 1991). However, research in sport has yet to explore the association of task and ego orientations with other dimensions of sport social behaviors, such as leadership.

Research in sport has begun to broaden the conception of achievement-goals by investigating the notion of multiple goals (i.e., self-enhancing ego and self-defeating ego). In addition to multiple goals related to achievement, achievement goal theorists

have also operationalized social goals, or beliefs about the causes of success in relationships with others (Jarvien & Nicholls, 1996). Exploration of the ways in which social goals in sport interact with task and ego dimensions to influence leadership beliefs and behaviors in sport has yet to be conducted (Roberts, 2001). Similar to the academic setting, sport psychology research should consider the manner in which students' beliefs about the social reasons for sport achievement (i.e., social responsibility) affect their achievement-related beliefs and behaviors in athletic settings (Urdan & Maehr, 1995). It is possible that athletes may have achievement goals related not only to conceptions of ability to perform in sport, but also to conceptions of ability to lead their team. Therefore, certain social goals may influence performance and additional achievement outcomes (i.e., leadership) that are hypothesized to occur in sport. By examining the independent effects of social goals, as well as their interactive effects with task and ego goals, researchers might come to a more complete understanding of athlete motivation and achievement in sport pertaining to performance and social behaviors.

In addition to one's dispositional tendencies, the tenets of social cognitive theory have also proposed that achievement-related beliefs (i.e., leadership) might be influenced by perceptions of situational elements, or motivational climate. Although general discussions of motivation have typically focused on the person as the causal source, Maehr and Braskamp (1986) identified the situational influences on achievement patterns. In particular, the role of group membership and expectations of others have been emphasized simply because, in achievement settings, individuals do not act in isolation from the social groups in which they hold membership. The authors proposed that, to a certain degree, the normative and role-related expectations of the group may determine

th fo ¢C m Sa cl Ņ Ç P d the value of engaging in certain behaviors. For example, the set of expectations that exists for an individual who is identified as the leader of the group may be influenced by the coach and/or teammates (Maehr & Braskamp, 1984; Vroom & Yetton, 1973).

The manner in which these expectations are communicated to group members may be reflected through the situational goal structures that are established and most salient to athletes. Goals that reflect individuals' perceptions of the achievement-setting climate have been referred to as mastery and performance goals (Newton & Duda, 1999; Newton, Duda, & Yin, 2000). The mastery goal climate emphasizes improving personal competence, learning, and mastering skills based on a set of internalized standards. The performance goal climate, on the other hand, emphasizes outperforming others, demonstrating superior ability with little effort, and valuing high ability.

Consistent with the theoretical tenets of achievement goal theory, individual differences in leadership have been expected to emerge given the motivational climate emphasized by the coach. For example, in a mastery climate, athletes are encouraged to collaborate and master skills relevant to the activity (e.g., working together to solve a performance-related problem). In contrast, in a performance climate, athletes are encouraged to outperform others and engage in intra-team rivalry. Thus, how the climate is perceived may explain individual differences in regulatory mechanisms and effects of leadership. Furthermore, current research in sport has explored perceptions of motivational climate as a group level construct (Gano-Overway et al., 2001; Magyar & Feltz, & Simpson, 2002). Therefore, climate may operate as individual- and group-level predictors of leadership's effects in sport.

with to t psy de cli ie C To date, few studies have attempted to connect the constructs of structural goals with leadership behaviors (Duda & Balaguer, 1999; Kozlowski & Doherty, 1989). Similar to the integration of social goals into personal achievement goals, future research in sport psychology may benefit from examining the social dimensions (i.e., leadership development) of the perceived motivational climate. The influence of the motivational climate, as established by the coach, and its subsequent effect on the development of leadership in athletes has yet to be examined.

Contextual Factors in the Current Study

The sport chosen for the current investigation was collegiate rowing. Rowing has various boat classes in which multiple combinations of individuals will row in the boat (e.g., double, four, eight). The current study examined athletes who rowed in the eight (8+), in which eight rowers are seated in seats one (bow) through eight (stroke) with the cox positioned in seat nine, and the four (4+) in which four rowers are facing the cox who is positioned in seat five. The coxswain is the only person facing the finish line while the rowers are facing the coxswain with their backs to the finish line. This arrangement places the coxswain in a very influential position with responsibility to steer the boat and call the race (e.g., letting the rowers know how far they have to go to the finish line, or how far they are from an opponent).

Rowing was selected for this research because it is a team sport that is considered to be a closed-motor skill, or performed in a stable environment in which the basic actions involved essentially remain unchanged throughout the activity. Rowing is unique compared to other team sports such as basketball, which may be considered more of an open-motor skill, in which the team performs in a constantly changing environment,

directly impacting the performance of the skill. For example, basketball players constantly interact with one another and with their opponents during a game, which creates multiple opportunities for variability. Rowing, on the other hand, is a repetitive skill in which teammates are highly dependent on one another and exercise a controlled form of interaction between crew members while performing the skill. Therefore, the examination of performance in crew allows researchers to control other extraneous variables which could conceivably influence the observation of leadership (i.e., interaction with opponents). According to Steiner's (1972) task typology, rowing may be classified as a unitary additive task, meaning that all rowers perform the same aspects of the task at the same time, and the sum of each individual rower's output determines the group output. The sport of rowing was also chosen because with the advent of Title IX there has been an increase in women's crew teams at the collegiate level. As a result, females have been afforded the opportunity to participate in athletics at the collegiate level.

Conceptual Model of Leadership in Athletes

In conclusion, current research on leadership in sport has failed to test a conceptual model of athlete leadership that integrates the social cognitive properties that may influence the leadership role of the athlete (see Figure 1 on p.2). Stemming from social cognitive theory, the current model proposed three principal categories: personal and situational determinants, regulatory mechanisms, and team and leader effects. The hypothesized personal determinants were demographic variables (previous experience in sport, and previous experience with leadership and rowing ability), gender role perspective (agentic and communal), and achievement goal orientations (task, ego, and

lea	lead	
m	ma	
01	of	
Ι	12	
C	of	
Į	p	
	p	
	li	

leader). Situational determinants were perceptions of the motivational climate (i.e., mastery, performance, and leadership dimensions). The proposed regulatory mechanisms of leadership were leadership skills, leadership efficacy, and task self-efficacy. A total of 12 dependent variables that were specific to leadership effects were examined (self score of performance leadership, self rank of performance leadership, peer score of performance leadership, peer rank of performance leadership, evaluation of #1 performance leader, evaluation of #1 motivational leader, self evaluation of performance leadership ability, and self evaluation of motivational leadership). Collective efficacy was also assessed as a team effect variable.

Stemming from social cognitive theory, the personal determinants (demographic, gender roles, and achievement goal orientations) were hypothesized to directly influence self-regulatory mechanisms (leadership skills and efficacy beliefs). Personal determinants were also hypothesized to serve as more distal predictors of effects related to leadership (performance and motivational effectiveness and evaluation) and team achievement beliefs (collective efficacy). Similar to the personal determinants, the situational determinants (perceived motivational climate) were hypothesized to influence self-regulatory mechanisms of leadership, and leadership and team effects. Overall, the personal and situational determinants were hypothesized to serve as proximal determinants (i.e., account for more variance) of self-regulatory mechanisms, and more distal determinants (i.e., account for less variance) of leadership and team effects. The self-regulatory mechanisms were hypothesized to be proximal predictors (i.e., account for more variance) of leadership and team effects.

Re' l

Research Questions

- 1. Of the variables included in the conceptual model, what are the strongest individual and team level social-cognitive determinants and self-regulatory mechanisms of the leadership role in athletes?
- 2. How do the personal determinants that were measured, such as perceptions of gender roles and achievement goals, influence leadership in athletes?
- 3. How do the situational/contextual elements that were measured, such as individual and team perceptions of the motivational climate, influence leadership in athletes?
- 4. How do the regulatory mechanisms that were measured, such as leadership skills and efficacy beliefs, influence leadership in athletes?
- 5. What are the differences in motivation between athletes identified as leaders and those identified as followers?
- 6. How do personal background characteristics, such as previous experience in sport, and previous experience with leadership and rowing ability, influence leadership in athletes?
- 7. What are the cross-sectional differences between varsity and non-varsity rowers in leadership regulatory mechanisms and effects?
- 8. How do self-reported motivational and regulatory mechanisms of leadership influence peer and coach ratings of leader conduct?

Conceptual Model Hypotheses

 Gender role perspectives will differentially predict self-regulatory mechanisms of leadership and leadership's effects.

- (a) Agentic attributes will positively predict performance-execution skills, negative tactics leader skills, leadership efficacy, and task self-efficacy.
- (b) Communal attributes will positively predict motivational-interpersonal skills, respectcommunication skills, leadership efficacy, and task self-efficacy.
- (c) Agentic attributes will positively predict the evaluation of the #1 ranked performance leader, in addition to self and peer leader effectiveness scores.
- (d) Communal attributes will positively predict the evaluation of the #1 motivational leader, self and peer scores of motivational-leader effectiveness.
- 2. Goal orientations will differentially predict self-regulatory mechanisms of leadership and leadership's effects.
- (a) Task orientation will positively predict performance-execution skills, motivationalinterpersonal skills, respect-communication skills, leadership efficacy, and task selfefficacy.
- (b) Ego orientation will positively predict performance-execution skills, negative tactics skills, leadership efficacy, and task self-efficacy, and negatively predict perceived importance of motivational-interpersonal skills, respect-communication skills, and performance and motivational leader evaluations.
- (c) Leader orientation will positively predict the perceived importance of performanceexecution skills, motivational-interpersonal skills, respect-communication skills, leadership efficacy, task self-efficacy, and negatively predict perceived importance of negative tactics leader skills.
- (d) Task orientation will positively predict collective efficacy, the evaluation of the #1 performance-leader, the evaluation of the #1 motivational-leader, self scores of

performance-leadership effectiveness, self scores of motivational-leader effectiveness, peer scores of performance-leader effectiveness, and peer scores of motivational leader effectiveness. Leader orientation will positively predict self and peer scores for performance-leader and motivational-leader effectiveness. Ego orientation will positively predict self and peer scores of performance leadership.

- Perceptions of motivational climate will differentially predict self-regulatory mechanisms of leadership, and leadership effects.
- (a) Individual perceptions of mastery dimensions and leadership dimensions of motivational climate will positively predict performance-execution leadership skills, motivational-interpersonal leadership skills, respect-communication leadership skills, leadership efficacy, and task self-efficacy.
- (b) Individual perceptions of performance motivational climate will positively predict performance-execution skills and negatively predict motivational-interpersonal skills, respect-communication skills, leadership efficacy, and task self-efficacy.
- (c) Perceptions of mastery climate will positively predict collective efficacy, the evaluation of the #1 performance leader, the evaluation of the #1 motivational leader, self and peer scores of performance-leader effectiveness, and self and peer scores of motivational-leader effectiveness. Performance climate will positively predict selfscore and rank of performance-leader effectiveness.
- 4. Leadership skills will differentially predict leader and team effects.
- (a) Performance-execution leadership skills will positively predict collective efficacy, evaluation of the #1 performance leader, and self and peer scores and ranks of performance-leadership.

- (b) Motivational-interpersonal leadership skills will positively predict collective efficacy, evaluation of the #1 motivational leader, and self and peer scores and ranks of motivational-leadership.
- (c) Respect-Communication leadership skills will positively predict collective efficacy, evaluation of the #1 performance leader, and #1 motivational leader, and self and peer scores and ranks of performance- and motivational-leadership.
- (d) Negative tactics leadership skills will negatively predict collective efficacy, and self and peer score and rank of performance-and motivational-leadership.
- Leadership efficacy and task self-efficacy beliefs will positively predict team (e.g., collective efficacy) and leader effects.
- 6. Personal and situational determinants will serve as distal predictors of self and peer ratings of performance and motivational leadership, while self-regulatory mechanisms will serve as more proximal predictors of leadership effects. Selfregulatory mechanisms will mediate the direct influence of personal determinants on team and leader effects.

Additional Hypotheses

- There will be cross-sectional differences in self-regulatory mechanisms and leadership effects based on leadership role experience (yes or no), and academic class standing (Freshman, Sophomore, Junior and Senior).
- (a) Athletes who report previous experience with a leadership role (i.e., student council, youth group, 4-H, etc.), and are upperclasswomen (juniors and seniors) will report higher mean scores on all leadership skills, leadership efficacy, and task self-efficacy than athletes who have no experience with leadership and are lowerclasswomen.

- (b) Athletes who have previous experience with a leadership role and are upperclasswomen will report higher self-scores and will be scored higher by their peers on performance and motivational leadership effectiveness.
- There will be group differences between athletes designated as the #1 leader of the boat versus athletes who are not given a #1 ranking.
- (a) Athletes designated as #1 performance leaders will report higher mean scores on agentic attributes, leadership orientation, performance-execution skills, respectcommunication skills, negative tactics leader skills, leadership efficacy and task selfefficacy than athletes not designated a #1 ranking.
- (b) Athletes assigned as #1 motivational leaders will report higher mean scores on communal attributes, motivational-interpersonal skills, respect-communication skills, leadership efficacy, task self-efficacy, and collective efficacy than athletes not designated a #1 ranking.

Basic Assumptions

The primary assumption for this study was based on the notion that athlete leadership exists in sport. Furthermore, it was assumed that having a group of athletes complete questionnaires that are designed to assess the different dimensions of leadership would actually provide information regarding the perceived interaction between the leader and followers on a rowing team. In addition to the assumption of the existence of a conceptual definition of leadership, it was assumed that there were specific personal and situational determinants and regulatory mechanisms of athlete leadership that can be measured and demonstrated to predict the leadership constructs in the sport of rowing.

Delimitations

The generalizability of the results of this research will be limited to intercollegiate rowers. It is recognized that the results from the current investigation should be interpreted with caution for competitive junior, club and elite rowers. Due to the unequal representation of gender in the current sample population, generalizability of the results to both males and females should also be considered with caution. Furthermore, the leadership constructs developed in this study may not be suitable for team sports other than unitary additive sports.

Chapter 2

REVIEW OF LITERATURE

From the "Great Man" to the "Contingent Fit" of Leadership

Despite the substantial research conducted on leadership in experimental, organizational, and military settings, sport researchers have made little effort to apply these findings to the study of leadership in athletes. In order to conduct a theoretical study on leadership in athletes, this chapter provides a general overview of the conceptual and theoretical underpinnings of leadership that have been researched outside of the sport context. For the purpose of this paper a selection of research was reviewed that emphasized the trait/personality, behavioral, situational, contingency, and transactional/transformational perspectives. For extensive review, see Bass, 1990; Chemers, 1997; Northouse, 2001. These synthesized findings are provided to supplement the atheoretical approach to research on leadership in athletes that has been conducted to date. This synthesis is followed by a summary of Bandura's (1986, 1997) social cognitive theory and the proposed motivational and self-regulatory mechanisms of athlete leadership.

Trait/Personality Perspective

Early work on leadership emphasized a person-centered approach by focusing on the role of the leader from the leader's perspective. The inception of leadership research began with the "great man" theories, which identified the supposed innate qualities and characteristics of successful social, political, and military leaders of the 20th century (Chemers, 1997). Traditionally, it was believed that people were born with these traits and that only individuals who possessed them became great leaders.

Stogdill (1948) was the first to challenge the great man concept of leadership with his synthesis of leadership research that was conducted between 1904 and 1947. After reviewing 124 studies he found that the individual in a leadership role, on average, displayed the traits of intelligence, alertness, insight, responsibility, initiative, persistence, self-confidence, and sociability. Although he identified certain traits that were characteristic of leaders, he concluded that an individual does not become a leader solely because he/she possesses certain traits. Rather he emphasized that leadership was primarily determined by situational factors, not personality traits, and that the traits of the leader must be relevant to the situation in which the leader is functioning.

Stogdill (1974) then conducted a further review in which he examined 163 studies that were conducted between 1948 and 1970. In this review he identified traits such as self-confidence, a sense of personal identity, vigor, and persistence as fundamental characteristics of emergent leadership. In his second review he validated the original idea that trait characteristics function as leadership correlates, and also expressed that a pattern of characteristics should be emphasized to distinguish leaders, rather than just one single trait to distinguish leaders. Based on his findings, potential antecedents of leadership include the understanding that traits may vary given the leader, and that the situation may vary in which the leader is functioning (i.e., both personality and situational factors).

Research stemming from the trait/personality perspective has proposed that traits and characteristics such as knowledge, self-monitoring, extroversion, dominance, and achievement-motivation continually relate to leadership. Researchers from this perspective have reasoned that due to measurement and methodological limitations, previous research on trait leadership consistently failed to identify a uniform set of traits

among leaders (Kenny & Zaccaro, 1983; Zaccaro, Foti, & Kenny, 1991). Zaccaro and his colleagues postulated that findings from both experimental and field-based settings revealed that a large portion of leadership variance (i.e., 59% in Zaccarro et al., 1991) was explained by trait attributes (i.e., self-monitoring), and that this significant amount of variance indicated that individuals who were perceived as leaders in one group also emerged as leaders in subsequent groups across different group situations. Therefore, Zaccaro et al. (1991) suggested that leadership does not involve the possession of one specific trait or characteristic, but rather a compilation of attributes, and that it is within the ability of the leader to perceive the needs of the group and modify one's approach in order to emerge consistently as the leader.

Behavioral Perspective

Disillusioned by the seemingly failed attempt to understand leadership from the trait/personality approach, researchers turned to investigate behavioral outcomes of leaders as a means to delineate effective leadership. During the 1950's, a series of studies emerged from research laboratories in psychology of two prominent universities (Ohio State University and University of Michigan), and from these research programs originated two higher-order dimensions of leadership behaviors. The first reflected an emphasis on task performance, or the emphasis on organizing group members, clarifying goals, and directing members toward task accomplishment. The second dimension focused on the importance of the socioemotional well-being and interpersonal relationships among group members. The most influential research on leadership during this time was the development of the Leader Behavior Description Questionnaire (LBDQ; Hemphill & Coons, 1957). This construct examined the degree to which the

leader emphasized a task/performance dimension labeled as initiation of structure (i.e., the extent to which the leader defines the responsibilities of the individual or group), and interpersonal dimension referred to as consideration (i.e., how much the leader engages in two-way communication). The Ohio State researchers considered these dimensions as orthogonal, and the degree to which a leader emphasized one dimension was not dependent on the other dimension. Thus, leaders could display variations on both dimensions of initiation of structure and consideration leadership behaviors (e.g., high/high). Although this construct had been linked to various group outcomes (e.g., satisfaction, cohesiveness, etc.), the findings remain equivocal. In some situations, high initiation of structure was perceived as most effective, while other situations called for a strong emphasis in both behaviors.

Critics attributed the lack of consistency in findings to the fact that the ratings of behavior reflected the perceptions of the rater and not the actual behavior, and that one style of behavior may not be perceived as appropriate in every situation (Chemers, 1997, 2001). Although research from the person-centered approach provided some empirical support for the role of the leader, the situational elements of the leadership process must also be considered.

Situational Perspective

Despite Stodgill's (1948, 1974) earlier recommendation to consider both the person and the situation/context, researchers continued to neglect this interaction until the emergence of the situational approach to leadership. Contrasting with the trait approach, situational leadership emphasized situational/contextual determinants of leadership and postulated that different situations required different kinds of leadership (Bass, 1990;

Hughes, Ginnet, & Curphy, 1996). In particular, four styles of leadership, varying in degree of supportive and directive behavior, labeled 'directing', 'coaching', 'supporting', and 'delegating', have been defined within this perspective. Directing leadership style reflects the leader's emphasis on communication of goal achievement, allocation of less time to interpersonal needs, and supportive behaviors. The coaching leadership style emphasizes both goal achievement and maintenance of subordinates' socioemotional needs. In contrast, the supporting leadership style tends to de-emphasize task instruction and develops employees' skills relative to the task to be accomplished through supportive behavior. Finally, delegating leadership style involves less task input and social support in reference to the task; subordinates are allowed to take responsibility for the task as they see fit.

In addition to the leadership style, the situational leadership perspective highlighted the developmental elements of leadership. Subordinates were classified along a developmental continuum based on their interest and ability to perform the required task. Individuals who were interested and confident in their work and knew how to perform the task were ranked high on this continuum. In contrast, people considered to be lower on the continuum have limited skill capacity to accomplish the task at hand but feel as if they have the motivation or confidence to get the job done. Leaders are expected to diagnose the developmental level of the subordinate and then adapt their leadership style accordingly. For example, an individual classified developmentally as high will receive mostly a delegating style from the leader, which provides minimal support and direction and allows the follower to take on more responsibility. In contrast, an individual

class
the l
subc
deci
expe
give
deci
deci
the
viev
and
Ho
Situ
199
reg
sut
int
Ca
ber
be

classified developmentally as low will receive mostly directing behavior style, in which the leader provides much more direction to the follower.

An additional situational perspective that considered the perspective of the subordinates was the application of Vroom and Yetton's (1973) normative model of decision-making to the study of leadership. This model considered both the normative expectations of the group and the type of leadership decisions leaders should employ given these expectations. While this model portrayed a complex methodology to decision-making, this process of decision-making considered all parties involved with decisions (i.e., both leaders and followers).

Overall, the situational perspective provided one of the first accounts regarding the developmental status of subordinates and the characteristics of subordinates. This view of leadership highlighted the importance of match between the leader and followers and the ability of the leader to be flexible to accommodate the needs of the subordinates. However, because limited empirical research exists to support the claims of the situational perspective, the findings have been inconsistent and equivocal (Chemers, 1997). Without the basic empirical support of the proposed mechanisms, there is concern regarding the validity of matching leaders relative to the developmental status of subordinates and applying this approach to group settings as opposed to one-on-one interactions.

Contingency Perspective

Contingency theory provided another perspective that examined the interaction between leaders and followers based on the proposition that leaders have dominant behavioral tendencies and that leadership is contingent on situations which are more

conducive to the leaders' behavioral dispositions. One of the most widely used contingency perspectives was Fiedler's (1967) contingency model of leadership which suggested that the leader's effectiveness was contingent on how well the leader's style fit the context. Therefore, while the situational leadership theory emphasized the flexibility of the leader, the contingency model maintained that leaders were more consistent and less flexible in their behavior. Three main components are featured in the contingency model of leadership. First is the leader-member relationship, which refers to the group atmosphere and the degree of confidence, loyalty, and attraction group members feel for their leader. Second is task structure, referring to the degree to which the requirements of a task are clearly spelled out. Finally, position power which refers to the degree of authority the leader has to reward or punish followers.

To empirically validate his model, Fiedler (1967) developed the Least Preferred Coworker (LPC) scale, which requested that leaders rate the worst co-worker with whom they had ever worked and the one person who most interfered with a successful accomplishment of the task. These three facets of the contingency approach to leadership reflected the degree to which the leadership situation provided the leader with a sense of predictability, certainty, and control. Situations that were favorable were those in which the leader had a good leader-member relationship, task clarity, and sufficient leader position power. Least favorable situations represented the opposite extreme, with poor leader-member relations, unstructured tasks, and weak position power. Finally, moderately favorable situations were postulated to fall in between these two dimensions. Therefore, Fiedler (1967) hypothesized that certain styles would be more effective in certain situations, and classified all possible combinations of LPC score with group

performance and situational favorability to represent the complexity of effective leadership. For example, task motivated leaders (low LPC) were hypothesized to be effective in both favorable and unfavorable positions. In contrast, relationship-oriented leaders (high LPC) were hypothesized to be more effective in moderately favorable situations.

Chemers (1997) noted the LPC was originally used as an indicator of psychological distance, and that later research based on the LPC resulted in discrepant findings (e.g., high LPC more effective in moderately favorable situations). To resolve these inconsistent findings, researchers used the LPC to measure the leader's motivational orientation (e.g., leader's motivation toward task accomplishment), motivational hierarchy (e.g., primary and secondary motivations of the leader), cognitive complexity, and value-attitude (e.g., judgments of group and task accomplishments).

While this model examined the collective combination of leadership styles and situational variables, the contingency perspective has been criticized for not explaining why individuals with certain leadership styles have been more effective in some situations than others (Chemers, 2001). Furthermore, the application of the LPC measure of leadership has been questioned for lacking face validity, taking too much time to complete, and failing to directly analyze the process by which leaders' motivational orientation affects group processes and outcomes.

Although the construct validity and empirical support of the contingency model have been questioned, Fiedler and his colleagues have been commended for providing the foundation for the development of additional contingency theories (Bass, 1990; Chemers, 1997). Among them, path-goal theory provided a more integrative framework from
which to study leadership, and expanded upon the trait/situational and contingency theories of leadership (House, 1971; House & Shamir, 1993). Path-goal theory of leadership examined how leaders motivate subordinates to accomplish designated goals. The theoretical assumptions stated that subordinates would be motivated if they thought they were capable of performing a task, if they believed their efforts would result in a certain outcome, and if they believed the payoff for doing their work were worthwhile (House, 1996).

House and Mitchell (1974) submitted that leader behavior, characteristics of the subordinates, task characteristics, and motivation all interacted to embody the major components of path-goal theory. They proposed that leaders adopt four types of leadership behaviors: directive, supportive, participative, and achievement-oriented. Directive leadership characterizes a leader who gives subordinates instructions about the task to be performed, expectations related to performance, the amount of time to perform the task, and the timeline in which it should be completed. Supportive leadership describes a leader who is friendly and approachable and attends to the well-being of subordinates. Participative leadership refers to a leader who encourages followers to participate in collaborative decision-making. The fourth leader behavior, achievement-orientation depicts a leader who challenges subordinates to perform at the highest level possible.

The subordinates' characteristics take into account factors which may influence their perceptions of the leader's behavior (i.e., need for affiliation, preference for structure, desire for control, and perceived ability). Task characteristics expand beyond the situational components of the followers' perspectives and include the design of the

task to be performed, the formal authority of the organizational structure, and the primary work of the subordinates. Finally, path-goal theory acknowledged the contingent relationship that exists between the leader and subordinates, and proposed that leaders must choose a leadership style that best fits the needs of the subordinates and the type of task they are performing.

Some of the methodological limitations noted were linked to the potential confounds of assessing all measures of leadership (e.g., leader behavior, subordinate satisfaction) from the same person. While House (1996) has contended that researchers have inaccurately applied the path-goal theory to the study of leadership, issues remain related to the complexity of the path-goal model and its failure to adequately explain the relationship between the leader and worker motivation.

Transactional/Transformational Perspective

The transactional approach to leadership emerged as a way to describe the leadership process from the followers perspective. Transactional theories depicted social interactions from a cost-benefit standpoint. The premise of a cost-benefit analysis of human relationships was that people who viewed interactions as rewarding would continue the relationship, while costly interactions would be terminated. Researchers from this perspective claimed that people sought to maximize rewards and minimize cost, thus, the result of an interaction reflected a combination of cost and rewards yielding either a profit or a loss.

The process of fair exchange has been linked to perceptions of justice (Chemers, 1997; Philips, Douthitt, and Hyland, 2001). A just exchange is when an individual feels the investment in the interaction is proportional to the perceived cost. When individuals

receive less than what they feel they deserve, they feel angry, and when they receive more than they deserve, they feel guilty. Phillips and colleagues (2001) explored the role of justice in team member satisfaction with the leader and attachment to the team. Results indicated that perceptions of justice mediated the relationship between leader consideration and satisfaction with the leader. In contrast, justice perceptions only partially mediated the relationship between team decision accuracy and decision influence with perceived satisfaction of leadership. Therefore, subordinate perceptions of justice heavily influenced subsequent perceptions of leader satisfaction with leader behavior.

An additional transactional approach is Graen's vertical dyad linkage (VDL) model, which examined leadership at the dyadic level. A dyad consists of the relationship between the leader and one subordinate. This approach provided a very different perspective of leadership because previous research on leadership assumed leaders treated followers in a collective way, as a group, using an average leadership style. With the VDL model, a leader's relationship to the work unit as a whole is viewed as a series of vertical dyads. This dyad perspective emphasizes two types of linkages, those that are based on expanded and negotiated role (extra-roles) responsibilities, called the in-group, and those that are based on the formal employment contract (defined roles), or the outgroup. Subordinates are expected to become part of the in-group or out-group based on how well they work with the leader and how well the leader works with them. Also becoming part of one group or another is based on how well subordinates involve themselves in expanding their role responsibilities with the leader. Early research from the dyadic perspective focused on the quality of the leader/member relationship and

exam
work
of th
and
crea
trans
(197
char
coni
Wer
acce
incr
whi
Sha
Pos
stin
tra
lea
W
Otr
TPC
- 62

examined the nature of the differences between in-groups and out-groups. More recent work has examined the relationship between vertical dyads and the organizational climate of the work group (Kozlowski & Doherty, 1989).

While transactional leadership focused on the mere transaction between leaders and followers, transformational leadership concerned the process whereby a leader created a connection with the followers that raised the level of motivation and transformed the values of followers from self-interest to collective achievement. House (1976) was the first to publish on the theory of charismatic leadership. He proposed that charismatic leaders encompassed specific personality characteristics of dominance, confidence, strong values, and a desire to influence others. These characteristics, in turn, were hypothesized to establish the followers' trust in the leader's ideology, unquestioning acceptance and affection toward the leader, obedience, emotional involvement, and increased confidence.

Recent examination of transformational leadership has shown the process by which a leader transforms the group of followers (Bass, 1990; Chemers, 2000; House & Shamir, 1993). Bass (1990) has described transformational leaders as individuals who possess internal values such as idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. This notion of "charismatic" leadership has transcended mainstream psychology into the corporate business setting, where effective leaders are defined as individuals with vision and the capability to empower subordinates. While this theory expanded the notion of leader effectiveness beyond performance outcome and considered some of the motivational mechanisms of collective achievement, research on transformational leadership has been criticized for lacking conceptual clarity,

bei
sur
Co
of
'na
the
thi
em
res
Siti
of
Dro
in
fir
чи. (С
UI III
Di
de
W]
de
his

being anti-democratic (i.e., lacking in collaborative efforts), and having weak empirical support (House & Shamir, 1993; Northouse, 2001).

Conclusions

Overall, this small selection of findings on leadership alludes to the great amount of interest in this topic, and the potential for future research. While previous investigators have attempted to incorporate all of the different elements proposed to be involved with the leadership process (i.e., type of task, position of power, subordinate characteristics), this increase in model complexity has made it difficult to demonstrate a consistent empirical validation of these leadership models. However, in light of the progression that research on leadership in other settings has experienced (i.e., from the person, to the situation, to the interaction between the two), a much more comprehensive understanding of leadership has evolved. Thus, this summary of findings on the leadership process provides sport researchers with certain issues to consider for future research on leadership in athletes.

To date, however, the only connection that has been made between leadership findings from other settings and leadership in sport is specific to the leadership in coaches (Chelladurai & Reimer, 1998; Vos Strache, 1979). Chelladurai developed his multidimensional model of leadership in coaches in part from the Leadership Behavior Description Questionnaire (LBDQ) and Vroom and Yetton's (1973) theory of normative decision-making. From this model, he constructed the Leadership Scale for Sports (LSS) which assessed five different dimensions of leadership: training and instruction, democratic behavior, autocratic behavior, social support, and positive feedback. While his research findings have provided a valuable contribution to the understanding of

ath pre dy rol fol of re lea th id er re CC to 15 t b Π ſ athlete preferences of coach leadership, his notion of congruence between athletes' preferred leadership style and coaches' leadership behavior does not directly apply to the dynamic of peer leadership. The leadership style of the athlete leader will vary given the roles and responsibilities that are typically defined by the coach and accepted by peer followers. Therefore, the athlete leader is in a very different leadership position than that of the coach, and thus, future research should construct measures of athlete leadership to reflect these differences.

One of the common themes to emerge from this collection of work is that leadership is not an inherent trait in the leader, but rather a pattern of attributes and skills that have the potential to be developed. While various styles and behaviors were also identified by this work, two prevailing dimensions of leadership behavior consistently emerged across the studies. These two predominant dimensions of leadership were related to the task (i.e., initiation of structure, instrumental) and interpersonal (i.e., consideration, expressive) elements. Accordingly, these dimensions may also be pertinent to the role of the athlete leader. For example, certain athletes may provide leadership that is specific to the performance of the sport task and may set an example for peer athletes through the demonstration of hard work, dedication, and consistently performing at one's best. In contrast, certain athletes may provide leadership that is relevant to the motivational aspects of sport by providing inspiration and encouragement to teammates, or fostering cohesion and team unity. Future research should examine whether the dimensions of performance and motivational leadership are a function of the athlete leader role, and if so, should identify the determinants and regulatory processes of these leadership roles.

rel im th lea an fre ex be co sh as id un pr of th Se al Q hi m, Another theme that emerged from this summary of research from other domains is related to developmental and motivational issues with regard to leadership and the importance of leader flexibility. Older athletes who are inflexible and take advantage of the power associated with being an athlete-leader may not be perceived as an authentic leader by his or her teammates as compared with athlete-leaders who are more flexible and considerate of the developmental needs of teammates. For example, incoming freshman becoming acclimated to the workings of the team may find athletes with more experience inspiring if these seasoned athletes provide the social support necessary to become adjusted. The mere transition into class status (i.e., junior and senior) may not correlate with leadership, but rather, athletes with more experience who are willing to share their experiences and teach younger athletes about commitment and the positive aspects of the sport may be more likely to emerge as leaders. Future exploration of the identified leader's motivational mechanisms will provide a better understanding of the underlying dimensions of the leadership process.

This summary of research, in particular, portrays the complexity of the leadership process and the need to consider, among other things, the leader/member match, the type of situation, the type of task being performed, and the amount of power being allocated to the leader. For example, is the same individual designated as the leader by the coach also seen as the leader by the athletes? Does this athlete leader take advantage of power allocated to him or her? Is the same individual who is seen as inspiring at practice also considered a leader in competition and under pressure situations? Due to the inherent hierarchy of sport, the possibility of athlete leadership and the success of this leadership may be partially determined by the coach. Therefore, future work should examine how

ath coi ad reg is in **S**0 in h 90 C(1 Û f . p athlete leaders were selected, the criteria for this selection, and whether the coach consistently endorses the role of the athlete leader on his or her team.

Due to the complexity of the leadership process, future research in sport needs to adopt a theoretical approach to the study of leadership that will test the antecedents and regulatory mechanisms of leadership. The selected theory should explain how leadership is constructed and given meaning by and maintained among athletes, and at which point in the process the different layers may occur (e.g., individual versus team).

Social Cognitive Theory

In order to address the limitations found in leadership conducted on athletes, social cognitive theory was chosen as the theoretical framework to study the reciprocal influence between cognitive/personal factors, social influences, and behaviors to explain human functioning and motivation. Specifically, the social-cognitive perspectives on achievement goals, gender roles, and self-efficacy beliefs were used to delineate athletes' construction of meaning and motivational mechanisms of leadership (Ames, 1992a, 1992b; Bandura, 1997; Nicholls, 1989). Central to Bandura's (1986, 1997) social cognitive theory is the notion of human agency, or the intentional thoughts and behaviors which ultimately reflect an individual's desire to generate actions relative to a specific goal or objective.

Human agency may be influenced by personal beliefs regarding intention, forethought (i.e., direction and coherence), self-reaction (i.e., monitoring and correction) and self-reflection (i.e., meaning) of action (Bandura, 2001a, 2001b). Agency first begins with intentions or plans to take action. Individuals can create cognitive representations of past, present, and future experiences to anticipate the possible consequences of future actio pers thei mo ono chc deț CO en th be fa hι W b d ŋ 9 ٢ 1 actions. By using symbols or internal representations of behavior, individuals create a personal standard, one they wish to achieve, which serves as a motivator and regulator for their behavior. Individuals may then use self-reaction and self-reflection to evaluate their motivation, values, and meaning of their actions. Bandura (1997; 2001a) has asserted that once these agency-related beliefs are formed, they will influence whether an individual chooses to perform a certain activity, the amount of effort one will expend, and the degree to which one will persist on a task. For example, an athlete may have a symbolic conception of what it means to be a leader in sport, and based on this standard, will engage in leader conduct and monitor his/her actions accordingly.

Embedded within social cognitive theory is the notion of triadic reciprocality, or the interrelationship between personal, behavioral, and environmental factors that are believed to influence agency beliefs. Although Bandura (1997) hypothesized that these factors influenced each other bi-directionally, he also proposed that they did not influence human agency equally, but rather that each component prompted cognition and behavior with varying levels of strength and degree. It is this interplay of self-generated (previous behavior, desired standards) and external sources of information that helps a person define his/her self-capabilities and influences future actions.

Therefore, one component of human agency is leadership, in which an individual may actively choose to lead a group, the amount of effort to put forth to guide and direct a group, and the amount of persistence required to move the group to the successful collective action. Rather than completely concentrating on the traits of the leader, Bandura (1997) claimed that the application of social cognitive theory to the study of leadership more adequately illustrated the reciprocal interaction between the leader and

followers. For example, he described how different leaders might have very different styles and approaches to leadership, but are similar in their efficacy to motivate their followers regardless of the situation. This same principle may be applied to the study of leadership in athletes. By adopting a social cognitive framework, sport psychology research can begin to examine the interactions between the motivational components of choice, effort, and persistence in athlete leaders.

Social Cognitive Theory of Leadership

Early research on leadership stemming from a social cognitive perspective mainly focused on the followers' cognitive processing of leader effectiveness. This research represented a prototype or "implicit theories" of leadership that reflected followers' leader preferences (Smith & Foti, 1991). Murphy (2002) recently proposed that leadership should examine the social cognitive view of the self in the role of the leader. Specifically, she argued that research should explore the structure of the self, taking into consideration personal attributes, social roles, past experiences, and future goals that represent a self-schema, in addition to the function of the self, or how individuals manage to enact behavior.

Bandura and Wood were the first to test self-regulative functions in a leadership situation. Managerial decision-making was experimentally manipulated by controlling perceptions of ability (Wood & Bandura, 1989) and controlling the environment (Bandura & Wood, 1989). In essence, these investigations discovered that when people perceived their ability as a fixed capacity, were more likely to suffer from self-doubt, a weak sense of efficacy, and a disinterest in the task to be performed. In contrast, individuals who viewed ability as an acquirable skill were more likely to adopt positive

beliefs and self-reactions to performance attainments, persist when faced with difficulty, and set challenging goals. This model of leader self-regulation shows that, how the leader cognitively appraises sources of information has an important impact on the final decisions that are made. Therefore, an individual who holds the belief that he/she can lead the group through adversity and times of change is more likely to persevere when faced with obstacles. This type of perseverance provides an essential function of the leadership process.

Recent reviews on leadership research also discussed the need to examine leadership as a group level process (Chemers, 2000; Hogg, 2001). Hogg (2001) cogently stated that leadership was a relational property within groups (i.e., leaders exist because of followers, and followers exist because of leaders) and argued for the importance of examining leadership through understanding the social cognitive properties of psychologically belonging to a group. On the other hand, while Chemers' (2000) integrative theory of leadership depicted leadership as part of a group dynamic, with the primary function of leadership being collective achievement. Therefore, Chemers argued that future research should explore the role of leadership within a social cognitive perspective and consider individuals' leadership efficacy relative to task self-efficacy and collective efficacy of successful mastery.

Leadership Effects

Previous research on leadership in athletes was problematic due to the various definitions and measurements used to assess leadership outcomes. Leadership research from other domains has identified different leadership criteria such as leader identification, effectiveness, and evaluation. These primary indicators of leadership are

distinct from one another and may be assessed from the leader's perspective using selfreport measures or the followers' perspectives using peer-ratings. For example, leader identification has been examined both in experimental and field settings (Bass, 1990; Biernat et al., 1998; Zaccaro, Foti, & Kenny, 1991). One method used to identify the leader is to have each group member provide the leader with a score and/or rank order their preference for the leader of the group (i.e., top 3 leaders in the group). The individual with the highest score or rank is then considered the leader of the group as identified by his/her peers.

In addition to the identification of the leader, the perceived effectiveness of the group leader is also considered an important dimension of the leadership process. Leader effectiveness is typically determined relative to a successful performance outcome, such as the number of correct responses or successful completion of the task (Bass, 1990). This begs the question, "Is an athlete-leader effective only if the team wins?" Watson, Chemers, and Prieser (2001) found a strong relationship between teammates' evaluations of leader quality and collective efficacy perceptions in basketball teams. However, perceived leader effectiveness did not significantly predict team offensive (average points per game) and defensive performance (average points allowed per game) or overall success (team rank). Both individual and collective efficacy beliefs accounted for a significant portion of the variance in these performance variables. Based on the findings of Watson et al., (2001) it is possible that teams with low to marginal performance outcomes may still evaluate the group leader as effective, and that the relationship between perceived leader effectiveness and performance may be mediated by the team's collective efficacy. Leadership effectiveness may also be measured by evaluating the

frequency and consistency of leader behaviors from both the leader and follower perspectives.

Self-Regulatory Mechanisms of Leadership

Until recently, limited attention has been given to how leaders cognitively represent themselves as leaders and how their ability to engage in appropriate leader conduct is relative to this cognitive standard. Bandura's (1997) social cognitive theory identified important motivational and self-regulatory mechanisms rooted in cognitive activity that may regulate leadership development and functioning. One of the primary mechanisms proposed to regulate leadership thoughts and behavior was self-efficacy (Chan & Drasgow, 2001; Chemers, 2000; Chemers, Watson, & May, 2000; Murphy, 2002; Paglis & Green, 2002; Watson, Chemers, & Preiser, 2001). Specific to leadership, efficacy beliefs reflect an individual's confidence in his/her ability to lead a group toward the accomplishment of goal to a certain degree or level.

In the military setting, Chemers et al. (2000) used a construct that assessed military officers' confidence in their generalized ability to lead others and to engage in specific leadership skills. Their results demonstrated that individuals who reported higher leadership efficacy were rated more strongly on objective performance evaluations in leadership simulations and demonstrated higher leadership ratings from peers and superiors. Furthermore, leadership efficacy emerged as the most significant predictor of leader performance evaluations, and accounted for more variance than self-esteem and perceived optimism. More recently, Chan and Drasgow (2001) examined efficacy beliefs relative to military and collegiate students' motivation to lead (MTL). Individual perceptions of leadership efficacy were included in their conceptual model as both an

antecedent and mediating mechanism. Leadership efficacy beliefs independently predicted the motivation to lead and mediated the relationship between personality and motivation to lead.

Recently, Paglis and Green (2002) developed a multi-dimensional construct of leadership efficacy in managers. Specifically, they identified three dimensions of leadership efficacy related to direction-setting, gaining-commitment, and overcoming obstacles. The findings revealed that a participant's self-esteem, internal locus of control, perceptions of job autonomy, and subordinate level of ability significantly predicted the direction-setting and overcoming-obstacles dimensions of leadership self-efficacy. Leadership efficacy was also related to subordinate's perceptions of manager's motivation for leading change and found that the direction-setting and gainingcommitment dimensions were significantly correlated with subordinate ratings. This study suggests that leadership efficacy is multi-dimensional and parallels the different dimensions of leadership. However, it should be noted that the total or unidimensional subscale was more predictive of group outcomes than the multidimensional approach.

To date, Watson et al., (2001) has provided the only account of leader confidence in athletes, and this perceived confidence in leadership, in addition to the evaluation of leader quality, was examined relative to collective efficacy. The authors found a strong relationship between teammates' evaluations of leader quality and collective efficacy perceptions in basketball teams. In essence, teams that perceived greater effectiveness in their leader's capabilities reported greater confidence in their teams than did individuals who perceived less effective leadership on their teams. According to Chemers' (1997) integrative theory of leadership, efficacy to lead others should be measured in relation to

one's efficacy to perform the skill individually (i.e., task self-efficacy) and as a group (i.e., perceived collective efficacy).

However, Watson et al., (2001) has utilized a measure that assesses general leadership effectiveness (i.e., " my captain's behavior is very motivating to me"), which makes it difficult to ascertain what it is exactly that leaders do. Therefore, future studies in sport should expand beyond the mere identification of athlete leaders and leadership behavior in order to clearly operationalize leadership that is specific to athletes' roles and responsibilities. For example, athletes should rank order their preferred leader, and evaluate the leader relative to specific skills that are relevant to the type of leadership being provided (i.e., performance versus motivational leadership). More importantly, additional research is needed to establish the determinants and regulatory mechanisms that predict leadership effects and distinguish the preferred leaders from the non leaders.

An additional mechanism proposed to influence leader performance and effectiveness was the acquisition of leadership skills (Mumford et al., 2000). Recent trends in leadership research in the organizational/industrial and military settings attempted to assess the process of leadership by adopting a skill-based model of leadership development. Research within this perspective examined the learning and development of skills that influence leadership rather than emphasize the effectiveness of leadership behavior or outcome. First, leadership skills may be partially distinguished from personality traits in that they are not always inherent attributes of the leader, but rather can be learned and developed over time (i.e., complex problem solving skills, creative thinking, etc.). Second, leadership skills are not entirely dispositional in nature as the use of these skills fluctuates given certain conditions. Finally, by examining the skills

of leadership, one can understand the developmental processes that may be involved in teaching people how to become leaders.

Mumford and his colleagues have examined leadership skills in the military setting (Mumford et al., 2000a, 2000b). While his work on leadership skills has been field-based and specific to the military, the organizational structure of the military is hierarchical, and may provide useful ideas for future research on leadership development in athletes. For example, Mumford et al., (2000a, 200b) examined the developmental differences in the multi-dimensionality of leadership patterns and skill acquisition among military officers as a function of experience and timing of leadership opportunities. They examined the development of the specific leadership skills: complex problem solving, solution construction, social judgment, creative thinking, and leadership expertise. As expected, the senior-level leadership positions, by nature, required multi-dimensional leadership patterns and skills. Specifically, senior level officers were better at translating new ideas into actions, and spent more time appraising the implications of a novel situation, which ultimately resulted in a higher quality solution to the problem. The implication of the skills-based model was that not only was there a subsequent development in skills relative to the rank of the individual, but also that this development occurred in a progressive systematic fashion. The authors also found that there were potential differences between the impact of assignments and the training on leadership skill development, and recommended that potential interventions consider the nature of the skills that are relevant for the leader given current rank and thus developmental level.

Similar to the military setting, athletes may also experience developmental transitions in leadership skill development. For example, varsity leaders in sport may

display different leadership characteristics than junior varsity or novice athletes with less experience in sport. In the same manner in which skills were identified as leadership skills in the military setting, future research on leadership in athletes should identify skills that would be pertinent to leadership and collective achievement in sport. Individual differences in leadership skills may reflect meaningful developmental transitions in the acquisition and use of sport-specific leadership skills, which may in turn reveal individual differences in leader identification and effectiveness. Further exploration of the viable skills that are acquired and developed through sport experiences may serve as a possible regulating function of leadership.

Social Cognitive Determinants of Leadership

Efficacy beliefs and regulatory skills were hypothesized to regulate human functioning through four mediating processes: cognitive, motivational, affective and selective processes. The cognitive appraisal of potential efficacy determinants was proposed to include two distinct processes that enabled an individual to attend to and use certain cues as potential indicators of efficacy, and then to integrate and weigh these sources of information to form efficacy judgments (Bandura, 1986, 1997). Bandura has explained the importance of the selection process people undergo in the shaping of the environment in which they exist. These selection and appraisal processes may occur at both the individual level regarding personal efficacy and at the group level, regarding one's conception of the group's capability, or collective efficacy (Bandura, 2001a; Feltz & Lirgg, 1998). People who believe in their ability to lead others will actively choose leadership responsibilities and appraise information regarding their leadership ability accordingly.

While social cognitive theory has identified many important factors used to assess efficacy judgments (e.g., perceived importance of the skill, requisite knowledge to perform the skill, task difficulty, perceived ability, etc.), two belief systems have been found to demonstrate a significant influence in the cognitive appraisal of efficacy information- conception of ability and perceived controllability of the environment. Therefore, construction of knowledge and meaning will influence the appraisal of information surrounding people regarding their ability to achieve a certain task. This construction occurs through personal orientations and perspectives (i.e., gender and achievement) and through the perceptions of one's environment and context (i.e., motivational climate).

Gender Roles

Understanding human motivation and behavior on the basis of gender deserves considerable attention due to the subtle yet unwavering influence of gender on our everyday lives (Bredemeier, 1992; Eagly, 1987; Gill, 1994). While sex differences typically refer to the biological differences between women and men, the term "gender" is used to reflect the social and psychological attributes and behaviors of women and men. Various interrelated theories have been proposed to explain psychological, biological, and sociostructural processes by which conceptions of gender were developed and gender behavior was produced. Early viewpoints of gender differences in psychology and mainstream society depicted the masculine and feminine dimensions as a single continuum in which individuals were classified as either masculine or feminine. This restricted dichotomy did not allow for individuals to encompass both characteristics, or what was considered an androgynous attribute. Furthermore, social scientists became

concerned about the distinct comparisons being made between women and men and noted the importance of the similarities and considerable overlap between the two sexes (Bredemeier, 1992).

In an effort to address these limitations, Bem (1974) proposed that our gender schema, or what she defined as our network of associations and experiences embodying the culture's conception of sex roles, was used as a lens to guide our behavior and our interpretation of the environment. Specifically, she emphasized that the dimensions of masculinity and femininity were not on a single continuum that dichotomized individuals, but rather were independent constructs that allowed for individuals to vary, in fact, in both masculinity and femininity. To empirically test this variation, Bem (1974) constructed the Bem Sex-Role Inventory (BSRI), a 60-item questionnaire with 20 items representing the stereotypical feminine attributes (e.g., affectionate, gentle), 20 items for masculine characteristics (e.g., ambitions, assertive), and 20 neutral or filler items (e.g., truthful, happy). The inventory was constructed based on the belief that people internalized society's sex-typed standards of desirable behavior for men and women. As such, the items were generated based on the sex-typed social desirability and not on the differential endorsement by males' and females' cultural definitions of sex-typed behavior. The BSRI defined masculinity and femininity as orthogonal constructs, thus individuals could be classified as high on both dimensions (androgyny), low on both dimensions (undifferentiated), or high on one dimension and low on the other (either feminine or masculine). Bem later provided a 30-item reduced version of the BSRI (30 items) with the items selected in order to maximize both the internal consistency and orthogonality of the scales (Bem, 1974; Covey & Feltz, 1991).

Although Bem's research provided an important contribution to the understanding of individual differences in the cognitive components of gender schematic processing, critics of gender schema theory argued that people do not categorize themselves as either male, female, or androgynous, and act in accordance with this conception invariantly across various situations. More importantly, certain researchers claimed that sociostructural components of gender must also be considered rather than just the cognitive or psychological mechanisms of gender roles. Within a sociological framework, the sources of gender differentiation were based more in social and institutional practices than fixed properties of the individual.

One predominant theory that has emphasized society's structural influence on gender differentiation is Eagly's social role theory (Eagly, 1987). The theoretical tenets of social role theory postulated that sex differences in social behavior were a result of the social roles that regulated behavior in adult life. Within the social role theoretical approach, Eagly adopted a slightly different definition of sex and gender than most gender theorists. She confined the use of sex differences to the observed differences between male and female behavior and gender to the meanings that society and individuals assign to female and male categories. Social roles were hypothesized to emanate from shared expectations or stereotypes that applied to people of a particular category or social position. Gender roles were defined as the shared expectations about appropriate behavior and dispositional qualities that were consistent with their socially identified gender. Therefore, the social norms regarding appropriate attributes and behavior specific to women established the female gender role, while the shared account

of acceptable characteristics and behavior for men constituted the male gender role (Eagly, 1987).

Social role theory was developed partly in response to limitations found in earlier theoretical accounts of gender (i.e., gender schema theory), and the psychological research on sex differences. Specifically, Eagly's position has been that understanding childhood socialization and development does not necessarily shed light on the factors that maintain sex differences in adults. Social role theory has placed an emphasis on the structural and cultural influences on adult social roles and has provided a more proximal predictor of adult social behavior. According to social role theory, the set of skills, competencies, and beliefs that people acquire when occupying a certain social role function as primary determinants of sex differences (i.e., differences between men and women). Therefore, as an individual occupies a certain social role, say that of a female athlete, she would acquire a set of skills and competencies relevant to carrying out behaviors specific to this role. Further, the female athlete may acquire a variety of attitudes and beliefs as she collects information, interpreting events and interactions from the lens of her respective role.

Social role theory postulated that there were differential expectations of men's and women's attributes based the societal division of labor between the sexes and the socially constructed expectations associated with the gender roles that men and women generally hold (Eagly, 1987; Carli & Eagly, 2001). Eagly (1987) has classified the traditional notion of masculinity as agentic and communal for femininity. Men were expected to possess predominately agentic attributes (i.e., independent, masterful, assertive, and competent), while women were classified as having high levels of

communal qualities (i.e., friendly to others, unselfish, concerned for others, and emotionally expressive). Therefore, it was assumed that men would attempt to control their environment and obtain tangible outcomes, such as task completion and high performance. In contrast, women were expected to engage in more socially-oriented behaviors and show more concern for interpersonal relations.

Gender and Leadership

Research exploring the relationship between gender and leadership has produced equivocal findings (Chemers, 1997; Eagly & Johannesen-Schmidt, 2001). In an effort to better understand the role of gender in the organizational context, Eagly and her colleagues have synthesized the research on gender and leader emergence, style and evaluation (Eagly & Johnson, 1990; Eagly & Karau, 1991; Eagly, Makhijani, & Klonsky, 1992). Specifically, Eagly wanted to determine if sex differences in leaders could be explained by the theoretical tenets of social role theory. Beginning with leadership style, Eagly and Johnson (1990) analyzed two predominant styles, task and interpersonal style, which had been identified in previous research. With task style the leader directed the group specific to the accomplishment of task characteristics and performance. In contrast, with interpersonal style, the emphasis shifted from the task and performance to the maintenance of interpersonal relationships, in which the primary focus of the leader is looking out for the well-being of subordinates and establish friendships with group members. The authors also examined the leader's tendency to espouse a democratic versus autocratic style of delivery. Consistent with the theoretical perspective of social role theory, women were expected to adopt an interpersonal leadership style that was

more democratic in nature, while men were expected to exhibit task leadership with more of an autocratic approach.

However, the authors proposed that sex differences in these leadership styles would be less pronounced in organizational settings (i.e., field studies) that compared occupants of the same managerial role than assessment and laboratory research (i.e., experimental settings). Their position was that individuals who occupied organizational leader roles were typically socialized into these roles in which the expectations and guidelines regarding effective style were explicit and clear to the occupant. In contrast, people in experimental settings interacted with strangers on a short-term basis, and the protocol concerning acceptable leadership behavior was more ambiguous and, therefore, should result in more gender stereotypic behavior. Their synthesized results supported the proposed hypothesis by failing to detect a significant difference between female and male leadership styles among the collection of studies that were conducted in the organizational field setting. Whereas, gender stereotypic leadership styles were present in assessment and laboratory research settings. Furthermore, gender stereotypic differences in autocratic and democratic styles emerged in all three categories of research (organizational, assessment, and laboratory).

Following the synthesis of research on leadership style, Eagly and Karau (1991) conducted a second meta-analysis on the relationship between gender and leader emergence. Specifically, the authors explored the relationship between the gender-type of task and the subsequent stereotypic classification of behavior involved in leadership. Task activities were defined as a member's direct contribution to the group's task, and were measured by the number of attempted answers to problem-solving tasks. In contrast,

social activity was defined by the member's attempt to maintain satisfactory morale and interpersonal relationships among group members, and was measured through the assessment of positive reactions, or the individual's attempt to show solidarity and agreement with group members. In line with the theoretical tenets of social role theory, the authors hypothesized that there would be sex differences in leader emergence among initially leaderless groups relative to the gender typing of the task to be performed. Men were hypothesized to engage in more task activity contributions while women were hypothesized to contribute more to group social activity. Results demonstrated that men were more likely to emerge as leaders in short-term groups and in groups that were performing predominately task-oriented activities (i.e., did not involve complex social interactions). Women, on the other hand, were found to emerge as social leaders slightly more than men.

Related to the evaluation of leaders, Eagly et al., (1992) examined the subordinate evaluation of men and women holding leader roles, controlling all characteristics except sex of the participant. Overall, their synthesis revealed a small tendency for subordinates to evaluate male leaders more favorably than female leaders. However, this evaluation was contingent upon leadership style and subordinate sex. Specifically, female leaders were devalued when leadership was carried out in a stereotypic masculine-agentic and autocratic fashion, and when the subordinates were men. Eagly and Johannesen-Schmidt (2001) emphasized the importance of gender roles because the roles of men and women had different content, and more importantly, because of the need for women to negotiate the contradiction that existed between the female gender role and the leader role. In particular, females adopt roles that were perceived by others to encompass predominately

communal qualities, which opposed the predominately agentic qualities that were believed to be required to succeed as leaders.

While Eagly's work has provided some valuable contributions to the comprehension of gender and leadership, information regarding leadership in same-sex groups (i.e., female leaders and female subordinates) is less understood. This lack of understanding may be due to the fact that there are few same-sex groups in the work/organizational setting. Plus, the premise of social role theory is the division of labor among the sexes and women's struggle to gain entry into the workforce. Although crossgendered groups are less likely to exist in the sport setting, social role theory still provides a provocative account of the intersection between gender and leadership in adults. Furthermore, Eagly's approach has allowed for the examination of perceived gender roles relative to the skills that are believed to be important for athlete leaders. Therefore, sport provides a valuable context to apply the social cognitive perspective of social role theory in order to understand the relationship between gender and skills and perceived effectiveness and evaluation of female leaders.

Gender Roles in Sport

Early research on gender and sport mainly focused on issues related to role conflict and the classification of sex roles among male and female athletes. Similar to the opposing qualities in the gender role versus the leader role, sport researchers were interested in the simultaneous occupation of gender and athlete roles and how female athletes negotiated the extreme contradictions between athleticism and femininity. More current research has discovered that female athletes do not perceive a conflict between being an athlete and being feminine. In fact, current female conceptions of the athlete role

not only challenge the importance of being communal (feminine), but rather endorse the characteristics of being agentic (masculine)(Krane, 2001).

However, the relationship between gender and leadership in sport could benefit by further study. Due to the emphasis on leadership in coaches, there is yet a limited understanding of the simultaneous occupation of the athlete, gender, and leader roles in sport. Therefore, more research is needed to understand what exactly "leadership" means to the female athlete in the context of sport. Furthermore, a problem exists with common definitions of leadership because they are presented as though leadership is gender neutral, when, in fact, normative conceptions regarding leadership reflect the emphasis of agentic attributes. As a result, women are perceived to lack the typical leadership characteristics, such as aggression, competitiveness, and dominance (Eagly & Karau, 1991). However, some researchers have argued that women do not lack the prerequisites for leadership, but rather lack the opportunities for exercising leadership and lack the role models they admire and wish to emulate (Klenke, 1996; Pemberton, 1997).

This predicament of limited role models and opportunities to develop leadership is clearly an issue for women in sport as women have struggled to maintain consistent leadership (i.e., coaching and administration) (Pemberton, 1997). There is an emerging positive perspective regarding women's increased movement into sport as a viable way to challenge traditional conceptions of gender differences. Klenke (1996) has argued that the setting of sport provides a provocative context from which to examine the development of leadership in women because women's position in sports is a reflection of the changing role of women, not only in this particular context, but also in society in general.

To date, Glenn and Horn (1992) have provided the only account of gender and leadership in female athletes. Their results demonstrated that both agentic (masculine) and communal (feminine) dimensions predicted self-reported leadership ability among high school female soccer players. While agentic attributes emerged as the only predictor of the two that explained peer ratings of leadership, neither agentic nor communal attributes predicted coach ratings of leadership. This research provided evidence that the female athlete role does not necessarily parallel that of the female gender role. Thus, in this context it is possible that agentic attributes are viewed as more relevant to the roles and responsibilities of the female athlete (Krane, 2001).

Bussey and Bandura (1999) have postulated that gender schema and sociological theories focus separately on gender conceptions and the sociocultural influences on these conceptions however, they make little effort to integrate the two perspectives. Previous research on gender has predominately emphasized the normative expectations of gender and their influence on gender behavior, but has failed to examine the motivational and self-regulatory mechanisms behind role occupation. The authors have proposed that merely knowing a stereotype does not necessarily mean that one strives to behave in accordance with it, and the have recommend social cognitive theory as a solid theoretical framework from which to examine the integration of psychological and sociostructural components of gender roles, and to test the motivational and self-regulatory conceptions of gender that coincide with behavioral conduct.

Achievement Goals

Previous research on leadership in the work setting has integrated principles of leadership with the Atkinson's (1964) expectancy theory of achievement motivation

(McClelland & Boyatzis, 1982; Sorrentino, 1973; Sorrentino & Field, 1986). The achievement motivation perspective, hypothesized that individuals who were highly motivated would attempt to lead in problem-solving situations. McClelland and Boyatzis (1982) identified the Leadership Motive Pattern, or the manager's high need for power, low need for affiliation, and high activity inhibition, which consistently identified managers who advanced within corporations.

In controlled settings, researchers examined small groups working on problemsolving tasks and discovered that achievement motivation predicted individual differences in leadership. Sorrentino and his colleagues discovered that individuals scored higher on leadership measures if they scored high on need for achievement and affiliation compared with individuals who scored lower on achievement and affiliation (Sorrentino, 1973; Sorrentino and Field, 1986). However, the exact mechanism that linked achievement with leadership has remained ambiguous given the definition of achievement behavior from the expectancy theory perspective. Nicholls (1984) has argued that his definition of achievement behavior as "the behavior in which the goal is to develop or demonstrate competence to oneself or to others (i.e., demonstrate high ability or avoid demonstration of low ability)" is more exact and easier to measure than the expectancy theory definition of achievement behavior (i.e., obtain a standard of excellence). Furthermore, the Leader Motive Pattern, or the high need for power and low need for achievement, may not exert the same predictive utility in the sport setting as observed in the work setting. Therefore, by adopting the conceptual and operational definition of achievement goals from an achievement goal perspective (Ames, 1992a;

Nicholls, 1984, 1989), future research may clearly delineate individual differences in the motivational and self-regulatory mechanisms of leadership.

The social cognitive framework of the achievement goal perspective describes how achievement goals are dispositional tendencies, which exemplify how individuals define personal ability, successful experiences, and task difficulty (Ames, 1992a, 1992b; Bandura, 1997; Duda, 2001; Dweck & Leggett, 1988; Nicholls, 1984, 1989). Two primary achievement goals, task and ego orientation, have been extensively researched in educational and athletic settings. With task orientation, the objective is to acquire skills and knowledge, exhibit effort, and experience optimal challenges and personal improvement. When one is ego-involved, however, there is a preoccupation with personal ability, or more importantly, the desire to demonstrate superior ability relative to others.

Achievement goal theory provides a framework to allow for the understanding of how people think about themselves, the tasks they are performing, the evaluation of this performance, and the purpose and meaning behind their behaviors. Accordingly, the emphasis of self-mastery and the development of ability versus the use of normative standards and the demonstration of ability are the two defining standards of perceived success. When perceived competence is high, both task and ego perspectives are expected to correspond with the display of adaptive achievement behaviors, such as choosing a task that is challenging, exerting maximal effort, and persisting when faced with difficulty. Conversely, an emphasis on ego-involved goals coupled with low perceived competence will lead to the exhibition of maladaptive behaviors, such as choosing tasks that are too easy or too hard, exerting minimal effort, and showing a lack of persistence (Duda, 2001; Dweck & Leggett, 1988; Nicholls, 1992).

The

individual d

1992). Usin

orientations

interest, and

Newton &

proposed th

justice, and

achieveme

convention

while enga

on normat

with fairne

(task orier

respect for

postulatio

orientation

aligned ta

purpose o

was assoc

gain reco

A

associate,
The Task and Ego Orientation in Sport Questionnaire was developed to assess individual differences in goal orientations in the sport setting (TEOSQ; Duda & Nicholls, 1992). Using this construct, researchers have established an empirical link between goal orientations and achievement-related beliefs such as sources of confidence, enjoyment, interest, and satisfaction in sport (Duda & Whitehead, 1998; Magyar & Feltz, in press; Newton & Duda, 1999; Treasure & Roberts, 1998). Nicholls (1989, 1992), however, has proposed that theories of achievement also reflect conceptions of knowledge, fairness, justice, and general views about the world. Therefore, through the assessment of achievement goals, researchers may explore how people construct meaning of social conventions in sport and how these conceptions are regulated by one's goal perspective while engaged in a sport task. For example, Nicholls (1989) postulated that an emphasis on normative comparison (ego orientation) is likely to correspond with a lack of concern with fairness and justice. Whereas, the perceived importance of self-referenced criteria (task orientation) will likely coincide with the value of effort, collective engagement, respect for rules, and proper conduct. Duda (1989) provided empirical evidence for this postulation in the sport setting. Specifically, she examined the relationship between goal orientations and perceived purposes in sport and discovered that high school athletes aligned task orientation with intrinsic, pro-social, and cooperative views about the purpose of sport (e.g., master a skill, work well with others). In contrast, ego orientation was associated with more extrinsic and self-serving motives (e.g., outperform others to gain recognition).

Achievement goals and views about the functions of sport have also been associated with variations in sport social behaviors (Duda, Olson, & Templin, 1991;

Gano-Overway et al., 2001). In particular, the empirical findings on the relationship between goal orientations and sportspersonship attitudes have revealed that athletes with a predominance in ego orientation are more likely to endorse unsportsmanlike play and cheating behaviors, and report the use of aggressive acts in sport as a more legitimate means to succeed. In contrast, the predominance of task orientation with low ego orientation has been positively associated with sportspersonship attitudes (e.g., respect for social conventions and rules of sport).

To date, research in sport psychology has yet to link goal orientations to other dimensions of social skills and behavior such as leadership. For example, leadership requires skills that represent the underlying dimensions of both task and ego orientation. If the situation calls for collaboration, such as solving interpersonal conflict among members of the team, one would expect task orientation to emerge as a stronger correlate. On the other hand, a situation that calls for exerting power over others to make a final decision, would have a stronger association with ego orientation. Therefore, both task and ego orientation may be related to leadership in some capacity.

Current thinking about achievement goals would benefit from the examination of additional goal orientations that may function in achievement contexts. Research in educational psychology has broadened the conception of achievement goals and considered the ways in which students' beliefs about the social reasons for academic achievement (i.e., social responsibility) affect their achievement-related beliefs and behaviors in the educational setting (Blumenfeld, 1992; Urdan & Maehr, 1995). For example, Jarvien and Nicholls (1996) examined views about the social world of adolescents by identifying the various dimensions of social goals and beliefs about the

causes of success in peer relationships. Social goals were defined as the kind of social outcomes individuals preferred, as opposed to outcomes they wanted to avoid in peer social relations. These goals were assessed with the Social Goal Questionnaire, in which individuals were asked, "When I'm with people my own age, I like it when...," and responded to items that reflected the dimensions of dominance, intimacy, nurturance, leadership, popularity and avoidance. One of the dimensions identified was leadership (i.e., "I like it when I organize what they do.").

Based on the work of Jarvien & Nicholls (1996), a similar conception of a social goal about leadership may function in the sport setting. Commensurate with the achievement goals that reflect the purpose of sport, athletes may also adopt social goals that reflect their beliefs about the social reasons for trying to succeed (e.g., make friends, learn responsibility). Therefore, certain social goals may influence performance, additional achievement, and social outcomes (i.e., leadership) that are hypothesized to occur in sport. While current work on goal orientations in sport has examined the notion of multiple-achievement goals (i.e., self-enhancing ego and self-defeating ego), exploration of the ways in which social goals in sport interact with task and ego dimensions to influence social beliefs and behaviors has yet to be conducted (Roberts, 2001). By examining the independent effects of social goals as well as their interactive effects with task and ego goals, researchers might come to a more complete understanding of athlete motivation and achievement in sport pertaining to performance and social behaviors.

Structural Goals

Achievement goal theory also provides a pragmatic approach to the study of leadership because of the importance placed on the situational goal structure created by significant others (e.g., coaches) in the sport environment. The theory contends that the degree of task and/or ego involvement is a function not only of one's dispositional tendencies, but also of the motivational atmosphere created by significant others, or what has been labeled as "perceived motivational climate" (Ames, 1984,1992a, 1992b, 1992c; Bandura, 1997; Duda, 2001; Maehr & Braskamp, 1986 Nicholls, 1984, 1992).

Ames and her colleagues were among the first to examine the goal structures of achievement settings that were adult-defined and adult-imposed in the educational setting (Ames, 1984, 1992a, 1992b; Ames & Ames, 1981; Ames & Archer, 1988). Her line of work began with the investigation of individual differences in attributions, affect, and learning strategies based on the experimental manipulation of the climate goal structure as either competitive or individualistic. In the competitive goal structure, participants were encouraged to evaluate personal performance relative to socially-based criteria (i.e., "Let's see which one of you can solve the most puzzles...who will be the winner?"). Whereas, in the individualistic goal structure, the emphasis was shifted from competition and outperforming others to defining success relative to one's personal standards (i.e., "Try to solve as many puzzles as you can.").

Findings from this experimental research demonstrated that competitive outcomes decreased the salience of personal control based on previous performance experience and effort, and emphasized the focus of performance outcome. The individualistic structure, however, facilitated a mastery orientation, in which the child attributed success/failure

relative to one's effort, used past performance as a source of evaluation, and also tried self-learning strategies, thus fostering a sense of personal control.

Following the series of investigations that experimentally manipulated the goal structure, Ames and Archer (1988) conducted a field correlational study to measure students' classroom goals and how they related to choice, effort, and persistence in the classroom. Similar to the individual goal perspective, perceptions of the situational goals were also hypothesized to be independent from one another, depicting individual differences in perceptions of the climate. Thus, individuals may have heightened perceptions of both mastery and performance goals in the classroom (e.g., teacher emphasizes both self-referenced and performance outcome strategies in the classroom), perceive low mastery and low performance, or perceive high in one and low on the other (i.e., high mastery/high performance). Therefore, participants were classified into one of the four groups based on their perceptions of mastery and performance goals in the classroom setting.

Results demonstrated that perceptions of mastery classroom goals were highly correlated with the use of learning strategies, a positive attitude toward the class, and with seeking optimal challenges. Children who perceived mastery class goals were also more likely to attribute success to effort, and strategy, and to credit the teacher for their success; whereas, mastery goals were negatively correlated with teacher influence for the cause of failure. Perceptions of performance goals in the classroom setting were negatively associated with a positive attitude toward class, and feelings of selfcompetence. Related to attributions for success, performance goals were positively correlated with effort and strategy attributions for success, and ability, strategy, and task

difficulty attributions for causes of failure. Furthermore, it was found that students in the high mastery/high performance, and high mastery/low performance groups reported using more learning strategies, had a higher positive attitude toward the class, and sought out more of a task challenge than students in the high performance/low mastery and low performance/low mastery groups.

The findings from this line of research were the first to highlight empirically the importance of a high mastery climate in the classroom. The goal structures identified represented the underlying dimensions of the classroom climate related to the basis and type of evaluation, amount of social comparison, and nature and source of rewards being emphasized by the teacher. In addition, students' prior experiences and their expectations about the manner in which they should interact, work together and regard each other influenced perceptions of the situational goal structure that was emphasized in the classroom.

In an effort to measure whether similar goal dimensions existed in the sport setting, Duda and her colleagues developed the Perceived Motivational Climate in Sport Questionnaire (PMCSQ), which assessed athletes' perceptions of the structural goals created by the coach (Newton & Duda, 1999; Newton, Duda, & Yin, 2000; Seifriz, Duda, & Chi, 1992; Walling, Duda, & Chi, 1993). Consistent with the work of Ames, two primary goal structures emerged that reflected mastery-(task-involving) and performance-(ego-involving) climate dimensions. The mastery situational goal structure was characterized by the perception that an emphasis on effort and mastery of the skill was rewarded, mistakes were considered a part of the learning process, and collaboration among team members was encouraged, with every member having an important role on

the team
punished
ability di
P
conceptu
perceive
of confi
Duda, 1
perceiv
success
satisfac
climate
satisfac
attribu
depend
Partici
state-1
strong
evalua
age an
Perco-
pe e

the team. In contrast, the performance climate reflected the perception that athletes were punished for mistakes, and that the coach recognized and treated players with higher ability differently than those with lower ability, and encouraged intra-team rivalry.

Previous research on structural goals in sport predominately focused on the conceptual link between situational goal structures and motivational indices, such as perceived competence, intrinsic interest, beliefs about the causes of success, and sources of confidence and satisfaction in sport (Duda, 2001; Magyar & Feltz, in press; Newton & Duda, 1999; Seifriz, Duda, & Chi, 1992; Treasure & Roberts, 1998). Athletes who perceived a mastery sport climate reported greater intrinsic interest in the sport, attributed success to effort, employed self-referenced sources of confidence, and experienced satisfaction from mastery experiences. Conversely, athletes who perceived the sport climate to be performance-based had low intrinsic interest in the sport, derived satisfaction from outperforming others, relied on normative sources of confidence, and attributed success to ability.

Whether personal achievement goals or structural goals are more predictive depends upon the nature of the dependent variable and the developmental level of the participant (Duda, 2001; Dweck & Leggett, 1988). For dependent variables that are more state-like in nature (e.g., efficacy beliefs) the motivational climate may emerge as the stronger predictor, whereas, with variables that are more dispositional (e.g., selfevaluation of leadership) goal orientations should emerge as the primary predictor. The age and developmental level of the participant may also influence the predictive utility of personal and structural achievement goals. Younger children's goal orientations may not be fully developed, and thus, the climate may override dispositions and predict

achievement-related outcomes. However, researchers also have proposed that the interaction between personal and structural goals be examined to determine if the interaction between the two prevail over independent contributions.

Similar to the proposed relationship between personal achievement goals and perceived purposes of sport, research has established a link between structural goals and views about the purposes of sport (Ommundsen & Roberts, 1999). Perceptions of a taskinvolved climate were associated with the view that sport serves the purpose of the development of lifetime skills and social skills, whereas perceptions of an ego-involved climate were associated with the perception that sport served to enhance one's social status.

While previous research has established the conceptual link between perceived structural goals and achievement-related outcomes, limited research has examined the influence of the situational goal structure established by the coach and social behaviors in sport. Preliminary support for the theoretical relationship between motivational climates and sportspersonship has been provided (Kavussanu & Roberts, 2001). Duda (2001), however, has noted the potential limitation with the current statistical method used to examine perceptions of motivational climate. Specifically, she has questioned whether individual athletes on a given team share perceptions of the motivational climate because previous research has overlooked this potential for a team effect of the motivational climate. In her most recent work, Duda and colleagues (as cited in Duda, 2001) have attempted to account for the potential team effect. These findings provided evidence for a team effect with teams displaying a stronger agreement concerning group perceptions of the mastery climate, and less agreement regarding the performance climate. Duda has

contended that it is incorrect to assume all athletes within the total sample of participants will perceive the same dimension, but rather data collected on teams should display group and individual level effects.

Related to predictors of efficacy, Magyar, Feltz, & Simpson (2002) examined motivational climate as group level predictors of aggregated collective efficacy beliefs in junior rowers. Results demonstrated that crews that perceived a predominant mastery climate were more likely to report cogent perceptions of collective efficacy. Performance climate, on the other hand, did not emerge as a predictor or collective efficacy, thus, further demonstrating the importance of establishing a mastery climate. Bandura and Wood (1989) have discussed that when groups perceive a collective endeavor as one that is unmanageable, the group may perceive a weakened sense of efficacy making group accomplishments difficult to envision. This finding lends support to a major hypothesis of social cognitive theory (Ames, 1992a, 1992c; Bandura, 1997; Duda, 2001) that the perceived situational goal structure of the sport setting can not only have an impact on individual achievement-related beliefs, but also impact collective perceptions of achievement as well.

Recently, Gano-Overway et al., (2001) examined the influence of motivational climate perceptions on sportspersonship at both the individual and group levels. Results found a three-way interaction between achievement goals, mastery climate, and sportspersonship at the level of the individual athlete. Specifically, under a mastery climate, athletes with higher levels of ego orientation had a significant positive relationship between task orientation and sportspersonship. When athletes' perceptions of the task-involving climate were low and levels of ego orientation were low, a significant

positive relationship emerged between task orientation and sportspersonship. When aggregated up to the team level, the perceptions of a performance climate emerged as the significant predictor, and negatively predicted sportspersonship beliefs among the team. Therefore, it is possible that perceptions of the motivational climate may influence social behaviors at both the individual and team levels.

Maehr and Braskamp (1986) have discussed the influence of group membership and the expectations of others on achievement-related beliefs. The authors proposed that, to a certain degree, the normative and role-related expectations of the group may determine the value of engaging in certain behaviors. For example, the set of expectations that exist for an individual who is identified as the leader of the group may be influenced by both the coach and/or teammates. The manner in which these expectations are communicated to group members may be reflected through the situational goal structures that are established and made most salient to athletes. The authors also discussed perceptions of justice at the group level. In the work setting, perceptions of equity in the group have been found to correlate with the desire to belong, participate, and commit to the group goals. When workers feel the rewards that are being distributed are not compensatory with the amount of effort invested, issues of equity may become problematic. Therefore, structural goals may explain variation in group level perceptions of leadership.

To date, few studies have attempted to connect the constructs of structural goals with leadership behaviors. Duda and Balaguer (1999) have highlighted the need to integrate achievement goal theory in the examination of leadership in sport. Specifically, they have examined athletes' goal orientations, and perceptions of the motivational

climate in relation to their perceptions of their coach's leadership style. They found that the climate created by the coach was significantly related to athletes' preferred and perceived facets of leadership behavior. When the players perceived that their coach created a mastery climate, they were more likely to perceive their coach as demonstrating positive leadership behaviors. Whereas, athletes who perceived a predominately performance climate were less likely to view their coaches as leaders: These findings further reinforce the relevance of the perceived climate reflecting the opinions that athletes may adopt about their coach, and, in particular, the significance of the motivational climate in the display of leadership.

Similar to the integration of social goals and personal achievement goals, future research in sport psychology may benefit from the examination of the social dimensions (i.e., leadership development) of the perceived motivational climate: The influence of the motivational climate as established by the coach and the subsequent effect of the climate on the development of leadership in athletes has yet to be examined.

Conclusion

Current research on leadership in sport has failed to test a conceptual model of athlete leadership that underscores its definition and purpose in a particular sport. Based on the current summary of hypothesized determinants and regulatory mechanisms of leadership, this dissertation research developed and tested a social cognitive conceptual model of leadership in athletes.

Chapter 3

METHOD

Participants

Data were collected on a total of 528 male and female intercollegiate rowers, ages 18-37 years (M=19.75, SD=1.52) and representing 18 collegiate rowing programs from the Western, Midwestern, and Eastern regions of the United States. Initial screening of the dichotomous variable, gender, indicated an uneven split with a resultant 20% male (n = 108) and 80% female (n = 420) athletes in the current sample. This uneven split in the gender distribution has the potential to produce outliers, deflate correlations with other variables, and result in differential influence that may be biased (Tabachnik & Fidell, 1996). Therefore, all male rowers in addition to nine female coxswains of male teams were removed from subsequent analysis and examined separately. This resulted in a sample of 411 female rowers. Initial data screening based on a priori exclusion criteria was conducted to detect athletes with significant missing data and revealed that 38 athletes (9%) were missing portions of the questionnaire packet. Further screening revealed that 18 of these athletes were missing one or more pages of the questionnaire (e.g., skipped back of page, missed Time 2 data collection) and thus, were removed from the study (n = 393). Two athletes who were injured and did not have the necessary information to complete the packet were also removed (n = 391). Twenty-three participants had missing data specific to the scoring and ranking of boat members. Further exploration of this missing data revealed a distinct pattern with four athletes failing to complete the leader ratings or rankings for both performance leadership and

motivational leadership. Two athletes chose not to complete the ratings or rankings on boat members for only motivational leadership, five athletes provided a score for each athlete but refused to rank their teammates on the leadership dimensions, and nine athletes refused to distinguish members of the boat and provided tied-rankings. Finally, three athletes chose to rank only the top five members in the boat. Of the 23 athletes, seven athletes provided satisfactory information (e.g., ranked half of the boat) to replace the missing data. Specifically, any athlete who received a score but did not receive a rank was given a tie-rank with the remaining members of the boat (e.g., after top five athletes were ranked, everyone else in the boat received a rank of 6). This resulted in a sample of 375, however, eight spare athletes who did not have any missing data, but who did not receive peer scores from members in their respective boats, had to be removed.

After screening the data relative to the exclusion criteria, 367 female athletes remained in the sample. A total of 17 schools and 54 boats were represented in this sample, the majority of these boats were the coxed eight 8+(n = 47) and the remainder of the boats represented the coxed four 4+(n = 7). The majority of the boats included in the sample contained at least 50% representation of the boat (e.g., 5 members out of nine), however 5 boats contained less than 50% representation. Therefore, a second exclusionary criteria was that boat members of these underrepresented boats had to demonstrate an acceptable level of consensus (e.g., r_{wg} greater than .50) on the group level variables collective efficacy, mastery and performance motivational climate. This group of underrepresented boats demonstrated consensus on collective efficacy (.51 to .93, M = .76), performance climate (.86 to .99, M = .96), and mastery climate (.88 to .99, M = .95), and, thus, were retained in the current sample.

Measures

Demographic. All participants completed a demographic background questionnaire (see Appendix A). This questionnaire packet included a series of items that assessed athletes' years of experience in rowing (e.g., "How long have you rowed in a competitive program?"), best 2K erg score, experience with injury during the season (e.g., "Have you experienced an illness or injury within the last 6 months?"), experience with boat selection methods (e.g., "Have you switched seat positions since the beginning of the competitive season?"), and experience as leaders (i.e., "Have you ever held a leadership role of any kind?").

Gender role perspective. The degree of masculinity and femininity, which was labeled as agentic and communal in the current study, was assessed using the Bem Sex-Role Inventory (R-BSRI; Bem, 19; Covey & Feltz, 1991). This is a 30-item scale that asks participants to indicate on a 5-point Likert-type scale how well each attribute describes them (see Appendix B). Ten items assessed the degree of perceived agentic characteristics (e.g., "independent"), 10 items assessed communal attributes (e.g., "sympathetic"), and 10 items served as filler items (e.g., "moody"). Both agentic and communal subscales demonstrated acceptable levels of internal consistency with Cronbach alphas of .83 and .92 respectively.

Goal orientations in sport. A modified version of the Task and Ego Orientation in Sport Questionnaire (M-TEOSQ; Duda & Nicholls, 1992) was used to assess individual differences in goal orientation within the sport context (see Appendix C). Certain items within the task and ego dimensions were modified to reflect the nature of the sport of rowing. For example, the notion of learning the skill or a new skill is a rather restricted

notion at the collegiate level. Therefore, "I learn a new skill and it makes me want to practice more" was changed to "I make improvements and it makes me want to practice more." Also, "I learn a new skill by trying hard" was changed to "I make improvements by trying hard." An additional item, "I work together with my teammates," was also included in the task dimension. For ego orientation, the concept of outperforming others is also rather restricted given the nature of the sport. For example, "I'm the only one who can do the play or skill" does not apply; everyone on the team knows how to perform the skill of rowing. Therefore, this item was changed to "I outperform everyone else on my team." A second item, "I score the most points/goals/hits, etc.," was changed to an equivalent concept in the sport of rowing- "I outperform others on the erg." A leadership goal orientation subscale taken from the Social Goal Questionnaire (Jarvien & Nicholls, 1996) was added to assess the athlete's achievement goal related to the role of the leader (e.g., "I organize what my teammates do."). Similar to Urdan and Maehr's (1995) conception of social goals, we have defined social goals as representing the perceived social purposes of trying to achieve in sport. Therefore, athletes were asked to respond to the stem "I feel most successful in rowing when..." and respond to each item on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The final M-TEOSQ was a 20-item measure with eight items for the task dimension ($\alpha = .80$) seven items for ego ($\alpha = .81$), and five items for leadership orientation ($\alpha = .78$).

Perceived motivational climate. The motivational climate of each team was measured using a modified version of the Perceived Motivational Climate in Sport Questionnaire-2 (M-PMCSQ-2). The original 33-item inventory developed by Newton and Duda (1999) that assesses the extent to which athletes perceive the situationally

emphasi
items (s
employ
items re
and sev
rowers
the situ
Coach
Likert s
agrees
reliabil
reach a
in Mag
task se
the red
respon
rangin
items
Croph
4 "co
"co-
contr

emphasized goals on their current team as mastery or performance was reduced to 12 items (see Appendix D). This reduced version was based on previous research that employed the PMCSQ-2 in a study of rowers (Magyar, Feltz, & Simpson, 2002). Five items represented mastery climate (i.e., "each rower contributes in some important way"), and seven items assessed perceptions of performance climate (i.e., "coach favors some rowers more than others"). Five additional items regarding the athletes' perceptions of the situational goals that emphasized leadership opportunities were constructed (i.e., " Coach encourages us to become leaders."). Athletes were asked to respond on a 5-point Likert scale and indicate the degree to which he/she strongly disagrees (1) to strongly agrees (5) with each item. Both performance and mastery subscales demonstrated reliability with Cronbach alphas of .70 and .78, however, the leadership subscale failed to reach an acceptable level of reliability with an alpha of .46.

Task self-efficacy. A reduced version of the task self-efficacy measure employed in Magyar et al., (2002) was used to measure task self-efficacy (see Appendix E). The task self-efficacy construct comprised seven items that were conceptually consistent with the reduced version of the crew collective efficacy measure. Athletes were asked to respond to the item "How confident are you that you can...." on an 11-point Likert scale ranging from 0 (not at all confident) to 10 (completely confident) for each of the seven items. The task self-efficacy measure demonstrated acceptable level of reliability with a Cronbach alpha of .92. However, examination of inter-item correlation revealed that Item 4 "can make a significant contribution to your boat winning a race" and Item 7 "contribute to your boat's ability to row it's fastest time" were correlated at .86, and thus,

Item 4 was removed. The final six-item subscale achieved acceptable levels of internally consistency with a coefficient alpha of .90.

Leadership efficacy. A leadership measure was developed based on the recommendations from Bandura (1997) and his guide to constructing efficacy measures, in addition to input from rowing experts consisting of two former national team coaches and two former national team members. The original measure was piloted on 36 intercollegiate rowers and consisted of 22 items assessing both general leadership ability and task-specific leadership ability (e.g., getting teammates to rig the boat). Athletes were asked to respond to the stem "How confident are you that you can..." on an 11-point Likert scale ranging from 0 (not at all confidence) to 10 (completely confident). The leadership efficacy scale was found to be internally consistent with a Cronbach alpha of .97. In order to develop a more parsimonious measure, corrected item total correlations were examined to determine which items maximized internal consistency. This resulted in the removal of seven items. Initial testing of the 15-item leadership efficacy measure (see Appendix F) that was used in the current investigation was found to be internally consistent with a Cronbach alpha of .91. However, Item 1 "Organize boat members to successfully prepare boat for travel (e.g., place boats of trailer)" and Item 2 "Organize boat members to complete boat preparation (i.e., clean and rig the boat)" demonstrated a correlation of .80. In order to control for multicollnearity, item one was removed. Also, Item 15 "Encourage teammates to 'win at all cost,' (e.g., jump the start or cheat)" demonstrated a low item mean of 1.19 and was removed from the final subscale. This resulted in a 13-item subscale that was used in the current investigation with a Cronbach alpha of .92.

Leadership skills. The Athlete Leadership Skills in Sport Questionnaire (A-LSSQ) measure was developed for the purpose of this study. This measure assessed the perceived importance of skills used by athlete leaders and was constructed in line with Bandura's (1997) social cognitive theory and Eagly's (1987) social role theory. Thus, items represented the cognitive, behavioral and affective leadership skills within the agentic and communal dimensions of social role theory.

The A-LSSQ was a 52-item questionnaire, which was designed to reflect eight distinct subscales. Specifically, two subscales reflected social role theory: namely agentic (12 items) and communal (12 items). Four subscales reflected the theoretical tenets of social cognitive theory: cognitive (five items), metacognitive (four items) behavioral (four items), and affective (five items). Two additional subscales were created to reflect the positive and negative dimensions of leadership, specifically, ethical-respectful approach (five items), and negative tactics approach (five items). This measure was piloted on 317 undergraduate students enrolled in either activity or lecture classes in the Department of Kinesiology (M age = 20.11 years, SD = 2.04). The sample included 136 female and 174 male students (seven failed to identify their gender) with athletic experience in a variety of sports (M years = 12.44, SD = 4.03). Participants were asked to think about the importance of leadership and identify the skills that were important for athlete leaders to use and respond to the stem "It is important for an athlete leader to..." on a 5-point Likert scale (not at all important = 1 to very important = 5).

To determine the factor structure of the A-LSSQ, an exploratory principal component factor analysis with varimax rotation was conducted. This analysis revealed 13 factors with eigenvalues greater than 1.0. However, only six factors were interpretable and reliable and were kept in the final solution. Items with .40 or higher were retained on any given factor. Using this criterion, 19 items did not load on the appropriate factors and were removed from the final solution. In order to generate a more parsimonious measure, corrected item-total correlations were examined to determine which of the remaining items maximized internal consistency. The final measure represented a 26-item version of the A-LSSQ (see Appendix G) with the following four subscales: Performance-Execution (ten items), Motivational-Interpersonal (seven items), Respect-Communication (five items), and Negative Tactics (four items). All subscales except the negative reached acceptable levels of reliability ($\alpha = .72, .73, .73$, and .60 respectively).

Self and Peer Performance Leader Effectiveness Score and Rank. Following the procedures outlined by Biernat et al., 1998, participants were asked to rate and rank each member of their boat including themselves with regard to their overall effectiveness as "performance" leaders (see Appendix H). Performance leadership was operationalized as someone who is considered to be the "go to" person, is competent, masterful, assertive, confident, and may lead a boat toward a successful performance outcome. Successful performance outcome was operationlized as an improved race time or winning a race. Participants first listed the first name and/or initials of each boat member according to seat (e.g., seat 1 through seat 9). After each member was listed in order, the participant rated each member in the boat on performance leadership using a scale of 1 (not at all effective) to 5 (entirely effective).

After rating each member, participants were then asked to rank-order each boat member on performance leadership giving a rank of 1 to their top choice for the performance leader, 2 for their second choice, and continued to rank each boat member

until all nine members were ranked. Participants were instructed to include themselves in the ranking, and distinguish each member with a different ranking (i.e., two athletes with the same performance leadership score had to be distinguished with a different ranking). Any discrepancy in the list of names was corrected using a master list provided by the coach, and/or consensus among the boat members. Scores from this measure generated four of the 12 leadership dependent variables tested in the conceptual model: self-score performance leader effectiveness, self rank performance leader effectiveness, peer score performance leader effectiveness, and peer rank performance leader effectiveness. Peer scores and ranks were calculated for performance and motivational leader effectiveness for each of the 367 athletes using the following equations:

Peer Score =
$$(seat score sum) - (self-score)$$
 (1)
n-1

Peer Rank =
$$(seat rank sum) - (self-rank)$$
 (2)
n-1

By removing self-score from the total score assigned to the participant's seat, the peer scores controlled for potential self-bias (Biernat et al, 1998; Zacarro et al., 1991). The control for self-bias was also conducted for peer-rank by removing the self-rank from the total rank assigned to the participant's seat number.

Self and Peer Motivational Leader Effectiveness Score and Rank. Participants were asked to rate and rank each member of their boat including themselves with regard to their overall effectiveness as a "motivational" leader (see Appendix I). Participants were instructed to think of the person who has the capability to motivate the crew, and were informed that this type of leadership is not limited to performance and may include interactions both in and out of the boat. Motivational leadership was operationalized as someone who encourages teammates to "stay tough" and "work through the pain" (i.e., on the erg or during a race), resolves conflict between members of the boat, acts unselfishly, shows concern for others, or helps teammates calm their nerves before testing and competitions. Similar to performance leadership, participants listed each boat member according to seat and rated everyone in the boat on motivational leadership using a scale of 1 (not at all effective) to 5 (entirely effective). After rating each member, participants were asked to rank-order each boat member on motivational leadership giving a rank of 1 to their top choice for the motivational leader, 2 for their second choice, and continued to rank each boat member until all nine members were ranked. Responses to this measure yielded four of the 12 leadership dependent variables in the study: self-score motivational leader effectiveness, self-rank motivational leader effectiveness, peer-score motivational leader effectiveness, and peer-rank motivational leader effectiveness. Peer score and peer rank for each participant was calculated using equations one and two.

Evaluation of #1 Performance Leader. After ranking individual boat members, athletes were asked to identify the person ranked #1 as a performance leader and respond to four questions regarding the leader's frequency and consistency of leadership behaviors (see Appendix J). Responses were given on a 5-point Likert scale ranging from 1 (not at all) to 5 (all of the time). This measure was constructed to assess the followers' perceptions in the consistency and effectiveness of performance leadership (e.g., "How often does this individual contribute to successful performances?"). An acceptable level

of internal consistency was observed ($\alpha = .75$). Scale scores from this measure represented one of the 12 leadership dependent variables in the current investigation.

Evaluation of #1 Motivational Leader. Participants were asked to complete a similar four-item measure (see Appendix K) for the person ranked #1 motivational leader (e.g., "How often does this individual motivate you to do your best?"). The Motivational Leader Evaluation Subscale exhibited lower internal consistency with an alpha of .67. Scale scores from this measure produced one of the 12 leadership dependent variables in the study.

Self-evaluation of Performance and Motivational Leader Ability. This measure provided an additional dependent variable that assessed self-perceptions of leadership relative to the evaluation of others. Participants also completed a seven-item measure (see Appendix L) assessing the frequency of their own leadership behaviors (e.g., "How often do you contribute to successful performances?"). This measure was found to be internally consistent with a Cronbach alpha of .75, and the total scale score represented one of the 12 leadership dependent variables.

Collective Efficacy. A reduced version of the crew collective efficacy measure (Magyar et al., 2002) was used to help keep the time demands on the athletes to a minimum. This scale assessed athletes' beliefs about their boat's ability to perform rowing skills successfully (see Appendix M). Athletes were asked to think about their confidence in their boat's ability to row successfully and responded to the stem "How confident are you that your boat can..." for each of the seven items. Items were anchored on an 11-point Likert scale ranging from 0 ("not at all confident") to 10 ("completely confident"). All items were generated specific to the sport of crew (i.e., "successfully

execute the race plan"). The measure of crew collective efficacy reached an acceptable level of internal consistency with a Cronbach alpha of .94.

Coach's packet. Coaches were also requested to complete a survey that provided demographic information, boat selection method, and selection method of athlete leaders (Please see Appendix N). Coaches were also asked to rank two boats, which also served as the master roster of athletes.

Procedures

Following approval from the institutional review board, head coaches of men's and women's collegiate rowing programs scheduled to compete at a major regatta in the Western region of the United States were contacted via e-mail to explain the purpose of the research and inquire if they would be interested in letting their athletes participate. Coaches who demonstrated an initial interest in the project were then contacted by phone to discuss the project protocol in more detail. Specifically, coaches were informed it would take the athletes approximately 30 min to complete the questionnaire and that the questionnaires should be administered by a team manager or assistant coach just prior to the regatta (e.g., during travel or team meeting). As an incentive to participate, coaches were also informed that upon receipt of the completed athlete and coach questionnaires, they would receive group-based feedback on the leadership rankings in the boat compared with their rankings. Also, if the coach contributed two complete boats with no missing data and the coach questionnaire, then his/her name would be entered into a lottery in which the winner would receive an award of \$100. Two separate lottery drawings were offered for the women's teams and the men's teams. Coaches who agreed to have their athletes participate were sent an electronic copy of the questionnaire to

guarantee that they would have the time to participate in the project. Once final approval was granted, questionnaire packets were mailed to head coaches, who then distributed them to assistant coaches and/or research assistants to administer the questionnaires to the athletes. Participants were administered the questionnaire packet in one of two ways. Method 1 was a one-time assessment with the administration of the entire packet of questionnaires, and Method 2 was a two-time assessment with the first half of the questionnaires administered at the beginning of the week (Time 1) and the second half of the questionnaires administered later in the week (Time 2). The athletes were provided with an envelope and were asked to place the completed questionnaire(s) in the envelope and seal it closed before returning it to the research assistant/coach. Participants in the Method 1 group took approximately 30 min. to complete the questionnaire, while participants in the Method 2 group took approximately 15 min. for each session. In order to examine for potential method and order effects, a series of one-way ANOVA's were conducted to determine if there were any differences in athletes' scores who were surveyed at one time versus athletes who were surveyed at two different times.

Treatment of the Data

Preceding statistical analysis, the raw data were inspected to ensure reliable data entry and testing of assumptions related to normality, linearity, and homogeneity. Assumptions regarding univariate and multivariate linearity, normality, and homogeneity were tested using SPSS Explore and PRELIS 2.51 (Scientific Software International Inc., Chicago IL). Following the recommendations of Tabachnik and Fiddell (1996) univariate distributions were examined using histograms, skewness and kurtosis statistics, whereas outliers were detected using boxplots and standardized scores (e.g., scores exceeding plus or minus 3 standard deviations from the mean were considered outliers). Multivariate distribution was examined using Mardia's coefficient, while multivariate outliers were detected using Mahalanobis distance. Levene's test of homogeneity of variance was used to test the assumption that each group (i.e., boat class) had the same variance across levels of the dependent variable(s).

Following data screening, maximum likelihood estimation with LISREL 8.52 (Scientific Software International, Inc. Chicago, IL) was used in the confirmatory factor analyses of all measures that were constructed or modified for the purpose of this research. Following the recommendations of Anderson and Gerbing (1988), a two-step approach was used in which an acceptable CFA model were established followed by the testing of the structural model. If these two steps were successfully completed, then the difference between the confirmatory and structural model were examined. The following steps were taken to examine the fit of the hypothesized model and, if necessary, to revise the hypothesized model to improve overall fit.

Scores for each participant were calculated as the mean score for the number of items within each subscale dimension (i.e., mean of the eight items for task orientation). Descriptive statistics such as the mean, standard deviation, Pearson Product Moment, and bivariate correlations were calculated for independent and dependent variables. Hypotheses 1 through 6, which were specific to the testing of the conceptual model were tested with path analysis using maximum likelihood estimation method. Hypotheses 7 and 8, which involved the examination of group differences, were tested with betweensubjects Multiple Analysis of Variance (MANOVA).

Chapter 4

RESULTS

Demographic Information

The final sample of female rowers (N = 367) had an average of 2.3 years' experience rowing in college (SD = 1.8) and viewed the sport of rowing to be very important (M = 8.21, SD = 1.36). The majority of this sample perceived themselves to be somewhat good at rowing (M = 6.78, SD = 1.31), and had an average 2K erg score of 7:65 min (Min = 6:57, Max = 9:03). Thirty-six athletes (9.8%) received full-ride scholarships to row in college, 100 athletes (27.2%) received partial athletic funding, and 237 (62.9%) did not receive an athletic scholarships. The majority of the sample (n =211) had some type of injury or illness during the season, and of this group, 93 athletes were removed from practice or competition for an average of 25 days (SD = 31).

A total of 199 athletes (54.2%) rowed varsity, 43 (11.7%) rowed junior varsity, and 125 (34.1%) rowed novice. The majority rowed in the coxed eight 8+ (n = 342) while five boats in the sample represented the coxed four 4+ (n = 25). Seat representation was evenly distributed among this sample of athletes: 45 (12.3%) rowed bow seat, 46 (12.5%) rowed 2 seat, 36 (9.8%) rowed 3 seat, 40 (10.9%) rowed 4 seat, 40 (10.9%) rowed 5 seat, 42 (11.4%) rowed 6 seat, 33 (8.9%) rowed 7 seat, 41 (11.2%) rowed 8 seat, and 44 (12%) were coxswains.

The majority of athletes (n = 233, 63.5 %) reported that they had switched seats and rowed in a different seat for more than three consecutive days during fall training/racing. Among the athletes who switched seats, 83 athletes (22.6%) reported switching only one seat, 81 athletes (22.1 %) reported switching among two additional seats, 40 athletes (10.9%) reported switching among three seats, 17 athletes (4.6%) reported switching among four seats, and 14 athletes (3.8%) reported switching among multiple seats.

Two hundred eighty-six athletes (77.9%) reported having previous leadership experiences. Among this group who occupied leadership roles, 128 (34.9%) reported having leadership experience in sport (e.g., team captain in high school), 38 (10.4%) reported occupying a leadership role in school (e.g., member of student council), 91 (24.8%) reported having leadership experiences in both sport and school, and 31 (8.4%) reported leadership experiences in other areas (e.g., youth group leader). The majority of the entire sample considered themselves to be leaders in crew (n = 241, 65.7%) while only 26 athletes (7.1%) were current team captains. On average, this sample of athletes considered leadership to be fairly important (M = 7.45, SD = 2.0).

Descriptive Statistics

The mean scores for all personal and situational determinants and self-regulatory mechanisms of leadership that were assessed in the current investigation demonstrate that this sample of athletes reported similar mean scores for agentic and communal attributes (see Table O-1). For personal and situational achievement goals, athletes reported higher scores for task orientation, followed by leader orientation, then ego orientation, and also reported higher scores for mastery climate than performance climate.

Athletes' perceptions associated with the regulatory mechanisms of leadership reflected the perceived importance of performance-execution skills, motivationalinterpersonal skills, and respect-communication skills in the context of rowing. Overall, three efficacy beliefs were assessed in this study; self-efficacy was rated the highest, followed by collective efficacy, then finally leadership efficacy. Therefore, this sample of athletes reported stronger confidence in their individual abilities to perform successfully than in their confidence to lead fellow teammates and their confidence that the crew would perform successfully.

Three different perspectives of leader effects were measured in this investigation. The first set of leader effect scores reflected self-perceptions of leadership effectiveness and ability (e.g., "How often are you a performance leader ?"). The second set of leader effect scores reflected peer scores, or how this group of participants was scored and ranked by their peers in their respective boats. Finally, the third set of leader effect scores reflected how leaders were evaluated by this sample of athletes (e.g., "How often is this person (#1 ranked athlete) a performance leader?").

Specific to team and leader effect scores, the self scores for performance-leader and motivational-leader effectiveness were slightly higher than the average of peer scores, whereas average peer rankings of leader effectiveness were also slightly higher than self rankings (see Table O-2). Related to evaluation scores, athletes rated their #1 designated leaders as more consistent in leadership ability than themselves.

Leader identification and evaluation patterns. To determine the pattern of leader scores and rankings, Pearson Product Moment correlations between average peer score, average peer rank, self score and self rank were conducted for both performance and motivational leadership dimensions (see Table O-3). The intercorrelation between peerscore_performance-leader effectiveness and peer-score motivational-leader effectiveness was .84, which suggests that participants reported similar scores for their boatmates' performance-leadership and motivational-leadership effectiveness. Average peer rank for

per
for
scc
rol
bet
we
the
sel
pe
ma
SC(
(r
m
the
Co
91
ام
+1
#1
RL(
an
the

performance-leadership effectiveness was also highly correlated with average peer rank for motivational-leadership effectiveness. Therefore, the intercorrelations between peer scores and rank suggest that performance-leadership roles and motivational-leadership roles were highly integrated. With leadership role differentiation the intercorrelation between the two leader scores should be smaller in magnitude, suggesting that people were scored differently for performance leadership versus motivational leadership, but the athletes in the current sample were not scored differently with such a high correlation.

The relationship between self-score performance-leadership effectiveness and self-score motivational-leadership effectiveness was .53, indicating that athletes perceived their performance-leadership effectiveness as somewhat comparable to their motivational-leadership effectiveness. Regarding leadership evaluation scores, athletes scored their #1 performance leaders slightly differently than their #1 motivational leaders (r = .48). Self-performance leader evaluation was also moderately correlated with self-motivational leader evaluation scores. However, because certain athletes ranked themselves as the #1 leader in the boat (n = 173), there may be some dependency when correlating self-leader evaluation scores with peer-leader evaluation scores.

Related to performance-leader ranking, 231 athletes did not receive a #1 ranking, 91 athletes were ranked #1 by their peers, and 45 athletes were self-ranked as the #1 leader. Of the 45 athletes who were self-ranked, eight athletes ranked themselves as the #1 leader, but did not receive a peer rank of #1, and thus, were moved to the non-ranked group. The distributions of performance-leader rankings for each seat by boat (8 boats and 4 boats) are presented in Table O-4. For the total sample, 106 (28%) athletes ranked the stroke seat as the #1 leader (101 from the 8-boat, five from the 4-boat). The majority

of the athletes (n = 140, 37%) voted the coxswain as the #1 leader for performance-leader effectiveness (126 from the 8-boat, 14 from the 4-boat).

Regarding motivational leadership, a total of 227 athletes were not given a #1 ranking for motivational leadership, while 104 athletes were ranked #1 by their peers, and 36 athletes ranked themselves as #1. Of the 36 self-ranked athletes, 28 were also given a peer rank of #1. Therefore, the eight athletes that ranked themselves as #1 did not receive a peer rank of #1 and were included in the non-leader group. This resulted in 132 athletes identified as motivational leaders and 235 athletes not identified as motivational leaders in the boats. The rankings by boat for motivational leadership are presented in Table O-5. Relative to seat position, the coxswain was voted as the #1 leader by the majority of the sample (n = 163, 43%). A total of 55 athletes (52 from the 8-boat, three from the 4-boat) voted the stroke seat as the #1 motivational leader.

Examination of the distributions of the stroke and coxswain leader rankings by rowing status (varsity versus non-varsity and junior varsity/novice rowers) demonstrated that varsity rowers (n = 202) ranked the stroke and coxswain fairly evenly for performance leadership (70 and 68 votes respectively). The junior varsity/novice rowers (n = 173), on the other hand, ranked the coxswain higher on performance leadership (n =72, 41.6%) compared to the stroke seat (n = 36, 20.8%). For motivational leadership, however, both varsity (n = 88, 43.6%) and non-varsity rowers (n = 75, 43%) identified with the coxswain as the leader compared to the stroke seat (varsity n = 36, 17.85%; non-varsity n = 19, 11%). Overall, a total of 87 athletes were voted as the #1 performance leader and #1 motivational leader in the boat.

Demographic/Background Influences on Perceptions of Leadership. The intercorrelations between personal demographic information and leadership effectiveness and evaluation are presented in Table O-6. Years of experience demonstrated a significant positive relationship with peer scores of performance-leader effectiveness, self scores for both performance-and motivational-leader effectiveness, and self evaluations of motivational leadership. Athletes who reported having less experience received a lower peer-evaluation score on motivational leadership. An inverse relationship emerged between season best 2K time and peer-and self-leadership scores, suggesting that athletes with faster erg times were more likely to be scored higher by their peers on both performance and motivational leadership. Previous experience with leadership also emerged as a significant correlate of leader scores. Specifically, athletes who reported having participated in a leadership role received higher peer scores and self-scores on leader effectiveness and self-evaluation of leader ability.

Confirmatory Factor Analyses (CFA)

The purpose of this investigation was to develop and test a conceptual model hypothesized to explain determinants and self-regulatory mechanisms of leadership in athletes. As described in Chapter 3, a two-step modeling approach was explored based on the recommendations of Anderson and Gerbing (1988), in which an acceptable CFA model was established, followed by the testing of the structural model. However, due to the excessive number of indicators that were multidimensional and displayed large patterns of standardized residuals, the series of attempts at confirmation of the entire measurement model failed, and thus, separate CFA's were performed on each measure that was constructed or modified for the purpose of this study (see Figure 2).

iten Scr of r amo kur pro wh Res bec iter ser res ma dev fac que spe fac Kli We nur

Step 1 Data Screening: Preliminary inspection of the data was conducted at the item level for each measure that was constructed or modified for this investigation. Screening was conducted with regard to univariate and multivariate normality, restriction of range in participant responses, and potential for multicollinearity and dependency among items (Kline, 1998). Univariate normality was inspected using skewness and kurtosis estimates, with observed values in excess of + 2.00 identified as potentially problematic. Inspection of multivariate normality was conducted using PRELIS 2.52, which provides Mardia's coefficient values for multivariate skewness and kurtosis. Researchers recommend reporting Mardia's coefficient values for descriptive purposes because large sample sizes are known to inflate these values (Bollen, 1989). Related to item distributions, large values of skewness and kurtosis may denote that the item did not serve as a reliable discriminator among the participants (e.g., the majority of the sample responded similarly). Likewise, items with small standard deviations (e.g., less than .80) may suggest problems with restriction of range, while unexpectedly large standard deviations may indicate the presence of an outlier. While most consider confirmatory factor analysis robust to violations of normal distributions, identifying potential questionable items may assist with respecification.

Step 2 Identification: Items were analyzed using the covariance matrix and were specified to load on only one latent factor. The loading of the first item on each latent factor was fixed to 1.0 to establish a metric for the factor (Joreskog & Sorbom, 1996; Kline, 1998; Maruyama, 1998). The number of free parameters specified in the models were less than or equal to the number of observations (i.e., v(v+1)/2, where v is the number of observed variables).


Figure 2. An example 2-factor confirmatory factor analysis measurement model.

Step 3 Estimation: Item uniqueness and disturbances were estimated using standardized residuals, t-value parameter estimates, and squared multiple correlations. The pattern of correlated residuals provide information regarding the fit of the item, Individual items with large standardized residuals (greater than 2.59) and modification indices above 5.00 were examined for correlated uniqueness, and any item considered problematic (i.e., excessive cross-loading) was removed. In an effort to maintain unidimensional measurement, correlated disturbances were not permitted (Anderson & Gerbing, 1988; Kline, 1998; Stout, 1987).

Multiple fit indices were considered to establish the criterion of acceptable fit. The chi-square statistic compares the absolute fit of the hypothesized model with the population (model-implied) matrix, however, because this statistic is sensitive to sample size, the difference in X2 between the hypothesized and respecified models was used to assess improvement in model fit. Also, to reduce the sensitivity of the X2 test to sample size, the X2/df was calculated with a ratio of less than 3 considered to be acceptable (Kline, 1998). Absolute fit was assessed using the goodness of fit index (GFI), which is based on the proportion of observed covariance matrix explained by the model-implied covariance matrix. The adjusted goodness of fit index (AGFI) adjusts the GFI downward for model complexity and takes into account that models with more estimated parameters tend to fit the data better than simpler models. A discrepancy between these two indices suggests that trivial or non-significant parameters were included in the model. Indices such as the normed fit index (NFI), which indicates the proportion in the improvement of the overall fit over a baseline independent model, and the non-normed fit index (NNFI), which corrects for model complexity, were used to examine incremental fit. Similar to

the NFI, the comparative fit index (CFI) assesses the improvement in the hypothesized model over an independent model, but is less sensitive to sample size. Researchers recommend that values demonstrating acceptable fit should be .90 or higher (Kline, 1998). The root mean square error of approximation reflects the amount of unfitted residuals between the observed and model-generated covariance matrices. Values less than .10 are considered adequate, while values less than .05 are considered very good. Models that were identified as more complex than the hypothesized model underwent respecification that was not based entirely on statistical consideration, but also consistent with the theoretical tenets on which the measurement model was based (i.e., self-efficacy theory).

Evaluation of #1 Performance and Motivational Leader. In order to evaluate the consistency of designated leaders, athletes responded to four questions regarding the #1 ranked performance leader and three questions regarding the #1 ranked motivational leader. Descriptive statistics, model fit indices, and information regarding the parameter estimates are presented in Table O-7. Results from the confirmatory factor analysis demonstrated acceptable fit with the data (X2 (13) = 22.36 RMSEA=.06, GFI = .97, NFI = .91, NNFI = .90, CFI = .97).

Efficacy Measures. Three separate efficacy measures were constructed to measure the athlete's confidence in her ability to row successfully, confidence in her boat's ability to row successfully, and confidence in her own ability to lead her teammates. All three measures were expected to correlate and, as a result, were simultaneously subjected to confirmatory factor analysis to determine the factor structure (i.e., 29 items). The hypothesized model failed to fit the data (X2 (374) = 1470.72, RMSEA = .09, GFI = .79,

NFI =
demor
memt
equip
ргера
was (
did n
("enc
and a
self-
dem
abili
a rac
mod
GFI
item
that
kun
iten
to th
Valu
best
I

NFI = .81, NNFI = .84, CFI = .85). Initial examination of the confirmatory results demonstrated an excessive standardized residual between Item 1 "Organize boat members to successfully prepare for boat travel (e.g., place boats, oars, and other equipment on trailer)" with Item 2 (" Organize boat members to complete boat preparation (i.e., clean and rig the boat)"). Inter-item correlations were examined where it was discovered that these two items had a correlation of .79, suggesting that the athletes did not distinguish between the two items, and thus, Item 1 was removed. Item 15 ("encourage teammates to 'win at all cost") demonstrated an orthogonal loading of .10 and also was removed from the leadership efficacy measure. In addition, Item 4 from task self-efficacy ("can make a significant contribution to your boat winning a race") demonstrated an excessive standardized residual with Item 7 ("contribute to your boat's ability to row it's fastest time"). Thus, athletes were not distinguishing between winning a race and rowing the fastest time, and so Item 4 was also removed. The respecified model demonstrated an acceptable level of fit with a X2(272) = 826.22, RMSEA = .07, GFI = .85, NFI = .87, NNFI = .90, CFI = .91 (see Table O-8).

Athlete-Leadership Skills in Sport Questionnaire. Descriptive statistics for each item are presented in Table O-9. Inspection of skewness and kurtosis values demonstrate that four items demonstrated skewness values just above 2.0, while eight items displayed kurtosis values above 2.0. Inspection of standard deviations indicated that the majority of items had values of less than .80, which demonstrated restricted response variability. Due to the low average ratings, small standard deviations, and large skewness and kurtosis values, Item 23 ("call someone out who is not giving 100%"), Item 13 ("be one of the best athletes on the team"), and Item 22 ("help the team by rowing the fastest") were

ide
dei
N
are
the
.78
me
ma
an
(Х
rea
hy
ins
ha
co
Va
ad
the
te-
105
r. hei
Ite

identified as problematic and removed from the confirmatory analysis. The revised model demonstrated marginal fit (X2 (224) = 661.32, RMSEA = .07, GFI = .87, NFI = .73, NNFI = .78, CFI = .81).

Modified- Task and Ego Orientation in Sport. Descriptive statistics and fit indices are presented in Table O-10. The hypothesized 3-factor structure failed to adequately fit the data (X2 (167) = 778.87, RMSEA = .10, GFI = .83, NFI = .73, NNFI = .75, CFI = .78). Inspection of modification indices indicated that Items 4 ("my teammates look up to me") and 11 ("I lead by example") from leader orientation demonstrated high modifications indexes indicating that the two items could have been assigned to both task and ego orientation. After removing these two items, the revised model was improved (X2 (132) = 529.65, RMSEA=.10, GFI = .85, NF I = .75, NNFI = .77, CFI = .80) and reached a marginal level of fit.

Modified Perceived Motivational Climate in Sport Questionnaire. The

hypothesized model contained the mastery, performance, and leader climate scales. Initial inspection of this model revealed that Items 5, 12, and 13 from the leader climate scale had large modification indices ranging from 12.05 to 76.16. After removing Item 12, "the coach makes it clear who he/she thinks are the leaders," which demonstrated the largest values of 76.15 and 67.75, the remaining items for the leader climate no longer adequately specified the leader climate latent factor (all t-values less than 1.96). Due to the instability of this factor, the leader climate was removed and the M-PMCSQ-2 was respecified with the remaining 12 items designated to load on the mastery and performance dimensions. Examination of the revised 2-factor structure indicated that Item 6 ("rowers are dropped from the boat if they continually make mistakes")

demonstrated a low squared multiple correlation of .03 and standardized estimate of .16, suggesting that this item was not adequately loading on the mastery latent factor. Given the orthogonality of this item, it was removed which adequately improved model fit X2 (53) = 163.42, RMSEA = .07, GFI = .93, NF I = .87, NNFI = .88, CFI = .90 (see Table O-11).

Path Analysis

Although the measurement model for the efficacy measures, Athlete Leadership Skills Questionnaire (A-LSSQ), and Modified Task and Ego Orientation in Sport Questionnaire (M-TEOSQ) failed to reach consistent fit indices of .90, Stout (1987) has highlighted the importance of establishing essential unidimensionality rather than relying entirely on fit indices of .90 or greater to substantiate model fit. Unidimensionality refers to the assumption that a single latent factor is sufficient to explain the common variance among items. When the condition of unidimensionality is satisfied, then items that are hypothesized to load on a latent factor are the unambiguous indicators of a single construct (e.g., no cross-loading or correlated error variances). However, researchers are taking notice of the difficulty in establishing strict unidimensional measurement models with "real-world" data, and propose the notion of "essential" unidimensionality (Embretson & Reise, 2000; Stout, 1987). Stout (1987) claims that a one-factor measurement model will demonstrate essential unidimensionality when the average between item residual covariances approaches zero as the length of the measure increases. In essence, if an underlying latent dimension is strong enough, it will emerge from the measure and should be considered above the smaller specific factors (i.e., noise or method variance) and influences that may also emerge and adversely affect the fit of

the model. Therefore, given Stout's recommendation, in addition to the sufficient factor loadings of each item, low standard errors, and observed internal consistency, the three measures that failed to fit the data based on certain fit indices derived from the covariance modeling, actually provide evidence of measuring the underlying latent dimensions they are hypothesized to measure (e.g., 7 items hypothesized to measure collective efficacy).

To test the fit and conceptual relationships of the hypothesized model of leadership, a recursive path analysis on the estimated covariances of directly observed variables (e.g., subscale scores) was conducted (see Figure 3). Due to low reliability, the negative tactics skills subscale and the evaluation of the #1 motivational leader subscale were not included in the model. In an effort to improve internal consistency and control for multicollinearity, self score for performance-leader effectiveness was averaged with self score for motivational-leader effectiveness. The new self-score leader effectiveness variable achieved an acceptable level of reliability with a coefficient alpha of .70. Peer score performance-leader effectiveness was averaged with peer score motivational-leader effectiveness variable was internally consistent with a coefficient alpha of .95. Due to the number of athletes who provided a self-rank of #1 (n = 173), the self-evaluation scores were not included in the final model to control for potential dependency in the data.

The reduction of variables resulted in a hypothesized model with seven theoretical causal variables: agentic attributes, communal attributes, task orientation, ego orientation, leader orientation, mastery, and performance climate. Variables related to demographic/



Figure 3. Illustration of Full Hypothesized Model.

bac
foll
skil
effi
sco
me
inf
rel
an
1
1. 00
99
NO
ап
ev,
eff
has
wh
for
Pat
uns
Par

background influences on leadership were not included and examined separately. The following nine variables were tested as endogeneous variables: performance-execution skills, motivational-interpersonal skills, respect-communication skills, leadership efficacy, task self-efficacy, collective efficacy, evaluation of #1 performance leader, selfscore leader effectiveness, and peer-score leader effectiveness.

The direct influence of personal, situational determinants, and regulating mechanisms on team and leader effects was tested, in addition to the potential mediating influence of leadership skills, leadership efficacy, and task-self efficacy on the relationship between determinants and effect variables. The correlation matrix, means, and standard deviations for all variables included in the path model are presented in Table 1. The overall hypothesized model demonstrated an acceptable fit to the data (X2 (35) = 99.96, Root Mean Square Error of Approximation = .07, Comparative Fit Index = .95, Normed Fit Index = .94, Goodness of Fit Index = .97). Furthermore, examination of the amount of variance explained in the endogeneous variables ranged from 16% in the evaluation of the performance leader measure to 40% in the leadership efficacy measure.

Path coefficients (i.e., standardized regression coefficient) demonstrate the direct effect of an exogenous variable on an endogenous variable in the model. When the model has two or more causal variables, the path coefficients are partial regression coefficients, which measures the direct effect of one variable on another in the path model controlling for other prior variables. Examination of the path *t*-value was conducted to test individual path coefficients. A *t*-value associated with a parameter is calculated by dividing its unstandardized estimate by its standard error with values greater than 1.96 indicating the parameter is significantly different than zero.

Table 1

M (SD) 8. P. Skills Leader Orientation; M. Climate = Mastery Climate; P. Climate = Performance Climate; P. Skills = Performance-Execution Skills; Note. Agentic = Agentic attributes; Communal = Communal attributes; Task = Task Orientation; Ego = Ego Orientation; Leader = 16. Peer-score 9. M. Skills 6. M. Climate 13. CE 7. P. Climate 5. Leader 4. Ego 3. Task 2. Communal 15. Self-score 14. L. Eval. 11. LE 10. R. Skills Agentic 12. Task-SE 3.69 .002 .29*** .20*** .48*** (.60) .26*** -12* .08 00 20 .. 3 .27*** **1**0 • • • 8 [17*** 3.86 (.72) .05** 21*** .42*** 80⁻ .17*** 17*** 13* 23*** 23*** 20 17*** 0 14** 13** Ξ. N 4.38 (.43) .23*** 28*** .15** .18*** .23*** ÷ .28*** 23*** 25*** 32*** 20*** 27*** 0 س .05 2.84 Ξ. .21*** .s1*** ŝ 2 .19*** .17*** 24 <u>່</u>ຜ 17*** 1.0 5 Ξ. 4 (.72) 3.33 .44*** <u>0</u> .43*** .18*** .27*** .39*** : CG .29*** .20*** ŝ .07 4.06 .29*** .26*** -.46*** 07 1.0 .19*** .19*** 17** 10 13** δ -.16* -.08 -.09 <u>-.09</u> (.70) **8**0'-8 .06 -04 : 3 .10 (.45) .23*** .18*** .56*** 00 .18*** 31*** 1.0 .10 4.05 (.53) .44*** .16** . 6 . 09 1.0 19*** 29*** ٥ 4.60 (.43) 1.0 .10 .22** .21** 22** ••61 12* 5 .41*** 7.01 (1.37) .50*** .55*** 6 .29*** 0 Ξ .42*** .25*** 8.14 (1.29) 1.0 .46*** 12* 12 (1.57) .24*** .16*** 7.90 5 13 4.48 € E .06 14 3.33 (.77) .53*** 1.0 5 3.69 E) 16

Means, Standard Deviations, and Correlations Among Path Model Variables

Peer-Score Leader Effectiveness. Self-efficacy; CE = Collective Efficacy; L. Eval = Leader Evaluation; Self-Score = Self-Score Leader Effectiveness; Peer-Score = M. Skills = Motivational-Interpersonal Skills; R. Skills = Respect-Communication Skills; LE = Leadership Efficacy; Task-SE = Task

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

	Hypoth
	mechan
	(a) Age
i	efficacy
	(b) Cor
	commu
1	(c) Age
	leader.
	(d) The
	perform
	dimen
	attribu
	leader
	also e
	Speci
	leade
	spec
	Signi
	resp
	tast.
	·usk
	hell
	gen

Hypothesis 1: Gender role perspectives will differentially influence self-regulatory mechanisms of leadership and leadership's effects.

(a) Agentic attributes will positively predict performance-execution skills, leadership efficacy, and task self-efficacy.

(b) Communal attributes will positively predict motivational-interpersonal skills, respectcommunication skills, leadership efficacy, and task self-efficacy.

(c) Agentic attributes will positively predict the evaluation of the #1 ranked performance leader, in addition to self and peer leader effectiveness scores.

(d) The initial hypothesis regarding leader effects differentiated agentic attributes with performance-leadership dimension and communal attributes with motivational-leadership dimensions. However, because of the averaged leadership effect scores, communal attributes were hypothesized to positively predict evaluation of the #1 performance leader, and self and peer scores of leadership effectiveness. Communal attributes were also expected to significantly influence collective efficacy.

Three of the four paths for Hypothesis 1(a) emerged as significant (see Table 2). Specifically, agentic attributes influenced performance-execution skills ($\beta = .20, p < .01$), leadership efficacy ($\beta = .44, p < .01$), and task self-efficacy ($\beta = .28, p < .01$). All four paths specified to test Hypothesis 1(b) emerged as significant with communal attributes as a significant and positive influence on motivational-interpersonal skills ($\beta = .39, p < .01$), respect-communication skills ($\beta = .17, p < .01$), leadership efficacy ($\beta = .24, p < .01$), and task self-efficacy ($\beta = .16, p < .01$). Communal attributes also significantly predicted performance-execution skills ($\beta = .11, p < .05$). Thus, perceptions of attributes related to gender differentially influenced the perceived importance of leadership skills, with

commu

skills, v

Table 2

Direct

Perfo Moti Resp Lead Task Eval Peer Self-Coll Note.

to coll

attribu

and th

agenti

illustr

full n

communal attributes positively predicting the perceived importance of all leadership

skills, while agentic attributes predicted only performance-execution skills.

Table 2

Direct Effects for Hypothesis 1

	Agentic Attributes	Communal Attributes
Performance-Execution Skills	.20**	.11*
Motivational-Interpersonal Skills	.03	.39***
Respect-Communication Skills	.05	.17*
Leadership Efficacy	.44***	.24**
Task Self-efficacy	.28**	.16*
Evaluation of #1 Leader	04	.08
Peer-Scores Leader Effectiveness	.02	.03
Self-Scores Leader Effectiveness	.07	.04
Collective Efficacy	06	.13*

Note. Standardized path coefficients are taken from full model. *p<.05, **p<.01, ***p<.001

Related to sub-hypotheses 1(c) and 1(d), the direct path from communal attributes to collective efficacy ($\beta = .14$, p < .01) was significant. Regarding the influence of gender attributes on leader effects, none of the presumed relationships emerged as significant, and thus, failed to provide direct support for sub-hypotheses 1(c) and 1(d). Therefore, agentic and communal attributes did not directly influence leadership effects. An illustration of the standardized path coefficients specific to Hypothesis 1 taken from the full model results is provided in Figure 4.



Figure 4. Illustration of Direct Effects for Hypothesis 1.

	Нуро
	of lec
	(a) T
	moti
I	task
	(b) I
	lead
	(c) I
	skill
	effi
	(d)
	hyn
	#1,
	11
non	was
	neg
	,
	(see
	рег
	<i>p</i> <_
	orie
	exe
	orie
	as s

Hypothesis 2: Goal orientations will differentially influence self-regulatory mechanisms of leadership and leadership's effects.

(a) Task orientation was hypothesized to positively predict performance-execution skills, motivational-interpersonal skills, respect-communication skills, leadership efficacy, and task self-efficacy.

(b) Ego orientation was hypothesized to positively predict performance-execution skills, leadership efficacy, and task self-efficacy.

(c) Leader orientation was hypothesized to positively predict performance-execution skills, motivational-interpersonal skills, respect-communication skills, leadership efficacy, and task self-efficacy.

(d) Specific to leader and team effects, both task and leader orientation were
hypothesized to demonstrate a positively predict collective efficacy, the evaluation of the
#1 performance leader, and self-and peer-scores of leader effectiveness. Ego orientation
was hypothesized to positively predict self scores of leadership effectiveness and a
negatively predict peer scores of leader effectiveness.

Three of the five hypothesized paths emerged as significant for task orientation (see Table 3). Specifically, task orientation significantly predicted the emphasis of performance-execution skills ($\beta = .14$, p < .01), respect-communication skills($\beta = .19$, p < .01), and task self-efficacy ($\beta = .10$, p < .05). Therefore, with increases in task orientation there is also a subsequent increase in perceived importance of performance-execution skills, respect-communication skill, and stronger efficacy beliefs. Ego orientation was hypothesized to predict three paths, but none of the direct paths emerged as significant. Leadership orientation on the other hand, failed to significantly predict any

of the three leadership skill paths as hypothesized, but significantly influenced leadership efficacy (β =.30, p<.01), and task self-efficacy (β =.12, p<.01). Thus, a stronger emphasis on leader goal-orientation directly influences stronger perceptions of one's confidence to lead others, and perform successfully.

Table 3

	Task	Ego	Leader
	Orientation	Orientation	Orientation
Performance-Execution Skills	.14*	.11	.09
Motivational-Interpersonal Skills	.08	.01	.09
Respect-Communication Skills	.19*	.04	.06
Leadership Efficacy	.03	04	.30**
Task Self-efficacy	.10*	.09	.12*
Evaluation of #1 Leader	.17*	.07	13*
Peer-Scores Leader Effectiveness	.01	16	.34**
Self-Scores Leader Effectiveness	.07	06	.29**
Collective Efficacy	.12*	.03	18*

Direct Effects for Hypothesis 2

Note. Standardized path coefficients are taken from full model.

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

Related to sub-hypothesis 2(d), task orientation significantly influenced collective efficacy ($\beta = .12, p < .01$), and evaluation of the # 1 performance leader ($\beta = .17, p < .01$). Ego orientation was inversely related to peer scores for leader effectiveness ($\beta = -.16$, p < .01). Finally, leader orientation demonstrated a negative influence on collective efficacy ($\beta = -.18, p < .01$), and the evaluation of the #1 performance leader ($\beta = -.13$, p < .05), and positively influenced self-scores of leader effectiveness ($\beta = .29, p < .01$), and peer-scores of leader effectiveness ($\beta = .34, p < .01$). Figure 5 presents the path coefficients taken from the full hypothesized full model specific to Hypothesis 2.



Figure 5. Illustration of Direct Effects for Hypothesis 2.

Hypothesis 3: Perceptions of motivational climate will differentially predict selfregulatory mechanisms of leadership and leadership's effects.

(a) Perceptions of mastery climate were hypothesized to positively predict performanceexecution leadership skills, motivational-interpersonal leadership skills, respectcommunication leadership skills, leadership efficacy, and task self-efficacy.

(b) Perceptions of performance climate were hypothesized to positively predict

performance-execution skills and negatively predict motivational-interpersonal skills,

respect-communication skills, leadership efficacy, and task self-efficacy.

(c) Perceptions of mastery climate were also hypothesized to positively predict collective efficacy, the evaluation of #1 performance leaders, and self and peer scores of leadership. Performance climate was hypothesized to positively predict self scores of leadership effectiveness, and negatively predict collective efficacy.

Only three of the five hypothesized pathways for sub-hypothesis 3(a) emerged as significant with mastery climate predicting the importance of all leadership skills (see Table 4).

Table 4

	Mastery	Performance
	Climate	Climate
Performance-Execution Skills	.16*	.11*
Motivational-Interpersonal Skills	.13*	.07
Respect-Communication Skills	.22*	.04
Leadership Efficacy	.05	05
Task Self-efficacy	01	07
Evaluation of #1 Leader	.09	08
Peer-Scores Leader Effectiveness	.00	06
Self-Scores Leader Effectiveness	05	08
Collective Efficacy	.18*	04

Direct Effects for Hypothesis 3

Note. Standardized path coefficients are taken from full model. *p<.05, **p<.01, ***p<.001 Specifically, individual perceptions of mastery climate exhibited a significant influence on performance-execution skills ($\beta = .16, p < .05$), motivational-interpersonal skills ($\beta = .13, p < .05$), respect-communication skills ($\beta = .22, p < .01$). Performance climate was related only to performance-executions skills ($\beta = .11, p < .01$). Related to leadership, individual perceptions of mastery climate significantly influenced collective efficacy ($\beta = .18, p < .01$). Neither mastery climate nor performance climate demonstrated a significant influence on perceptions of leader effects. The path coefficients for



Figure 6. Illustration of Direct Effects for Hypothesis 3.

Hypothesis 4: Leadership skills will differentially influence team (e.g., collective efficacy) and leader effects.

(a) Performance-execution leadership skills will positively predict evaluation of the #1 performance leader, and self and peer scores of leader effectiveness.

(b) Motivational-interpersonal leadership skills will positively predict collective efficacy, and self and peer scores of leader effectiveness.

(c) Respect-communication leadership skills will influence evaluation of the #1

performance leader, and self and peer scores of leader effectiveness.

The direct effects of leadership skills on leader and team effects are presented in Table 5. One of the three paths representing Hypothesis 4(a) emerged as significant with performance-execution skills positively influencing the evaluation of the #1 performance leader ($\beta = .25$, p < .01).

Table 5

Direct effects for Hypothesis 4

	Performance-	Motivational-	Respect-
	Execution	Interpersonal	Communication
Evaluation of #1 Leader	.24*	.02	13
Peer-Scores Leader Effectiveness	09	06	.12
Self-Scores Leader Effectiveness	09	.05	.07
Collective Efficacy	.05	08	.07

Note. Standardized path coefficients are taken from full model.

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

Partial support was also obtained for Hypothesis 4(c) with respect-communication skills demonstrating an inverse relation with the evaluation of the #1 performance leader ($\beta = -.13, p < .05$), and positively influencing peer scores of leader effectiveness ($\beta = .11$,

p < .05). Thus, athletes who placed greater importance on the use of respect-

communication skills for leadership were more likely to scored as effective leaders by their peers. Related to the evaluation of the #1 performance leader, performanceexecution skills positively influenced these evaluations while respect-communication skills were inversely related to these evaluations. Thus, respect-communication skills are seen as less important than performance-execution skills in performance leadership.



Figure 7. Illustration of Direct Effects for Hypothesis 4.

Hypothesis 5: Efficacy beliefs will positively predict team (e.g., collective efficacy) and leader effects.

(a) Leadership efficacy will positively influence collective efficacy, the evaluation of the

#1 performance leader, and self- and peer- scores of leader effectiveness.

(b) Task self-efficacy was hypothesized to positively predict collective efficacy,

evaluation of the #1 performance leader and self and peer scores of leader effectiveness.

Leadership efficacy predicted self scores of leader effectiveness ($\beta = .22, p < .01$),

and peer scores of leader effectiveness ($\beta = .28$, p < .01). Self-efficacy beliefs predicted

self-scores of leader effectiveness ($\beta = .18$, p < .01), and collective efficacy ($\beta = .42$,

p<.01).

Table 6

Direct effects for Hypothesis 5

	Leadership Efficacy	Task Self- efficacy
Evaluation of #1 Leader	07	.11
Peer-Scores Leader Effectiveness	.28*	.01
Self-Scores Leader Effectiveness	.22*	.18*
Collective Efficacy	.10	.42*

Note. Standardized path coefficients are taken from full model.

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

Thus, athlete who reported stronger leadership efficacy beliefs were more likely to score themselves as effective leaders, and were more likely to be considered as effective leaders by their peers as well.



Figure 8. Illustration of Direct Effects for Hypothesis 5.

Hypothesis 6: Personal and situational determinants will serve as distal predictors of leadership effects, while self-regulatory mechanisms will serve as more proximal predictors of leadership effects and mediate the relationship between personal and situational determinants with leadership effects.

Hypothesis 1 through 5 illustrated the hypothesized direct effects, or standardized path coefficients that were estimated in the full hypothesized model. With path analysis, the standardized effects may be decomposed to represent indirect and total effects. Indirect effects measure the effect of mediating or intervening variables, while total effects represent the sum of all direct and indirect effects. The decomposition of the standardized effects for the full hypothesized model are presented in Table 7.

When a variable has a non-significant direct effect, but a significant indirect and total effect on an endogeneous variable, than full mediation has occurred. In the current conceptual model, there are a total of four relationships between personal determinants and leader effects which have been fully mediated by the regulatory mechanisms of leadership skills and efficacy beliefs. For example, agentic attributes do not significantly predict peer-scores for leader effectiveness. However, the indirect effect of .11 is signifcant in addition to the total effect of .13. Therefore, part of the influence of agentic attributes on peer-scores for leader effectiveness is being transmitted via leadership skills and efficacy beliefs. In order to determine where the indirect influence is derived from, the product of each path that influences peer scores of leader effectiveness is considered. Starting with agentic attributes on performance-execution skills (.20), multiplied by performance-execution skills on peer scores leader effectiveness(-.09) is equal to .01, agentic attributes to motivational-interpersonal skills (.03), multiplied by motivational

Table 7

	Evaluation of the	Peer-Scores Leader	Self-Scores Leader	Collective
	#1 Leader	Effectiveness	Effectiveness	Efficacy
Agentic Attributes				
Direct Effects	04	.02	.07	<u>-</u> .06
Indirect Effects	.04	.11*	.13*	.16*
Total Effects	.00	.13*	.21*	.10*
Communal Attributes				
Direct Effects	.08	.03	.04	.13*
Indirect Effects	.02	.06	.10*	.06
Total Effects	.10	.08	.14*	.19*
Task Orientation				
Direct Effects	.17*	.01	.07	.12*
Indirect Effects	.02	.02	.03	.03
Total Effects	.19*	.02	.11*	.15*
Ego Orientation				
Direct Effects	.07	- 16*	06	.03
Indirect Effects	.03	01	.00	.03
Total Effects	.10	- 17*	06	.06
Leader Orientation				
Direct Effects	13*	.34*	.29*	- 18*
Indirect Effects	.01	.08*	*60	.08*
Total Effects	12	.42*	.38*	- 10*
Mastery Climate				
Direct Effects	.09	.00	05	.18*
Indirect Effects	.01	.02	.02	02
Total Effects	.10	.02	03	.16*
Performance Climate				
Direct Effects	.11*	- <u>.</u> 06	08	04
Indirect Effects	.00	02	03	04
Total Effects	.11	08	- 11	08

Direct, Indirect, and Total Effects of Personal and Situational Determinants on Team and Leader Effects

interpersonal skills on peer scores (-.06) is equal to -.002, agentic attributes to respectcommunication skills (.05), multiplied by respect-communication on peer scores (.12) is equal to .006, agentic attributes to leadership efficacy (.44), multiplied by leadership efficacy on peer scores (.28) is equal to .12, and agentic attributes to task self-efficacy (.28), multiplied by self-efficacy to peer scores (.01) is equal to .003. When the combined effects (e.g., -.02, .002, .006, .12, and .003) are summed together, the final indirect effect is equal to .11. The indirect effect (.11) is then added to the direct effect (.02) which yields a total effect of .13. Therefore, agentic attributes did not emerge as a significant direct causal variable on peer scores of leader effectiveness, however, the effects of agentic attributes were transmitted onto peer scores via leadership skills, leadership efficacy, and task self-efficacy. In particular, the most influential indirect path was



Figure 9. Direct and Indirect Pathways from Agentic Attributes to Peer Scores of Leader Effectiveness.

A similar pattern can be seen for the indirect influence of agentic attributes on self-scores of leader effectiveness. Agentic attributes did not directly influence self-score of leader effectiveness (.07), yet examination of the decomposed effects establishes that partial effects are being transmitted from all potential paths onto self-scores via all leadership skills, leadership efficacy, and task self-efficacy, however, a larger portion of the indirect effect being transmitted from leadership efficacy (see Figure 10).



Figure 10. Direct and Indirect Pathways from Agentic Attributes to Self Scores of Leader Effectiveness

Agentic attributes did not directly influence collective efficacy beliefs -.06 but both the indirect (.16) and total (.10) effects were significant. The relationship between agentic attributes and collective efficacy was primarily mediated by task self-efficacy (see Figure 11).



Figure 11. Direct and Indirect Pathways from Agentic Attributes to Collective Efficacy.

The relationship between communal attributes and self-scores of leadership effectiveness was fully mediated by leadership skills, leadership efficacy, and task selfefficacy (see Figure 12). The direct influence of communal attributes on self-scores (.04) was not significant, while the indirect (.10) and total (.14) emerged as significant.



Figure 12. Direct and Indirect Pathways from Communal Attributes to Self Scores of Leader Effectiveness.

Although the influence of leader orientation was not fully mediated by leadership skills, leadership efficacy, and task self-efficacy, the significant direct effects increased after accounting for the indirect influences of the regulatory mechanisms. This finding suggests that a strong emphasis on leader orientation significantly influenced how athletes scored themselves and were scored by others (peers) on leader effectiveness, and that this positive influence was strengthened even more so through the athlete's confidence to lead others and perform successfully. The direct negative influence of leader orientation on collective efficacy (-.18) was reduced through leadership efficacy and task self-efficacy.

Overall, there were seven significant indirect pathways in the full hypothesized model. Examination of the direct effects in the full hypothesized model suggested that leadership skills and efficacy beliefs served as more proximal predictors of leader effects, over the hypothesized distal predictors of gender role perspectives. In particular, leadership efficacy emerged as a more influential mediating mechanisms when examined in relation to leadership skills and task self-efficacy beliefs. These findings provide strong support for Bandura's (1997) self-efficacy theory which asserts that efficacy beliefs are the primary mediating mechanism that would explain individual differences in leader conduct.

Additional Hypotheses

Hypothesis 7: There will be cross-sectional differences in self-regulatory mechanisms and leadership effects based on leadership role experience (yes or no) and academic class standing (freshman, sophomore, junior and senior).

In order to determine if there were group differences in self-regulatory mechanisms and leader effects based on previous experience with leadership and class standing, a 4 x 2 between-subjects multivariate analysis was performed on the following leadership skills, efficacy beliefs, and leader effect scores: performance-execution skills, motivational-interpersonal skills, respect-communication skills, leadership efficacy, task self-efficacy, peer score leader effectiveness, and self score leader effectiveness. Independent variables were class standing (freshman, sophomore, junior, and senior) and previous experience with a leadership role (yes and no). The means and standard deviations for each of the dependent variables are presented in Table 8.

Results regarding assumptions of homogeneity of variance-covariance matrices were met with a non-significant Box's M test (F = 1.20, p = .06), while the assumption that each dependent variable had similar variance, using Levene's test statistic, was met for all dependent variables except for motivational-interpersonal skills, F(7,359) = 2.62, p = .01. Using Wilks' Lambda criterion, the combined dependent variables were significantly affected by the main effect of previous experience with leadership, F(9,350) $= 4.93, p = .000, \eta = .11$. The interaction between previous experience with leadership and class standing was also significant, $F(27,1025) = 1.64, p = .001, \eta = .04$. Although the magnitude of this interaction was small.

Follow-up univariate ANOVAs were conducted to identify which factors maximized differences among athletes with previous leadership experience compared to athletes with no leadership experience. The univariate ANOVAs indicated a significant effect for the following regulatory mechanisms: performance-execution leadership skills, $F(1,359) = 8.12, p = .005, \eta = .02$, respect-communication leadership skills, F(1, 359) =


Table 8

ě
ŝ
2
-
a
3
5
6
S
2
2
2
1
õ
5
5
0.
A
2
2
0
ē
S
~
5
~
0
2
5
5
T.
-
-
ta
tano
tandi
tandin
tanding
tanding a
tanding an
tanding ana
tanding and
tanding and P.
tanding and Pre
tanding and Prev
tanding and Previo
tanding and Previou
tanding and Previous
tanding and Previous.
tanding and Previous L
tanding and Previous Lec
tanding and Previous Leac
tanding and Previous Leade
tanding and Previous Leader
tanding and Previous Leadersi
tanding and Previous Leadershi
tanding and Previous Leadership
tanding and Previous Leadership I
tanding and Previous Leadership E
tanding and Previous Leadership Exp
tanding and Previous Leadership Expe
tanding and Previous Leadership Exper
tanding and Previous Leadership Experie
tanding and Previous Leadership Experien
tanding and Previous Leadership Experience

		Leadership	Experience			No Leadership	Experience	
	Senior	Junior	Sophomore	Freshman	Senior	Junior	Sophomore	Freshman
	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
Performance	4.10 (.43)	4.09 (.43)	3.99 (.44)	3.99 (.46)	3.63 (.39)	3.98 (.48)	4.03 (.38)	3.89 (.42)
Execution								
Motivational	4.19 (.61)	4.18 (.52)	4.04 (.51)	3.98 (.50)	4.00 (.34)	3.96 (.58)	3.95 (.42)	3.89 (.67)
Interpersonal								
Respect	4.67 (.42)	4.65 (.39)	4.61 (.41)	4.60 (.41)	4.2 (.50)	4.56 (.51)	4.61 (.32)	4.43 (.52)
Communication								
Leadership	7.09 (.95)	6.91 (1.03)	6.90 (1.20)	6.72 (1.26)	6.33 (1.17)	5.82 (1.74)	6.40 (1.20)	5.59 (1.55)
Tack	8 51/1 201	100 1/ 57 8	8 74 (1 74)	8 18 (1 74)	8 10 (1 47)	7 80 (1 36)	8 13 (1 11)	121 (203)
Self-efficacy								
Peer	3.68 (.86)	3.43 (.87)	3.17 (.83)	3.28 (.84)	2.58 (.59)	2.84 (.80)	3.12 (.73)	2.82 (.97)
Performance								
Score								
Self	4.00 (.94)	3.89 (.82)	3.64 (.82)	3.47 (.93)	3.33 (.78)	3.16 (1.07)	3.41 (.96)	3.45 (.67)
Performance								
Score								

11.13, p = .001, $\eta = .03$, leadership efficacy, F(1, 359) = 27.77, p = .000, $\eta = .07$, and task self-efficacy, F(1, 359) = 8.86, p = .003, $\eta = .02$. Specifically, athletes with leadership experience reported greater importance on the leadership skills and also selfreported higher efficacy beliefs.

Related to leadership effects, there were significant group differences on peerscore performance leadership, F(1, 359) = 24.48, p = .000, $\eta = .06$, self-score performance leadership, F(1, 359) = 12.26, p = .001, $\eta = .03$, peer-score motivational leadership, F(1, 359) = 28.34, p = .000, n = .07, and self-score motivational leadership, $F(1, 359) = 8.05, p = .001, \eta = .02$. Univariate ANOVAs detected group differences by class rank for leadership efficacy, F(3, 359) = 2.63, p = .05, n = .02, and task selfefficacy, F(3, 359) = 2.75, p = .04, $\eta = .02$. Athletes with previous experience with leadership were scored higher by their peers as effective leaders than their teammates in the same class standing who did not have experiences with leadership. Similarly, athletes with previous leadership experiences scored themselves higher on leadership effectiveness than their teammates in the same class standing. Examination of the means also demonstrate potential cross-sectional differences with senior athletes with previous leadership experiences reporting the higher mean scores on self-regulatory mechanisms and effects of leadership. For previous experience with leadership by class standing, there was one significant interaction for peer scores on performance-leader effectiveness, F(3, $(M = 3.27, p = .02, \eta = .03)$. Specifically, seniors with previous leader experiences (M = 1.03). 3.68) were given higher scores than all other athletes, and seniors without leadership experiences (M = 2.58) were scored the lowest out of all groups by their peers. Although,



the magnitude of differences were small, the general trends of these findings provide some interesting information regarding the role of class rank and previous experience with leadership in sport.

Hypothesis 8: Athletes assigned a #1 rank in the boat will report higher mean scores on leadership skills, efficacy beliefs, and leader scores than athletes who were not identified as a leader.

For performance leadership, 128 athletes were identified as the leader in the boat, while the remaining 239 athletes did not receive a #1 ranking for performance leadership. Descriptive statistics are presented in Table 9. To determine if these 2 groups differed, a between-subjects MANOVA was conducted on the following dependent variables: task orientation, ego orientation, leader orientation, agentic attributes, communal attributes, performance-execution skills, motivational-interpersonal skills, respect-communication skills, leadership efficacy, task self-efficacy, and self and peer leader scores. The assumption related to the variance-covariance matrices was not satisfied with a significant Box's M test, (F = 1.27, p = .02), however, Tabachnik and Fiddell (1996) state that MANOVA is robust to violations of homogeneity of variance and recommend using a more stringent alpha when interpreting the results. Therefore, an alpha of .01 was used to determine statistical significance. Non-significant Levene's tested emerged for all of the dependent variables except leadership efficacy, F(1, 365) = 4.57, p = .03, self scores for performance leadership, F(1, 365) = 9.53, p = .002, and self scores for motivational leadership, F(1, 365) = 8.96, p = .003. Results demonstrated a significant multivariate effect with a significant Wilks's Lambda F(15, 351) = 11.78, p = .000. Significant follow-up univariate ANOVAs were identified for leader orientation,

Table 9

	Ranked #1 (N =128)	Not Ranked #1 (N=239)
	M (SD)	M (SD)
Task Orientation	4.39 (.46)	4.36 (.42)
Ego Orientation	2.88 (.76)	2.82 (.70)
Leader Orientation	3.56 (.72)	3.20 (.69)
Agentic	3.77 (.60)	3.64 (.59)
Communal	3.83 (.72)	3.87 (.72)
Performance-Execution Skills	4.01 (.43)	4.00 (.46)
Motivational-Interpersonal Skills	4.04 (.52)	4.04 (.53)
Respect-Communication Skills	4.59 (.44)	4.60 (.43)
Negative Tactics Skills	1.35 (.64)	1.45 (.76)
Leadership Efficacy	7.00 (1.13)	6.49 (1.35)
Task Self-efficacy	8.33 (1.26)	8.10 (1.33)
Peer Score-Performance Leadership	3.85 (.77)	2.89 (.71)
Self Score- Performance Leadership	4.02 (.82)	3.36 (.86)
Peer Score- Motivational Leadership	3.89 (.70)	3.19 (.66)
Self Score- Motivational Leadership	4.08 (.78)	3.62 (.85)

Descriptive Statistics for Athlete ranked #1 Performance Leader versus Athletes Not Ranked #1 in Performance Leadership $F(1, 365) = 22.38, p = .000, \eta = .06$, peer scores for performance-leadership effectiveness, $F(1, 365) = 140.24, p = .000, \eta = .28$, and motivational-leadership effectiveness, $F(1, 365) = 88.84, p = .000, \eta = .20$. Athletes ranked as the #1 leader had higher scores on leader orientation, and were scored higher by their peers on leader effectiveness. The F statistic for agentic attributes approached significance but failed to meet the .01 alpha criterion F(1, 365) = 4.04, p = .05.

Related to motivational leadership, the table of means and standard deviations between athletes ranked #1 (n = 132) and athletes not ranked #1 (n = 235) are presented in Table 10. Assumptions related to equal variance-covariance matrices between the two groups was satisfied with a non-significant Box's M test, (F = 1.09, p = .23). The assumption regarding equal error variances across the two groups was met for all dependent variables except respect-communication skills, F(1, 365) = 9.29, p = .002, negative tactic skills, F(1, 365) = 6.37, p = .01, peer-score performance leadership effectiveness, F(1, 365) = 5.12, p = .02, self-score performance leadership effectiveness, F(1, 365) = 13.38, p = .000, and self-score motivational leadership effectiveness, F(1, 365) = 10.39, p = .001.

The MANOVA test statistic Wilks's Lambda = .76 was significant F(13, 351) =7.49, p = .000, indicating the two groups differed on the combination of dependent variables. To probe the significant MANOVA finding, follow-up ANOVAs were computed. Significant overall F values were obtained for 10 of the 15 dependent variables. Significant differences were observed between the two groups for task orientation, F(1, 365) = 6.06, p = .01, $\eta = .02$, leader orientation, F(1, 365) = 18.65, p =.000, $\eta = .05$, motivational-interpersonal skills, F(1, 365) = 3.85, p = .05, $\eta = .01$,

Table 10

	Ranked #1 (N=132)	Not Ranked #1 (N=235)
	M (SD)	M (SD)
Task Orientation	4.45 (.41)	4.34 (.44)
Ego Orientation	2.89 (.76)	2.82 (.70)
Leader Orientation	3.54 (.73)	3.21 (.69)
Agentic	3.77 (.61)	3.64 (.59)
Communal	3.92 (.69)	3.82 (.73)
Performance-Execution Skills	4.05 (.42)	3.98 (.46)
Motivational-Interpersonal Skills	4.11 (.51)	4.00 (.53)
Respect-Communication Skills	4.67 (.37)	4.55 (.46)
Negative Tactics Skills	1.33 (.66)	1.46 (.75)
Leadership Efficacy	7.04 (1.20)	6.46 (1.31)
Task Self-efficacy	8.39 (1.29)	8.07 (1.31)
Peer Score-Performance Leadership	3.74 (.86)	2.93 (.74)
Self Score- Performance Leadership	3.96 (.81)	3.39 (.89)
Peer Score- Motivational Leadership	3.89 (.70)	3.19 (.66)
Self Score- Motivational Leadership	4.11 (.75)	3.60 (.85)

Descriptive Statistics for Athlete ranked #1 Motivational Leader versus Athletes Not Ranked #1 in Motivational Leadership

leadership efficacy, F(1, 365) = 17.44, p = .000, $\eta = .02$, task self-efficacy, F(1, 365) = 5.22, p = .000, $\eta = .01$, and peer scores for motivational leadership, F(1, 365) = 91.91, p = .000, $\eta = .20$.

Additional Analyses

An exploratory analysis was conducted on the correlates of coach, peer, and selfrankings of performance and motivational leadership. Coaches scores and ranks were collected for only 259 athletes from the current sample, and thus, were examined separately (see Table 11). Athletes who scored higher on agentic attributes, leader goal orientation, leadership efficacy, and task self-efficacy were more likely to receive a better ranking from their coaches and peers on performance leadership. Related to motivational leadership, athletes who reported higher scores on communal attributes, leader goal orientation, and leadership efficacy were more likely to be ranked as a leader by their coaches and teammates.

Table 11

	Coach-	Coach-	Peer-Rank	Peer-Rank	Self-	Self-
	Rank	Rank	Perf.	Mot.	Rank	Rank
	Perf.	Mot.	Leader	Leader	Perf.	Mot.
	Leader	Leader			Leader	Leader
Agentic	17**	09	20***	15*	30***	25***
Communal	05	15*	.02	04	05	14*
Task	11	09	06	12*	04	18**
Ego	08	06	.01	03	08	08
Leader	24***	19**	31***	32***	35***	35***
M-Climate	06	01	.04	07	.06	03
P-Climate	.01	.00	02	.00	03	.01
P-Skills	04	.001	.00	04	10	18**
M-Skills	06	02	02	05	16**	18**
R-Skills	06	08	.04	10	09	11
LE	28***	20***	28***	26***	42***	31***
T-SE	.16**	13*	11	09	24***	21***
CE	.06	.04	.13*	.06	.09	.06
2K Erg Time	.08	.07	.13**	.03	.05	.03

Correlates of Coach, Peer, and Self Rankings of Leadership Effectiveness (n = 259)

Note. Agentic = Agentic attributes; Communal = Communal Attributes; Task = Task Orientation; Ego = Ego Orientation; Leader = Leader Orientation; P-skills = Performance-Execution Skills; M-skills = Motivational-Interpersonal Skills; R-skills = Respect-Communication Skills; LE = Leadership efficacy; SE = Task Self-efficacy CE= Collective Efficacy; Coach rank performance-leader effectiveness; Coach rank motivational-leader effectiveness; Peer rank performance leader effectiveness; Peer rank motivational leader effectiveness; Self rank performance leader effectiveness; Self rank motivational leader effectiveness.

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

Chapter 5

DISCUSSION

The current findings provide an important contribution to the understanding of leadership specific to athletes in an additive type sport, such as the sport of rowing. The primary purpose of this study was to develop and test a conceptual model of leadership in athletes based on Bandura's (1986, 1997) social cognitive theory. The hypothesized model demonstrated an acceptable fit to the data.

Results from the path analysis demonstrated support for the integration of achievement goals with goals that emulated athletes' beliefs about the social reasons for their sport involvement (Blumenfeld, 1992; Urdan & Maehr, 1995). Specifically, individual differences in goal perspectives reflected individual differences in regulatory mechanisms and effects of leadership in athletes. Among the three goal orientations hypothesized to influence leadership skills and efficacy beliefs, task orientation was most closely aligned with the perceived importance of leadership skills. Task orientation was significantly correlated with all three leadership skill dimensions and directly influenced performance-execution and respect-communication skills in the hypothesized model. In contrast, ego orientation predicted only performance-execution skills, while leader goal orientation did not predict any of the leadership skills.

The observed differences among goal orientations highlight the contrast between task and ego orientation that has been established consistently in previous research (Duda, 2001). Task orientation was aligned with effort, skills, and adaptive strategies related to leadership, while ego orientation related only to the performance dimension, that being the perceived importance of performance-execution skills. In contrast, the social goal of leader orientation was not positively related to any of the leadership skills.

Related to team and leader effects, task orientation positively influenced the evaluation of the #1 performance leader and collective efficacy beliefs. In contrast, leader orientation negatively influenced the evaluation of the #1 performance leader and collective efficacy. With an emphasis on task orientation, athletes are more likely to report favorable evaluations of the #1 leader and perceive collective efficacy among their teammates, whereas this is not the case with an emphasis on leader orientation.

However, examination of the path model revealed that the leader goal orientation emerged as the strongest predictor of leadership efficacy, self scores of leader effectiveness, and peer scores of leader effectiveness. Thus, athletes who reported feeling more successful in sport when given the responsibility to lead their teammates, also noted greater confidence in leading teammates, possessed higher self-perceptions of leader effectiveness, and were also scored as more effective leaders by their peers. Leader orientation emerged as a dispositional tendency that differentiated athletes who were more likely to perceive themselves as leaders, and be viewed as leaders by their peers from athletes who were not considered leaders. With an emphasis on leader orientation, the goal is not self-mastery or to demonstrate superior competence in athletic ability, but rather to exercise leadership ability. Therefore, leader orientation relates to leadership in a manner that is different than task and ego orientation; its inclusion allows for a unique perspective of leadership that would not be possible with the examination of only task and ego orientations.

Self-Regulation of Leadership in Athletes

Consistent with previous research (e.g., Chemers et al., 2000; Watson et al., 2001), leadership efficacy emerged as both a direct predictor and a regulating mechanism of leadership. Specifically, leadership efficacy mediated the influence of the hypothesized determinants on team and leader effects. This finding strongly supports Bandura's (1986, 1997) social cognitive theory of self-efficacy with efficacy beliefs serving as the primary mediating function between cognition and leader conduct. Furthermore, athletes who reported greater levels of confidence in their ability to lead their teammates had higher self-reported scores of leadership effectiveness, and were reported as being more effective leaders by their teammates. Higher scores on task self-efficacy, on the other hand, significantly predicted self-reported leader effectiveness scores, but not leader effectiveness scores assigned by teammates. Similar to previous findings (Chemers et al., 2000; Paglis & Green, 2002), leadership efficacy emerged as the stronger predictor for both self- and peer-reported leadership scores.

Previous research has not examined leadership efficacy relative to perceptions of task self-efficacy and collective efficacy (Chan & Drasgow, 2001; Chemers et al., 2000; Paglis & Green, 2002). The current investigation provides a significant contribution to the self-efficacy literature with the simultaneous examination of leadership efficacy relative to task self-efficacy and collective efficacy beliefs. Leadership efficacy emerged as the strongest predictor of leader effects (i.e., self and peer leader scores), while task self-efficacy emerged as the stronger predictor of the team effect, collective efficacy. This distinction among the three efficacy measures demonstrated discriminant validity and highlighted the important role of leadership efficacy in the hypothesized conceptual

model of leadership in athletes. Although the path analysis findings demonstrated that task self-efficacy partially mediated the relationship between determinants and leader effects, and predicted self -scores of leader effectiveness, it was the perceptions of leadership efficacy that emerged as a strongest mediator and predictor of leader effects in the conceptual model. Therefore, the finding that leadership efficacy predicts leadership above and beyond self-efficacy suggests that the confidence specific to leading others is a more influential characteristic of leadership.

In addition to efficacy beliefs, leadership skills were hypothesized to directly influence leader effects and function as a regulating mechanism between determinants and leader effects. Higher scores on performance-execution skills directly predicted the evaluation of the #1 performance leader. The only other set of skills to emerge as significant predictors of leader effects were the skills related to respect-communication, which predicted leader evaluation and peer scores of leader effectiveness. Although leadership skills did not provide as strong a mediation effect as leadership efficacy on the relationship between determinants and leader effects, leadership skills reflected athletes' perceptions of what skills were important in the athlete leader role.

One interesting finding regarding leadership skills was the inability to measure negative tactics used by leaders to influence followers. This dimension of leadership skills failed to emerge with an acceptable level of reliability and was subsequently removed from the final analysis. Future research should consider different approaches such as qualitative to assess negative tactics used to lead others. Limited research exists on leadership skills (Mumford et al., 2000a, 2000b) and to date, no research has examined the construct of leadership skills in the sport setting. By differentiating the

types of skills that can be used in leadership situations, the current investigation distinguished skill/strategy preferences and provided a better understanding of what types of leadership skills exist in the sport of rowing. For example, athletes who utilized performance-execution skills (e.g., have the ability to identify performance related problems) were more likely to be evaluated as effective leaders by their teammates. *Gender Role and Leadership*

As hypothesized, the current findings established differential patterns of selfregulatory mechanisms of leadership skills and confidence given one's gender role perspective. Specifically, agentic attributes significantly predicted performance-execution skills, leadership efficacy and task self-efficacy. Consistent with Eagly's (1987) perspective of the agentic approach to leadership, athletes with a stronger disposition toward agentic characteristics were more inclined to report the importance of performance related skills in leading their teammates, and reported greater confidence to lead others and perform rowing skills successfully. The performance related dimensions of leadership in addition to perceptions of efficacy were key components of the agentic approach to leadership. Similar to the agentic perspective, communal attributes positively predicted performance-execution skills, leadership efficacy, and task self-efficacy. However, the strength of the influence of communal attributes on these regulatory mechanisms was not as strong as the agentic influence. Furthermore, communal attributes positively predicted motivational-interpersonal skills and respect-communication skills. The influence of communal attributes on regulatory mechanisms of leadership was distinguished by the interpersonal dimensions of leadership.

Although the direct effects from agentic and communal attributes on leader effects did not emerge, there were significant indirect effects, which represented the strongest demonstration of a mediator effect. Agentic attributes indirectly influenced selfand peer scores of leadership effectiveness through leadership skills, leadership efficacy, and task self-efficacy, with the strongest of these indirect effects being leadership efficacy. This significant indirect effect also emerged for the relationship between communal attributes and self-score of leader effectiveness. Thus, gender-role perspectives influence leader effects via the skills and confidence beliefs used in leadership behavior.

Consistent with the findings from Glenn and Horn (1993), agentic attributes were positively correlated with coach and peer rankings of performance leadership. However, when performance leadership was contrasted with motivational leadership, communal attributes emerged as the stronger correlate. Therefore, for this sample of female athletes, both gender perspectives were associated with effective leadership. The distinction in leadership dimensions has not been investigated in previous research on leadership in athletes. The current study allows for the distinct differentiation between agentic and communal attributes in the sport context. Recently, Yoder (2001) claimed that in order for researchers to understand effective leadership, a gender-sensitive model of effective leadership must be adopted. Specifically, the potential moderating influence of the interaction between the leader gender and the gender congeniality of the context should be examined relative to the roles and responsibilities of leaders and their effectiveness. In the traditional masculine context of sport, both agentic and communal approaches to leadership were valued with the current sample of athletes. Thus, the current investigation

provided additional information regarding the simultaneous occupation of the athlete, leader, and female roles.

Structural Achievement Goals and Leadership

A significant pattern of regulatory mechanisms of leadership also emerged relative to individual differences in the subjective appraisal of the motivational climate. Achievement goal theory suggests (Ames, 1992a; Nicholls, 1992) that the way in which adults organize their environment will increase the likelihood that a particular achievement behavior or goals will be adopted. In other words, the environment can be structured to increase the probability that athletes will choose a more adaptive approach to leadership. The current findings suggest that one way coaches can develop leadership in their athletes is through the situational goal structure of their sport team. Specifically, mastery motivational climate demonstrated a consistent and significant relationship with all leadership skills, whereas performance climate significantly influenced only the perceived importance of performance-execution skills. The emphasis of a mastery climate will encourage manageable leadership strategies that foster collaboration, learning, and effort, all of which are in control of the athlete at both the individual and group levels. However, perceptions of favoritism and an emphasis on normative comparison will not only decrease the salience of leadership skills but may also render a perception of uncontrollability both for the individual athlete, and the collective group working toward a common goal. Although perceived motivational climate did not directly predict leader effects as hypothesized, the perceived climate in which the athlete was performing in did influence the types of skills and strategies that were used in leadership situations.

Implications for Coaches

The emergence of leader-goal orientation as a significant predictor of leadership efficacy and leader effectiveness scores provides an explanation as to why certain athletes were identified as leaders. Individual differences in the desire to, and the importance of leading others significantly influenced their confidence to take on leadership responsibilities and their effectiveness in doing so. Thus, coaches who seek to identify athletes as potential leaders should consider the dispositional tendency, or leader orientation of their athletes. Perhaps more importantly, coaches have the ability to influence leadership potential by enhancing leadership efficacy in their athletes. By providing athletes with mastery experiences specific to leadership situations, athletes will feel more confident in performing subsequent leadership activities and responsibilities.

A second important finding for coaches pertains to the association between mastery motivational climate and leadership skills. With an emphasis on a mastery goal structure, coaches may make the use of leadership skills more obvious and accessible to the athletes. Coaches can initiate and manage the development of leadership skills by mentoring athletes during the process of acquiring and refining the various skills that foster leadership behavior. Therefore, coaches may groom future leaders by establishing a mastery motivational climate making the use of leadership skills available to athletes, by providing leadership opportunities that develop mastery experiences and enhance efficacy beliefs in leadership.

The current findings not only fill a significant void in the sport psychology literature, but also contribute to better understanding of how athletes perceive leadership in sport, what characteristics they value in a leader, their confidence to lead others, and

whether they identify with peer leaders. This information can be used by coaches, parents, and sport psychology practitioners to improve the teaching and development of leadership through experiences in sport.

The development of effective leadership demands time and involvement from the coach to teach athletes to think for themselves and develop a sense of independence while at the same time, learning to work with each other. By using team sport participation to emphasize the development of the fundamental skills that result in leadership, coaches can provide athletes with the opportunity to acquire interpersonal and relation-management skills. Coaches who make an effort not only to develop the physical competence but also to foster social competence may provide their athletes with long lasting skills that could beneficially impact their lives beyond sport.

Implications for Future Research

The purpose of this research was to provide an understanding of the leadership process and guidance for future research in this area by validating and testing a conceptual model of leadership in athletes. The learning, development, and exercise of leadership represent a dynamic process, which is difficult to measure and operationalize. As with any complex and dynamic intra-team interaction, it is important to acknowledge there are other variables that may influence the leadership process that will not be included in the current investigation. Furthermore, with a one-time assessment the dynamic process of leadership over time was not taken into account. The current investigation assessed beliefs regarding leadership at the beginning of a racing season, therefore, it is important to note that a lot of changes may have occurred over the course of the season that may have had a significant impact on the leadership process. In order to

explore the dynamic changes in leadership, future research should examine leadership over the entire course of the rowing season in order to assess the emergent patterns that may occur.

Conclusions

To date, a limited amount of research on leadership in athletes exists. Beyond the testing of a conceptual model based on theory, research in sport needed additional research that identified skills and characteristics that would differentiate potential leaders from non-leaders. The current investigation identified the personal and situational characteristics of leader goal orientation and mastery motivational climate as distinguishing qualities of the leadership process in athletes. Individual differences in the regulatory mechanism of leadership efficacy also further distinguished athletes who were more likely to be identified as leaders of their teammates.

APPENDICES

APPENDIX A Demographic Background Questionnaire

Initials	:		Birth]	Date:	/	//	T	oday's	Date: _	//
Age : _			Year Fr Sc Ju Se	in Scho eshman ophomo nior enior	re			G ender ⊐ Mal ⊐ Ferr	e nale	
Current	t Crew F	Program:						Head C	Coach: _	
Coach	who spe	nds the m	ost time	with yo	ou: _	<u> </u>				
How lo (e.g., 4	ong have years ar	you rowe nd 3 mont	ed in a co hs)	ompetiti	ive	program? _				
How lo	ng have	you row	ed in coll	ege?						
Are you scholar	u on an a ship?	athletic	🗖 Fi	ıll Scho	lars	hip 🗆 P	Partia	al Scho	larship	None
How in	nportan	t is rowir	ng to you	?						
	0 I Not at al Importai	l 2 Il nt	3	4	5	6 Somewhat Important	7	8	9	10 Extremely Important
How g	ood are	you at rov	wing?							
	0 l Not at al Good	1 2 11	3	4	5	6 Somewhat Good	7	8	9	10 Extremely Good
What is	s your b	est 2K er	g time tl	his year	•			_?		
What is	s your a l	ll-time pe	ersonal b	est 2K				_?		
Please	circle th	e percen	tage of ti	ime you	1 CO	mpete in a	prio	ority bo	oat:	
	0 Never	10 20	30	40 Sor	neti	50 60 mes		70	80	90 100 Always

9.7

.

-

1

Have you experien	ced a	n illnes	s or in	jury w	vithin tl	ne last 6 i	nonths?	YES	NO
If yes, please descri	be								
Were you allowed t	o pra	ctice o	r comp	oete wi	th this i	llness or i	njury?	YES	NO
If no, how long wer	e you	remov	ed fror	n pract	ice or c	ompetitio	n?		
What boat are you (i.e., Varsity "A" 8-	currer +, JV	ntly rov "B" 4+	ving in etc.)	?					
What seat are you of (i.e., 2 seat in V8+,	curren 3 seat	tly row t in JV4	ving in? 1+ etc.)	,)			<u> </u>		
Have you switched this competitive sea	seat ison (s	positio say Feb	ns sinc))?	e the b	eginnin	g of	YES	NO	
If yes, what seats h	ave y	'ou row	ved in	for mo	re than (3 consecu	tive days?		
Have you ever held (i.e., team captain, s	a lea studer	dershij It cound	p role (cil)	of any	kind?		YES	NO	
If yes, what kind of	lead	ership	experi	ences l	nave you	ı had?			
Are you a team ca	otain	this yea	ar? Y	ES	NO				
Do you consider yo	ourself	to be a	a leade	r in cr	ew? Y	YES NO	D		
How important is	being	a lead	er to y	ou?					
0 l Not at all Important	2	3	4	5	6 Somewh Importan	7 at t	89	10 Extren Import	nely tant

APPENDIX B Gender Role Orientations

	Not at all		Somewhat	Т Б	otally
1 Defend my own beliefs	1	2	3	4	5
2 Have leadership abilities	1	2	3	4	5
3 Affectionate	1	2	3	4	5
4 Fager to soothe hurt feelings	1	2	3	4	5
5. Conscientious	1	2	3	4	5
6. Secretive	1	2	3	4	5
7. Independent	1	2	3	4	5
8. Willing to take risks	1	2	3	4	5
9. Sympathetic	1	2	3	4	5
10. Warm	1	2	3	4	5
11. Moody	1	2	3	4	5
12. Adaptable	1	2	3	4	5
13. Assertive	1	2	3	4	5
14. Dominant	1	2	3	4	5
15. Sensitive to needs of others	1	2	3	4	5
16. Tender	1	2	3	4	5
17. Reliable	1	2	3	4	5
18. Conceited	1	2	3	4	5
19. Strong Personality	1	2	3	4	5
20. Willing to take a stand	1	2	3	4	5
21. Understanding	1	2	3	4	5
22. Love children	1	2	3	4	5
23. Jealous	1	2	3	4	5
24. Tactful	1	2	3	4	5
25. Forceful	1	2	3	4	5
26. Aggressive	1	2	3	4	5
27. Compassionate	1	2	3	4	5
28. Gentle	1	2	3	4	5
29. Truthful	1	2	3	4	5
30. Conventional	1	2	3	4	5

<u>Directions</u>: Please indicate how each of these characteristics describe your true **personality**.

APPENDIX C Goal Orientations

<u>Directions</u>: Please read each of the statements listed below and indicate how much you personally agree with each statement by circling the appropriate response.

I feel most successful in rowing when...

	Strongly Disagree	Disagree	Neutral	Agree	Stro Ag	ngly ree
1. I outperform everyone else on my te	am.	1	2	3	4	5
2. I make improvements and it makes want to practice more.	me	1 2	2	3	4	5
3. I can do better than my friends.		1	2	3	4	5
4. My teammates look up to me.	· · · · · · · · · · · · · · · · · · ·		2	3	4	5
5. Other rowers can't do as well as me.		l 2	2	3	4	5
6. I learn something that is fun to do.		1 2	2	3	4	5
7. Other rowers' mess-up and I don't.]	1	2	3	4	5
8. I'm in charge of my teammates.		l :	2	3	4	5
9. I make improvements by trying hard	d . 1	l 2	2	3	4	5
10. I work really hard.			2	3	4	5
11. I lead by example.]	1 2	2	3	4	5
12. I outperform others on the erg.]	l	2	3	4	5
13. Something I learn makes me want t	to 1	l ź	2	3	4	5
go and practice more.						
14. My teammates consider me as the leader of our boat.		1 2	2	3	4	5
15. I'm the best.]	1	2	3	4	5
16. A skill I learn really feels right.]		2	3	4	5
17. I do my very best.	j	1	2	3	4	5
18. I organize what my teammates do.]		2	3	4	5
19. I'm in a boat that wins races.]	1	2	3	4	5
20. I work together with my teammates	. 1	l :	2	3	4	5

APPENDIX D Motivational Climate

<u>Directions</u>: Please read each of the following statements carefully and respond to each item in terms of how you view the head coach of the program. Circle the number that best represents how you feel.

On this team.....

		Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1.	the coach gets mad when a rower	<u> </u>				• • • • • • • • • • • • • • • • • • •
	makes a mistake.	1	2	3	4	5
2.	each rower contributes in some	1	2	3	4	5
	important way					
3.	the coach believes that all of us					
	have the potential to become	1	2	3	4	5
	leaders.					
4.	the coach praises rowers only when					
	they outperform each other.	1	2	3	4	5
5.	rowers feel good when they are					
<u> </u>	given leadership responsibilities.	1	2	3	4	5
6.	rowers are dropped from the boat if	_				
	they continually make mistakes.	1	2	3	4	5
7.	rowers at all skill levels have an		_	_		_
	important role on the team.	1	2	3	4	5
8.	the coach makes sure rowers		•	•		_
	improve on skills they're not good	I	2	3	4	5
	al.					
У.	only the rowers with the best skills	1	2	3	4	5
10	get praise.					
10.	developing leadership skills	1	2	2	4	5
<u> </u>	the coach encourages athletes to	1	Z	3	4	
11.	help each other learn	1	n	2	4	5
12	the coach makes it clear who he/she	I	<u>L</u>			
12.	thinks are the leaders	1	2	3	Λ	5
13	rowers understand who the		<u>L</u>			
15.	designated leaders are for each boat	1	2	3	A	5
		•	2	5	-	5
14.	the coach emphasizes always trying					
	your best.	1	2	3	4	5
15.	only the top athletes 'get noticed' by					
	the	1	2	3	4	5
	coach.					
16.	the coach wants each of us to					
	develop the skills necessary to	1	2	3	4	5
	become leaders in our sport.					
17.	the coach favors some rowers more		_			_
	than others.	1	2	3	4	5
18.	the coach thinks only the best		-	_		_
	athletes contribute to the success of	1	2	3	4	5
	the team					

APPENDIX E Task Self-efficacy

<u>Directions</u>: Please think about your personal performance in the sport of rowing and how confident you are for this upcoming regatta. Read each of the statements listed below and indicate how confident you are for each statement.

How confident are you that YOU.....

	No Co	ot at onfi	all den	t	Son Co	new nfid	hat ent	Completely Confident				
1. can successfully execute the race plan	0	1	2	3	4	5	6	7	8	9	10	
2. can maintain efficient technique												
throughout the race	0	1	2	3	4	5	6	7	8	9	10	
3. have the stamina to successfully hold												
your desired stroke rate/boat speed	0	1	2	3	4	5	6	7	8	9	10	
4. can make a significant contribution to							_					
your boat winning a race	0	l	2	3	4	5	6	7	8	9	10	
5. can use the physical skills necessary to												
be successful	0	1	2	3	4	5	6	7	8	9	10	
6. can use the mental skills necessary to												
be successful	0	1	2	3	4	5	6	7	8	9	10	
7. contribute to your boat's ability to row												
it's fastest time	0	1	2	3	4	5	6	7	8	9	10	

ТΙ.

APPENDIX F Leader Efficacy

<u>Directions</u>: Please think about your confidence in your ability to be a leader in your boat and respond to the questions below.

How confident are you that you can.....

	Not at all				Son	new	hat		Com	ple	tely
	Co	onfi	den	t	Co	nfid	ent		Con	fide	ent
1. Organize boat members to successfully											
prepare boat for travel (e.g., place boats,											
oars, and other equipment on trailer).	0	1	2	3	4	5	6	7	8	9	10
2. Organize boat members to complete boat				-							
preparation (i.e., clean and rig the boat).	0	l	2	3	4	5	6	7	8	9	10
3. Calm boat members' nerves before testing or											
competition.	0	1	2	3	4	5	6	7	8	9	10
4. "Take charge" when you have to.	0	1	2	3	4	5	6	7	8	9	10
5. Get teammates to pull harder.	0	1	2	3	4	5	6	7	8	9	10
6. Encourage all boat members to maintain an efficient training regimen (i.e., attend all practices weightlifting sessions etc.)	0	1	2	3	4	5	6	7	8	9	10
7. Perform well as a leader across different			_					·····			
situations.	0	1	2	3	4	5	6	7	8	9	10
8. Provide inspiration for other boat members.	0	1	2	3	4	5	6	7	8	9	10
9. Be the "go to" person and lead the boat to a											
successful performance.	0	1	2	3	4	5	6	7	8	9	10
10. Encourage all boat members to maintain a healthy lifestyle (i.e., proper nutrition, rest/recovery/ injury prevention, etc.)	0	1	2	3	4	5	6	7	8	9	10
11. Successfully build boat members' confidence.	0	1	2	3	4	5	6	7	8	9	10
12. Set reachable goals for your crew.	0	1	2	3	4	5	6	7	8	9	10
13. Intimidate others into performing well	0	1	2	3	4	5	6	7	8	9	10
14. Discipline other teammates when appropriate.	0	1	2	3	4	5	6	7	8	9	10
15. Encourage teammates to "win at all cost,"											
(e.g., jump the start or cheat).	0	1	2	3	4	5	6	7	8	9	10

APPENDIX G Leadership Skills

<u>Directions</u>: Please think about **leadership in rowing** and rate the importance of each statement below.

It is important for an athlete leader to.....

	Not at all		Somewh	at	Very		
	Impo	ortant	Importa	nt	Important		
1. Be the "go to" person in a time							
of need	1	2	3	4	5		
2. Be sensitive to the needs of							
every teammate	1	2	3	4	5		
3. Set performance goals for the							
team	1	2	3	4	5		
4. Do anything to win (e.g., jump							
the start, or cheat, etc.)	1	2	3	4	5		
5. Make others perform better							
through example	1	2	3	4	5		
6. Display 100% effort	1	2	3	4	5		
7. Console teammates when they							
are frustrated	1	2	3	4	5		
8. Be respected by teammates	1	2	3	4	5		
9. Have confidence in his/her							
ability to lead others	1	2	3	4	5		
10. Keep teammates calm before							
competition	1	2	3	4	5		
11. Intimidate others to get the	1	2	3	4	5		
work done							
12. Resolve conflict between	1	2	3	4	5		
teammates							
13. Be one of the best athletes on	1	2	3	4	5		
a team							
14. Foster "togetherness" or	1	2	3	4	5		
cohesion							
15. Handle pressure situations	1	2	3	4	5		
16. Communicate effectively with	1	2	3	4	5		
teammates							
17. Be respected by coaches	1	2	3	4	5		
18. Have the ability to identify							
performance related problems	1	2	3	4	5		
19. Provide external motivators							
(e.g., foster team-bonding							
situations, develop team							
identity, etc.)	1	2	3	4	5		
20. Encourage teammates to win							
at all cost (e.g., jump the start			_				
or cheat)	1	2	3	4	5		

					_	
21. Serve as the liaison between coach and teammates	1	2	3	4	5	
22. Help the team win by rowing	1	2	3	4	5	
the fastest						
23. "Call someone out" who is	1	2	3	4	5	
not giving 100%						
24. Behave responsibly	1	2	3	4	5	
25. Delegate responsibility to	1	2	3	4	5	
teammates						
26. Communicate effectively with	1	2	3	4	5	
coaches						

APPENDIX H Performance Leadership Identification

PLEASE REFER TO THE BOAT YOU ARE CURRENTLY ROWING IN

<u>Directions</u>: A performance leader is a crew member who is considered to be the "go to" person, is competent, masterful, assertive, confident, and may lead a boat toward a successful performance outcome. A successful performance outcome may include an improved race time or winning a race. Please think of the person in your boat who is a performance leader.

- 1. List the name or initials of each person in your boat (i.e., varsity top Eight).
- 2. After you have identified each member, please provide each person with a score reflecting his/her leadership capability using the scale of 1 to 5 listed below.
- 3. After providing a leadership score, **rank** each member starting with the one person you consider to be the leader (i.e., rank #1), followed by the next member you consider to be the second best leader on the team (i.e., #2) until all members are ranked. Please include only those members that are in your boat and include yourself. If you feel that there is a tie between members, please try your best to distinguish them and give each athlete a different score.

Be assured that your answers will remain confidential and no one except me will see your responses.

1	2 3	4	5
Not at all	Some	what	Entirely
Effective	Effec	tive	Effective
	Name or initials	Leadership Score	Leadership
	(please complete this section	ranging from 1 to 5	Kank
	FIRST)	(please complete this	(please
		section SECOND)	complete this
			section
			LAST)
example	Deb F. or DF	4	#3
example	Michelle M. or MM	2	#9
Seat 1			
Seat 2			
Seat 3			
Seat 4			
Seat 5	<u> </u>		
Seat 6	· · · · · · · · · · · · · · · · · · ·		
Seat 7			
Seat 8			
СОХ			

Boat Performance Leader Scale

APPENDIX I Motivational Leader Identification

Now we want you to think of the person who has the capability to **motivate** your crew. This type of leadership is not limited to performance and may include interactions both in and out of the boat.

Please rate each crew member on his/her motivational leadership based on the scale below and provide a rank for each member in your boat and include yourself.

Be assured that your answers will remain confidential and no one except me will see your responses.

Boat Motivation Leader Scale

1	2	3	4	5
Not at all		Somewhat	Ι	Entirely
Effective		Effective	I	Effective

	Name or initials (please complete this section FIRST)	Leadership Score ranging from 1 to 5 (please complete this section SECOND)	Leadership Rank (please complete this section LAST)
Seat 1			
Seat 2			
Seat 3			
Seat 4			
Seat 5			
Seat 6			
Seat 7			
Seat 8			
COX			

Examples of motivational leadership are: encouraging teammates to stay tough and work through the pain (i.e., on the erg or during a race), resolving conflict between members of the boat, acting unselfishly, showing concern for others, or helping teammates calm their nerves before testing and competitions.

APPENDIX J Peer Performance Leader Evaluation

<u>Directions</u>: Please rate the person you consider the **performance leader** (ranked #1) on the following characteristics

Name or initials:	Seat #	:			
1. How often does this individual contribute to		all	Somewhat	All o tii	f the ne
1. How often does this individual contribute to successful performances?	1	2	3	4	5
2. How often is this athlete a performance leader?	1	2	3	4	5
3. How often does this athlete display a hard work ethic?	1	2	3	4	5
4. How often does this athlete perform at his/her highest level?	1	2	3	4	5

APPENDIX K Peer Motivational Leader Evaluation

<u>Directions</u>: Please rate the person you consider the **motivational leader** (ranked #1) on the following characteristics

Name or initials:	Seat#:									
	Not a	nt all	Somewhat	All ti	of the ime					
1. How often does this individual motivate you to do your best?	1	2	3	4	5					
2. How often is this athlete a motivational leader?	1	2	3	4	5					
3. How often does this athlete display a positive attitude?	1	2	3	4	5					
4. How often does this athlete perform at his/her highest level?	1	2	3	4	5					

l

APPENDIX L Self Performance and Motivational Leader Evaluation

<u>Directions</u>: Please think about your own capabilities as a leader in the sport of rowing and answer the following questions below about your leadership capabilities.

		t all	Somewhat	All o tiı	of the me
1. How often do you contribute	1	2	3	4	5
to successful performances?					
2. How often are you a performance leader ?	1	2	3	4	5
3. How often do you display a hard work ethic?	1	2	3	4	5
4. How often do you perform at your highest level?	1	2	3	4	5
5. How often do you motivate your teammates to do their best?	1	2	3	4	5
6. How often are you a motivational leader?	1	2	3	4	5
7. How often do you display a positive attitude?	1	2	3	4	5

APPENDIX M Crew Efficacy

<u>Directions</u>: Now think about how confident you are in your crew's ability to perform in this upcoming regatta. Read each of the statements listed below and indicate how confident you are for each statement.

How confident are you that your CREW.....

	Not at all			Somewhat-			Completely			tely	
	Co	nfi	den	t	Co	nfid	ent-	(Con	fide	nt
1. can successfully execute the race plan	0	1	2	3	4	5	6	7	8	9	10
2. can maintain efficient technique	0	1	2	3	4	5	6	7	8	9	10
throughout the race											
3. has the stamina to successfully hold its											
desired stroke rate/boat speed	0	1	2	3	4	5	6	7	8	9	10
4. can win the race	0	1	2	3	4	5	6	7	8	9	10
5. can use the physical skills necessary to be	0	1	2	3	4	5	6	7	8	9	10
successful											
6. can use the mental skills necessary to be	0	1	2	3	4	5	6	7	8	9	10
successful											
7. can row it's fastest time	0	1	2	3	4	5	6	7	8	9	10
APPENDIX N Coach's Packet

Initials:	I	Birth Date	:/	′ <u> </u>		Foday's D	ate:	_//_
College Program	n:					Gender	: Ma	le Femal
Is your program	a varsity-f	unded prog	gram or	r a club	sport?	Vars	sity	Club
Do you have ath	etic schol	arships ava	ilable t	o give	to your	athletes?	YE	S NO
Coaching Expe	ience							
How many years	have you	been coacl	hing co	llege r	owing	?		
How many years	have you	been coacl	hing at	your c	urrent i	nstitution?)	
What boat(s) are	you coacl	ning this ye	ear?					
	•							
What different le international)?	vels of ro	wing have	you coa	ached ((i.e., hig	gh school,	college	e novice,
What different le international)?	vels of ro	wing have	you coa	ached ((i.e., hig	gh school,	college	e novice,
What different le international)? How important 0 1 Not at all Importan	is coachin 2	wing have	you coa to you? 4	5 Somev Impor	(i.e., hig 6 what tant	gh school,	college 8 1	9 10 Extremely Important
What different le international)? How important 0 1 Not at all Importan	is coachin 2 t ou at coac	wing have	you coa to you? 4 ng?	5 Somev Impor	(i.e., hig 6 what tant	gh school,	college 8	9 10 Extremely Important

Boat Selection Method

How much importance do you place on seat racing when determining boat selection?

0	1	2	3	4	5	6	7	8	9	10
Not a	at all				Som	newhat			Extre	emely
Impo	ortant				Imp	ortant			Impo	ortant

How much importance do you place on erg scores when determining boat selection?

0	1	2	3	4	5	6	7	8	9	10
Not a	at all				Som	lewhat			Extre	emely
Impo	ortant				Imp	ortant			Impo	ortant

How much importance do you place on **athlete body size** when determining boat selection?

0	1	2	3	4	5	6	7	8	9	10
Not a	it all				Son	newhat			Extre	emely
Impo	rtant				Imp	ortant			Impo	ortant

How much importance do you place on athlete **physiological measures** (e.g., VO2max) when determining boat selection?

0	1	2	3	4	5	6	7	8	9	10
Not at	all				Son	newhat			Extre	emely
Impor	tant				Imp	ortant			Impo	ortant

How much importance do you place on **attitude** (e.g., dedicated, outgoing, positive, etc.) when determining boat selection?

0	1	2	3	4	5	6	7	8	9	10
Not at	all				newhat			Extre	emely	
Impor	tant				Imp	ortant			Impo	ortant

How much importance do you place on **your own expertise** when determining boat selection?

0	1	2	3	4	5	6	7	8	9	10
Not at	all				Som	lewhat			Extre	emely
Impor	tant				Imp	ortant			Impo	ortant

Leadership Experience

What were your experiences with leadership while you were competing as an athlete?

How important is leadership in athletes to you?

0	1	2	3	4	5	6	7	8	9	10
Not	at all				Som	newhat			Extre	emely
Impo	ortant				Imp	ortant			Impo	ortant

Would you consider **leadership skill development in your athletes** to be a priority in your coaching philosophy?

0	1	2	3	4	5	6	7	8	9	10
Not	at all				Som	newhat			Very	much
a pri	ority				of a	priority			of a j	priority

Do you designate leaders (captains) at the beginning of the season? YES NO

What is the method used to select leaders (captains) for the entire team?

What is the method used to select leaders for each boat?

What do you look for in a leader of your rowers?

Instructions for Leadership Ranking

You are being asked to rank the leadership abilities of the group of athletes performing in **2 boats** (preferably the top Eight and the second Eight). Please make sure that the group of athletes you have listed in the boat is consistent with the same group of crew members the athletes will be ranking. For example, all 9 athletes designated to row in the top varsity Eight for the purpose of this exercise should know who they are and who they should consider for the leader rankings. There should be no discrepancy between the group of athletes you are ranking and the group of boatmembers the athletes are ranking. Your list of athletes will be used as the master roster and will be referred to in order to resolve any discrepancies among the athletes' responses regarding boat membership.

I have enclosed ranking forms for you to rank 2 boats, however, please feel free to photocopy extra forms to rank additional boats.

Please make sure you list the entire name of all athletes in each boat. Do not include yourself or assistant coaches in the ranking.

A performance leader is a crew member who is considered the "go to" person and is capable of leading a boat toward a successful performance outcome. A successful performance outcome may include an improved race time or winning a race. Please think of the person in the boat who is a performance leader.

- 4. List the name of all athletes in the boat (i.e., varsity top Eight) on the next page.
- 5. After you have listed the name of each athlete, please provide each person with a score reflecting his/her leadership capability using the scale of 1 to 5 listed on the next page.
- 6. After providing a leadership score, **rank** each athlete starting with the **one person** you consider to be the leader (i.e., rank #1), followed by the next member you consider to be the second best leader in the boat (i.e., #2) until all members are ranked. If you feel that there is a tie between members, please try your best to distinguish them and give each athlete a different rank.



PERFORMANCE LEADERSHIP RANKING-BOAT #1

BOAT #1:______ (i.e., varsity top Eight)

Examples: athlete who is considered the "go to" person, is competent, masterful, assertive, confident, and contributes to improved race time or winning a race.

Performance Leader Scale

1	2	3	5
Not at all		Somewhat	Entirely
Effective		Effective	Effective

	Name (please complete this section FIRST)	Leadership Score ranging from 1 to 5 (please complete this section SECOND)	Leadership Rank (please complete this section LAST)
Example	Deb Feltz	4	#3
Example	Michelle Magyar	2	#10
Seat 1			
Seat 2			
Seat 3			
Seat 4			
Seat 5			
Seat 6			
Seat 7			
Seat 8			
COX			

MOTIVATIONAL LEADERSHIP RANKING-BOAT #1

Now we want you to think of the person who has the capability to **motivate** the boat. This type of leadership is not limited to performance and may include interactions both in and out of the boat.

Please rate each athlete on his/her **motivational leadership** based on the scale below and provide a rank for each crew member.

□ Examples of motivational leadership are: encouraging teammates to stay tough and work through the pain (i.e., on the erg or during a race), resolving conflict between members of the boat, acting unselfishly, showing concern for others, or helping teammates calm their nerves before testing and competitions.

Boat Motivational Leader Scale

1	2	3	4	5
Not at all		Somewhat		Entirely
Effective		Effective		Effective

	Name (please complete this section FIRST)	Leadership Score ranging from 1 to 5 (please complete this section SECOND)	Leadership Rank (please complete this section LAST)
Example	Deb Feltz	4	#3
Example	Michelle Magyar	2	#10
Seat 1			
Seat 2			
Seat 3			
Seat 4			
Seat 5			
Seat 6			
Seat 7			
Seat 8			
COX			

TABLES

Table
<u><u> </u></u>

ĕ
SC
3.
<i>z</i>
ž
0
S
â
E.
Sti
3
2
Ľ
S
e J
\mathbf{P}
R
00
n I
5
õ
J.
~
_
Me
Meci
Mecho
Mechan
Mechanis
Mechanism
Mechanisms
Mechanisms of
Mechanisms of L
Mechanisms of Lev
Mechanisms of Leaa
Mechanisms of Leade
Mechanisms of Leaders
Mechanisms of Leadershi
Mechanisms of Leadership
Mechanisms of Leadership (1
Mechanisms of Leadership (N
Mechanisms of Leadership (N =
Mechanisms of Leadership ($N = 3$)
Mechanisms of Leadership (N = 36)
Mechanisms of Leadership $(N = 367)$

	Mean	SD	Skewness	Kurtosis	Minimum	Maximum
Personal and Situational Determinants						
Rowing Experience	2.32	1.84	1.05	0.28	0.58	9.00
Rowing Importance	8.21	1.36	-0.83	1.26	3.00	10.00
Perceived Ability	6.78	1.32	-0.80	1.35	1.00	9.00
Leader Importance	7.45	2.01	-0.94	1.06	0.00	10.00
Agentic Attributes	3.69	0.60	-0.02	-0.53	1.90	5.00
Communal Attributes	3.86	0.72	-0.36	-0.36	1.70	5.00
Task Orientation	4.38	0.43	-0.54	0.05	2.75	5.00
Ego Orientation	2.84	0.73	0.18	-0.03	1.14	5.00
Leader Orientation	3.33	0.72	0.02	-0.37	1.20	5.00
Mastery Climate	4.06	0.59	-0.95	1.37	1.80	5.00
Performance Climate	2.82	0.70	0.32	0.11	1.00	5.00
Self-regulatory Mechanisms						
Performance-Execution Skills	4.00	0.45	-0.19	-0.16	2.40	5.00
Motivational-Interpersonal Skills	4.03	0.53	-0.14	-0.36	2.57	5.00
Respect-Communication Skills	4.60	0.43	-1.03	0.45	3.00	5.00
Leadership Efficacy	7.01	1.37	-0.71	1.12	1.47	9.47
Task Self-efficacy	8.14	1.29	-1.45	4.25	0.57	10.00
Collective Efficacy	7.90	1.57	-1.03	1.23	1.14	10.00

NAMES AND TAXABLE PARTIES TO DESCRIPTION OF A DESCRIPTION

Construction of the second second second

Table O-2

Descriptive Statistics of Leader Effects (N = 367)

	Mean	SD	Skewness	Kurtosis	Minimum	Maximum
Leader Effects						
Peer Score Performance-Leader Effectiveness	3.22	0.87	0.05	-0.66	1.00	5.00
Peer Rank Performance-Leader Effectiveness	4.72	2.05	0.04	-0.85	0.71	10.00
Self Score Performance-Leader Effectiveness	3.60	0.90	-0.45	0.09	1.00	5.00
Self Rank Performance-Leader Effectiveness	3.83	2.15	0.65	-0.38	1.00	9.00
Peer Score Motivational-Leader Effectiveness	3.44	0.75	-0.34	- 0.18	0.88	4.88
Peer Rank Motivational-Leader Effectiveness	4.70	1.97	0.09	-0.76	0.86	10.00
Self Score Motivational-Leader Effectiveness	3.78	0.85	-0.51	0.27	1.00	5.00
Self Rank Motivational-Leader Effectiveness	3.85	1.95	0.62	-0.07	1.00	9.00
Evaluation of #1 Performance Leader	4.48	0.47	-0.68	-0.14	2.75	5.00
Evaluation of #1 Motivational Leader	4.43	0.45	-0.99	2.25	2.00	5.00
Self Evaluation of Performance Leader Ability	4.12	0.49	-0.51	0.83	2.00	5.00
Self Evaluation of Motivational Leader Ability	3.97	0.63	-0.64	0.99	1.00	5.00

Ì

1

^D earson I
Product M
foment Cu
orrelations
sofS
elf and
Peer
Leader
Effec
tiveness
tiveness Scores,
ctiveness Scores, Ranks,
tiveness Scores, Ranks, and Evaluatio
tiveness Scores, Ranks, and Evaluation Scores (N=

*p^	12.	11.	10.	9 .	. ∞	7.	6 .	Ś	<u>4</u>	ω.	2.			
:.05, **p<.01, ***p<.001	Self Rank Motivational Effectiveness	Self Rank Performance Leader Effective	Peer Rank Motivational Leader Effective	Peer Rank Performance Leader Effective	Self-Evaluation Motivational Leadership	Self-Evaluation Performance Leadership	Evaluation #1 Mot. Leader	Evaluation #1 Perf. Leader	Self Score Motivational-Leader Effective	Self Score Performance-Leader Effective	Peer Score Motivational-Leader Effective	Peer Score Performance-Leader Effective		
	36***	- 42***	68***	76***	.30***	.30***	<u>-</u> .06	01	.40***	.41***	.84***	1.0	1	
	41***	40***	- 74***	66***	.43***	.32***	02	.10*	.53***	.45***	1.0		2	
	40***	61***	38***	43***	.39***	.41***	.03	.06	.53***	1.0			3	
	52***	34***	35***	35***	.49***	.38***	.07	.03	1.0				4	
	.17***	.15**	.07	.15**	.20***	.27***	.48***	1.0					S	
	.09	24	.10	.12*	.16**	.31**	1.0						6	
	31***	30***	20***	21***	.48***	1.0							7	
	31***	30***	20***	19***	1.0								∞	
	.48***	.55***	.84***	1.0									9	
	.42***	.44***	1.0										10	
	.63***	1.0											Ξ	
	1.0												12	

-. .

Table O-4

Distribution of Leader Rankings by Seat on Performance Leadership

Mady Linesans.

8 Boat	Seat 1	Seat 2	Seat 3	Seat 4	Seat 5	Seat 6	Seat 7	Seat 8	Coxswain
Rank 1	21 (6%)	10 (2 9%)	13 (3 7%)	6 (1 7%)	22 (6 3%)	27 (7 7%)	42 (12%)	101 (28%)	126 (36%)
Rank 2	28 (8%)	19 (5.4%)	16 (4.6%)	15 (4.3%)	25 (7.1%)	33 (9.4%)	72 (20.6%)	91 (26%)	77 (22%)
Rank 3	23 (6.6%)	32 (9.1%)	15 (4.3%)	35 (10%)	35 (10%)	43 (12.3%)	61 (17.4%)	50 (14.3%)	52 (14.9%)
Rank 4	31 (10.9%)	45 (12.9%)	24 (6.9%)	40 (11.4%)	59 (16.9%)	56 (16%)	41 (11.7%)	36 (10.3%)	20 (5.7%)
Rank 5	38 (10.9%)	34 (9.7%)	32 (9.1%)	44 (12.6%)	61 (17.4%)	48 (13.7%)	43 (12.3%)	31 (8.9%)	21 (6%)
Rank 6	38 (10.9%)	49 (14%)	57 (16.3%)	55 (15.7%)	45 (12.9%)	43 (12.3%)	31 (8.9%)	16 (4.6%)	13 (3.7%)
Rank 7	51 (14.6%)	49 (14%)	58 (16.6%)	60 (17.1%)	38 (10.9%)	34 (9.7%)	23 (6.6%)	14 (4%)	11 (3.1%)
Rank 8	68 (19.4%)	47 (13.4%)	70 (20%)	52 (14.9%)	31 (8.9%)	35 (10%)	21 (6%)	5 (1.4%)	8 (2.3%)
Rank 9	52 (14.9%)	65 (18.6%)	65 (18.6%)	43 (12.3%)	34 (9.7%)	31 (8.9%)	16 (4.6%)	6 (1.7%)	22 (6.3%)
4 Boat	Seat 1	Seat 2	Seat 3	Seat 4	Coxswain				
(n = 25)		-							
Rank 1	2 (8%)	4 (16%)	1 (4%)	5 (20%)	14 (56%)				
Rank 2	3 (12%)	2 (8%)	4 (16%)	12 (48%)	4 (16%)				
Rank 3	4 (16%)	10 (40%)	4 (16%)	5 (20%)	1 (4%)				
Rank 4	4 (12%)	6 (24%)	11 (44%)	0 (0%)	4 (16%)				
Rank 5	12 (48%)	3 (12%)	5 (20%)	3 (12%)	2 (8%)				

Table O-5

itin sand the boundary

Distribution of Motivational Leader Rankings by Seat

2			2	2	2			2	
(n = 342)	OCAL I	DEAL 2	JEAL J	DCAL 4	DEAL D	DEAL D	JCAL /	JEAL O	CUTOMAIII
Rank 1	26 (7.4%)	20 (5.7%)	17 (4.9%)	17 (4.9%)	17 (4.9%)	23 (6.6%)	36 (10.3%)	52 (14.9%)	147 (42%)
Rank 2	26 (7.4%)	32 (9.1%)	22 (6.3%)	29 (8.3%)	27 (7.7%)	45 (12.9%)	53 (15.1%)	81 (23.1%)	78 (22.3%)
Rank 3	41 (11.7%)	33 (9.4%)	19 (5.4%)	22 (6.3%)	49 (14%)	36 (10.3%)	62 (17.7%)	56 (16%)	27 (7.7%)
Rank 4	40 (11.4%)	43 (12.3%)	26 (7.4%)	34 (9.7%)	33 (9.4%)	54 (15.4%)	51 (14.6%)	38 (10.9%)	25 (7.1%)
Rank 5	31 (8.9%)	43 (12.3%)	32 (9.1%)	47 (13.4%)	61 (17.4%)	46 (13.1%)	31 (8.9%)	34 (9.7%)	22 (6.3%)
Rank 6	39 (11.1%)	31 (8.9%)	49 (14%)	41 (11.7%)	52 (14.9%)	45 (12.9%)	40 (11.4%)	31 (8.9%)	16 (4.6%)
Rank 7	46 (13.1%)	45 (12.9%)	53 (15.1%)	55 (15.7%)	49 (14%)	34 (9.7%)	22 (6.3%)	30 (8.6%)	9 (2.6%)
Rank 8	50 (14.3%)	46 (13.1%)	61 (17.4%)	62 (17.7%)	31 (8.9%)	31 (8.9%)	34 (9.7%)	16 (4.6%)	8 (2.3%)
Rank 9	51 (14.6%)	57 (16.3%)	71 (20.3%)	43 (12.3%)	31 (8.9%)	36 (10.3%)	21 (6%)	12 (3.4%)	17 (4.9%)
4 Boat	Seat 1	Seat 2	Seat 3	Seat 4	Coxswain				
(n = 25)									- - - -
Rank 1	1 (4%)	4 (16%)	1 (4%)	3 (12%)	16 (64%)				
Rank 2	6 (24%)	7 (28%)	4 (16%)	6 (24%)	2 (8%)				
Rank 3	2 (8%)	6 (24%)	5 (20%)	9 (36%)	3 (12%)				
Rank 4	6 (24%)	4 (16%)	11 (44%)	2 (8%)	2 (16%)				
Rank 5	10 (40%)	4 (16%)	4 (16%)	5 (20%)	2 (8%)				

ł

	ຈັ
	2
	2
	õ
	ž.
	~
	~
	Ċ.
	A
	Ē.
	2
	Š
	Z
	0
	3
	0
	3
	~
	3
	ã
	2
	3
	3
	8
	2
	2
	6
	Ā
	<u>ر</u>
	2
	4
	6
	2
	2
	0
	2
	S
¢	0
	3
	F P
	f Per
	f Pers
	f Persoi
	f Persond
	f Personal
	f Personal L
	f Personal De
	f Personal Den
	f Personal Demo
<i>.</i>	f Personal Demos
c	f Personal Demogra
	f Personal Demogra
0	f Personal Demograp
0	f Personal Demographi
0	f Personal Demographic
0	f Personal Demographic L
0	f Personal Demographic De
	f Personal Demographic Det
	f Personal Demographic Deter
	f Personal Demographic Detern
	f Personal Demographic Determi
	f Personal Demographic Determinu
	f Personal Demographic Determinar
	f Personal Demographic Determinant.
	f Personal Demographic Determinants
	f Personal Demographic Determinants a
	f Personal Demographic Determinants and
	f Personal Demographic Determinants and
	f Personal Demographic Determinants and L
	f Personal Demographic Determinants and Lec
	f Personal Demographic Determinants and Leau
	f Personal Demographic Determinants and Leade
	fPersonal Demographic Determinants and Leader:
	fPersonal Demographic Determinants and Leadersh
	f Personal Demographic Determinants and Leadershi

	Peer-SC	Peer-SC	Self-SC	Self-SC	Eval. of	Eval. of	Eval. of	Eval. of
	Perf.	Motiv.	Perf.	Motiv.	Perf.	Motiv.	Self-Perf	Self-Mot
	Leader	Leader	Leader	Leader	Leader	Leader	Leader	Leader
Rowing Experience	.17***	.07	.18***	.15**	04	12*	.04	.12*
(years of experience)								
Rowing Importance	.17***	.12*	.22***	.22***	.21***	.19***	.35***	.26***
(0 not at all to 10 very)								
Perceived Ability	.22***	.16***	.29***	.20***	.10*	.01	.32***	.25***
(0 not at all to 10 very)								
Season Best 2K	25***	19***	- 17**	08	- 10	04	21***	08
(minutes)								
Leader Importance	.30***	.27***	.35***	.30***	01	04	.28***	.30***
(0 not at all to 10 very)								
Athletic Scholarship	15**	09	- 13*	06	03	.05	06	06
(1=full, 2=partial, 3=none)								
Current Seat	.55***	.46***	.31***	.28***	06	04	.10*	.14**
(1 through 9)								
Switch Seat	.18***	.12*	.08	.11*	13*	09	.03	.04
(1 = yes, 2 = no)								
Leader Experience	23***	25***	16**	- 15**	.07	- 003	13**	19***
(1 = yes, 2 = no)								
Type of Experience	.10	.13**	.07	.12*	.03	.03	.10*	.17**
(1=sport,2=school,3=both)								
Current Team Captain	31***	26***	20***	16**	.00	.00	15**	13**
(1 = yes, 2 = no)								
Leader in Crew	35***	30***	46***	37***	.00	.00	29***	4]***
(1 = yes, 2 = no)								
Note. Peer-SC Perf. Leader =	Peer Score P	erformance-L	eader Effectiv	eness; Peer-So	C Motiv. Lead	er = Peer Scor	e of Motivation	nal-Leader Effec
Danf I and an - Calf Canen Dan			The second second	Matin I and a	- Colf Connol	Motimutional I	TR-Lin	

Perf. Leader = Self Score Performance-Leader Effectiveness; Self-SC Motiv. Leader = Self Score Motivational Leader Effectiveness; Eval. of Perf. Leader = Evaluation of the #1 ranked Performance Leader; Eval. of Self-Perf Leader = Evaluation of Self Performance-Leader Ability; Eval. of Self-Mot Leader = Evaluation of Self Motivational-Leader Ability. *p<.05, **p<.01, ***p<.001 iveness; Self-SC

And an and the state of the sta

Leader Evaluation Fit Indices, Standardized Parameter Estimates, Standard Error, and T-values

.97	.95	.93	.06	.93	.97	1.73	13	22.50	Hypothesized
									Leader Evaluation
CFI	NNFI	NFI	RMSEA	AGFI	GFI	X2/d.f.	d.f.	X ²	Model

Item	Mean	SD	Skewness	Kurtosis	Performance Leader	Motivational Leader	Squared Multi
							Correlation
1	4.56	0.559	-0.892	0.321	scaled to 1.0		.36
2	4.32	0.668	-0.742	0.938	.61/.22/5.14		.37
ω	4.58	0.613	-1.217	0.761	.76/.40/3.43		.58
4	4.48	0.618	-0.832	0.044	.79/39/3.51		.62
S	4.43	0.644	- 0.799	0.170		scaled to 1.0	.31
6	4.45	0.638	-0.932	0.685		.74/.25/5.25	.55
7	4.38	0.662	-0.720	-0.050		.55/.21/4.99	.31
Note (

Normed Fit Index; NNFI = Non-Normed Fit Index; CFI = Comparative Fit Index.

		Correlation	alue; SMC= Squared Multiple	tandard error/t-v	ion coefficient/s	ed regressi	Standardize	Note. $GFI =$
.68	.82/.05/19.95			2.29	-1.42	1.84	8.22	CE 7
.74	.86/.05/21.48			1.35	-1.10	1.89	7.84	CE 6
.73	.85/.05/21.21			2.11	-1.24	1.73	8.19	CE 5
.65	.81/.07/19.28			0.86	-1.15	2.29	7.73	CE 4
.62	.79/.05/18.53			0.95	-0.95	1.78	7.88	CE 3
.66	.81/.05/19.48			1.40	-0.86	1.73	7.28	CE 2
.73	Scaled to 1.0			1.42	-1.08	1.64	8.11	CE 1
.68		.82/.07/14.67		4.73	-1.70	1.54	8.45	SE 7
.63		.79/.08/14.21		4.01	-1.61	1.64	8.33	SE 6
.62		.79/.08/14.12		4.84	-1.70	1.57	8.34	SE 5
removed		Removed		3.56	-1.54	1.62	8.39	SE 4
.63		.79/.07/14.18		1.72	-1.09	1.54	8.15	SE 3
.52		.72/.08/12.93		1.54	-0.94	1.60	7.38	SE 2
.50		Scaled to 1.0		2.15	-1.36	1.65	8.22	SE 1
removed			Removed	4.40	2.09	1.99	1.19	LE 15
.20			.44/.20/6.72	-1.00	0.01	2.85	4.43	LE 14
.14			.38/.18/6.03	-0.87	0.17	2.73	4.09	LE 13
.62			.79/.16/9.13	0.98	-0.96	1.71	7.59	LE 12
.63			.79/.15/9.16	0.53	-0.67	1.66	7.39	LE 11
.40			.63/.16/8.29	0.51	-0.70	1.95	6.95	LE 10
.71			.84/.19/9.39	-0.04	-0.64	2.01	7.27	LE 9
.67			.82/.17/9.27	0.52	-0.88	1.80	7.60	LE 8
.72			.85/.17/9.41	0.52	-0.76	1.75	7.56	LE 7
.57			.75/.18/8.98	0.37	-0.67	1.96	7.19	LE 6
.46			.68/.16/8.60	0.49	-0.81	1.84	7.42	LE 5
.51			.71/.15/8.76	1.42	-1.28	1.67	8.42	LE 4
.44			.66/.14/8.5	0.61	-0.74	1.72	7.37	LE 3
.22			Scaled to 1.0	1.06	-1.16	1.98	7.88	LE 2
removed			removed	0.28	-0.84	2.03	7.57	LE I
SMC	Collective Efficacy	Self Efficacy	Leadership Efficacy	Kurtosis	Skewness	SD	Mean	Item
					2			

Efficacy Fit Indices, Standardized Parameter Estimates, Standard Error, and T-values

•

Table O-8

A-LLSQ Fit Indices,
Standardized Parameter
· Estimates,
Standard Error,
and T-values

•

Note. GFI	23	20	11	4	Negative	26	24	17	16	œ	Respect	21	19	14	12	10	7	2	Motivation	25	22	18	15	13	9	6	S	ω	-	Performan		Item
= Standardia	2.39	1.37	2.02	1.44		4.57	4.55	4.43	4.68	4.72		3.89	4.07	4.22	3.58	3.98	4.29	4.22	al	3.68	2.90	3.92	4.31	2.81	4.54	4.81	4.52	4.22	4.27	ICe		Mear
zed regre	1.08	0.76	0.98	0.83		0.63	0.64	0.76	0.50	0.54		1.01	0.80	0.75	1.02	0.86	0.71	0.79		1.01	1.26	0.87	0.73	1.13	0.62	0.41	0.68	0.87	0.75			SD
ssion coefficie	0.39	2.46	0.93	2.28		-1.47	-1.46	-1.63	-1.17	-2.40		-0.75	-0.55	-0.74	-0.42	-0.39	-0.62	-0.66		-0.44	0.14	-0.69	-1.05	-0 <u>.</u> 01	-1.16	-2.33	-1.61	-1.00	-0.70			Skewness
ent/standard e	-0.57	6.51	0.55	5.48		2.09	2.58	3.37	0.21	8.02		0.00	-0.05	0.19	-0.31	-0.68	-0.30	-0,40		-0.37	-0.97	0.58	1.68	-0.73	0.89	6.60	3.62	0.65	-0.24			Kurtosis
rror/t-value; SMC= S																				50/.29/5.52	Removed	.46/.24/5.37	.64.25/6.02	Removed	.58/.20/5.83	.46/.11/5.34	.41/.18/5.07	.35/.19/4.95	Scaled to 1.0		Execution	Performance/
equared Multiple Corr												.31/.22/4.60	.61/.23/6.62	.62/.22/6.66	.58/.29/6.50	.61/.25/6.62	.58/.20/6.50	Scaled to 1.0													Interpersonal	Motivate/
elation						.53/.13/8.07	.69/.11/9.66	.58/.13/8.60	.55/.16/8.27	Scaled to 1.0																					Communication	Respect
	Removed	.83/.15/7.02	.3.10/5.60	Scaled to 1.0																											Tactics	Negative
		.70	.11	.55		.28	.33	30	.47	.36		.10	.38	I	.34	.38	.34	.16		.25	I	.21	.41	I	.33	.21	.17	.12	.15			SMC

20 ITEM 6 N TASK 19 12 EGO Leader 17 16 13 10 14 Mean 3.28 4.19 2.49 3.83 4.61 4.53 4.02 4.16 4.58 4.57 4.09 4.43 4.05 2.37 3.27 2.43 2.85 3.03 1.85 0.69 0.58 0.83 0.55 0.68 0.83 0.58 0.83 0.67 0.79 1.23 0.97 0.89 1.14 1.11 1.10 1.06 1.01 1.12 SD -0.08 -0.70 0.404 -0.40 -1.07 -1.52 -0.45 -0.33 -1.19 -1.11 -0.90 0.50 -0.33 0.92 0.42 0.05 -1.03 -1.07 -0.04 Skewness 0.02 -0.64 0.15 2.19 -0.35 -0.54 0.84 0.67 0.96 0.79 -0.69 0.44 -0.75 -0.08 1.08 -0.41 -0.79 -0.40 -0.80 Kurtosis .75/.09/12.29 .61/.08/10.23 .60/.08/10.08 Scaled to 1.0 73/.10/11.99 .50/.07/8.55 .41/.07/7.14 Ego .66/.10/9.36 .43/.13/6.80 Scaled to 1.0 .59/.12/8.65 .63/.10/9.09 .61/.12/8.93 .52/.14/7.88 50/.09/7.68 Task Scaled to 1.0 79/.11/10.26 removed removed Leader SMC . 45 :34 .<u>1</u>9 .56 25 .37 .**38** .25 .27 .40 .43 ω .62 .S3 .17 .49

M-TEOSQ Descriptive Statistics Standardized Parameter Estimates, Standard Error, and T-values

Table O-10

Contraction of the second

-

Note. GFI = Standardized regression coefficient/standard error/t-value; SMC= Squared Multiple Correlation

18

2.82

1.00

0.067

-0.43

.61/.09/9.31

ယ္ဆ

Normed Fit Index; NI	Note GFI = Goodnes	18	17	16	15	14	13	12	11	10	6	80	7	6	5	4	3	2	_	Item	Revised	Hypothesized	M-PMCSQ-2	Model	M-PMCSQ-2 Fit Indi
VFI = Non-1	s of Fit: AG																				139.29	466.01		Xz	ces, Standa
Normed F	FI = Adin					.51/.19/6			.62/.27/6			.67/.24/6	.62/.27/6					scaled to		Maste	43	132		d.f.	rdized Pa
it Index; CH	isted Goodr					.04			.60			.79	.61					1.0		Ş	326.72			ΔX^2	rameter Est
I = Com	less of Fi	.7	.6		.7						.7					.s			SC	Pe	68			Δd.f.	imates, S
r, rative	RMSE	2/.27/6.	7/.28/6.4		9/.29/6.0						4/.23/6.			Remove		7/.23/6.			aled to]	rformai	.94	.88		GFI	tandard
Fit Index	A = R n n	57	43		69						10			d .		10			1.0	nce	.90	.84		AGFI	Error, ai
; Standardi	t Mean Sou			ге			ге	ге		re					Ie		re			Les	.08	.082		RMSEA	nd T-values
zed reg	are Err			moved			moved	moved		moved					moved		moved			adershi	.88	.77		NFI	
ression c	or of Ant																			đ	.89	.79		NNFI	
oefficie	nroxima																				.91	.82		CFI	
nt/standar	tion NFI	.26	.38	ł	.52	.26	ł		.38		.62	.45	.32	ł	ł	.38	•	.14	.18	SMC	.69	.66		PNFI	
d error/t-	11																				.60	.68		PGFI	

value.

REFERENCES

-

- Ames, C. (1984). Achievement attributions and self-instructions under competitive and individualistic goal structures. *Journal of Educational Psychology*, 76, 478-487.
- Ames, C. (1990). Motivation: What teachers need to know. *Teachers College Record*, 91, 409-421.
- Ames, C. (1992-a). Achievement goals, motivational climate, and motivational processes.
 In G. Roberts (Ed.), *Motivation in Sport and Exercise*. (pp. 161-176). Champaign IL: Human Kinetics.
- Ames, C. (1992-b). Achievement goals and classroom motivational climate. In J. Meece & D. Schunk (Eds.), Students' perceptions in the classroom (pp. 327-348). Hillsdale, NJ: Erlbaum.
- Ames, C. (1992-c). Classrooms: Goals, structures, and student motivation. Journal of Educational Psychology, 84, 261-271.
- Ames, C., & Ames, R. (1981). Competitive versus individualistic goal structures: The salience of past performance information for causal attributions and affect. Journal of Educational Psychology, 73, 411-418.
- Ames, C. & Archer, J. (1988). Achievement goals in the classroom: Students' learning strategies and motivation processes. *Journal of Educational Psychology*, 80, 260-267.
- Atkinson, J.W. (1964). An Introduction to Motivation. Princeton: Van Nostrand.
- Bandura, A. (1986). Social Foundations of Thought and Action: A Social Cognitive Theory. Englewood Cliffs, N.J.: Prentice-Hall.
- Bandura, A. (1990). Perceived self-efficacy in the exercise of personal agency. Journal of Applied Sport Psychology, 2, 128-163.
- Bandura, A. (1997). Self-efficacy: The exercise of control. New York: W.H. Freeman.
- Bandura, A. (2001a). Social cognitive theory: An agentic perspective. Annual Review of Psychology, 52, 1-26.
- Bandura, A. (2001b). Exercise of human agency through collective efficacy. Current Directions in Psychological Science, 9, 75-78.
- Bandura, A., & Wood, R.E. (1989). Effect of perceived controllability and performance standards on self-regulation of complex decision-making. *Journal of Personality* and Social Psychology, 56, 805-814.

- Bass, B.M. (1990). Bass and Stogdill's handbook of leadership: A survey of theory and Research (3rd ed.). New York: Free Press.
- Bem, S. L. (1974). The measurement of psychological androgyny. Journal of Consulting and Clinical Psychology, 42, 155-162.
- Biernat, M., Crandall, C.S., Young, L.V., Kobrynowicz, D., & Halpin, S.M. (1998). All that you can be: Stereotyping of self and others in a military context. *Journal of Personality and Social Psychology*, 75, 301-317.
- Blumenfeld, P.C. (1992). Classroom learning and motivation: Clarifying and expanding goal theory. *Journal of Educational psychology*, 84, 272-281.
- Bredemeier, B. (1992). "And ain't I a woman?" Toward a multicultural approach to gender and morality. *Quest*, 44, 179-209.
- Bussey, K., & Bandura, A. (1999). Social cognitive theory of gender development and differentiation. *Psychological Review*, 106, 676-713.
- Carli, L.L., & Eagly, A. H. (2001). Gender, hierarchy, and leadership: An Introduction. Journal of Social Issues, 57, 629-636.
- Chan, K.Y., & Drasgow, F. (2001). Toward a theory of individual differences and leadership: Understanding the motivation to lead. *Journal of Applied Psychology*, 86, 481-498.
- Chelladurai, P. (1984). Discrepancy between preferences and perceptions of leadership behavior and satisfaction of athletes in varying sports. *Journal of Sport and Exercise Psychology*, 6, 27-41.
- Chelladurai, P., & Reimer, H.A. (1998). Measurement of leadership in sport. In J.L. Duda (Ed.), Advances in Sport and Exercise Psychology Measurement (pp. 227-256). Morgantown, WV: FIT Press.

- Chemers, M.M. (1997). An Integrative Theory of Leadership. Mahwah, NJ: Lawrence Erlbaum Associates, Inc., Publishers.
- Chemers, M. M. (2000). Leadership research and theory: A functional integration. Group Dynamics: Theory, Research, and Practice, 4(1), 27-43.
- Chemers, M. M., Watson, C.B., & May, S.T. (2000). Dispositional affect and leadership effectiveness: A comparison of self-esteem, optimism, and efficacy. *Personality* and Social Psychology Bulletin, 26(3), 267-277.
- Cogliser, C.C., & Schriesheim, C.A. (2000). Exploring work unit context and leadermember exchange: A multi-level perspective. Journal of Organizational Behavior, 21, 487-511.

- Connelly, M. S., Gilbert, J.A., Zaccaro, S.J., Threlfall, K.V., Marks, M., & Mumford, M.D. (2000). Exploring the relationship of leadership skills and knowledge to leader performance. *Leadership Quarterly*, 11(1), 65-86.
- Duda, J. L. (2001). Goal perspective research in sport: Pushing the boundaries and clarifying some misunderstandings. In I. G. C. Roberts (Ed.), Advances in motivation in sport and exercise (pp. 129-182). Champaign, IL: Human Kinetics.
- Duda, J. L., & Balaguer, I. (1999). Toward an integration of models of leadership with a contemporary theory of motivation (pp. 212-230). In R. Lidor & M. Bar-Eli (Eds). Sport Psychology: Linking Theory to Practice.
- Duda, J.L., & Whitehead, J. (1998) Measurement of goal perspectives in the physical domain. In J.L. Duda (Ed.), Advances in Sport and Exercise Psychology Measurement (pp. 21-48). Morgantown, WV: FIT Press.
- Duda, J.L., Olson, L., & Templin, T. (1991). The relationship of task and ego orientation to sportsmanship attitudes and the perceived legitimacy of injurious acts. *Research Quarterly for Exercise and Sport*, 62, 79-87.
- Dweck. C.S., & Leggett, E. (1988). A social-cognitive approach to motivation and to personality. *Psychological Review*, 95, 256-273.
- Eagly, A.H. (1987). Sex differences in social behavior: A social-role interpretation. Hillsdale, NJ: Earlbaum.
- Eagly, A.H., & Johannesen-Schmidt, M.C. (2001). The leadership styles of women and men. Journal of Social Issues, 57, 781-797.
- Eagly, A.H., & Johnson, B.T. (1990). Gender and leadership style: A meta-analysis. *Psychological Bulletin*, 90, 1-20.
- Eagly, A.H., & Karau, S.J. (1991). Gender and the emergence of leaders: A metaanalysis. Journal of Personality and Social Psychology, 50 (5), 685-710.
- Eagly, A.H., Makhijani, M.G., & Klonsky, B.G. (1992). Gender and the evaluation of leaders: A meta-analysis. *Psychological Bulletin*, 111 (1), 3-22.
- Embretson, S.E., & Reise, S.P. (2000). Item Response Theory for Psychologists. Mahwah, NJ: Lawrence Erlbaum Associates, Inc., Publishers.
- Feltz, D.L., & Lirgg, C.D. (2001). Self-efficacy beliefs of athletes, teams, and coaches. In R. N. Singer, H.A. Hausenblas, & C. M. Janelle (Eds.), Handbook of Sport Psychology (pp. 340-361). New York: John Wiley & Sons.

Feidler, F.E. (1967). A theory of leader effectiveness. New York: McGraw-Hill.

- Gano-Overway, L.A., Guivernau, M., Magyar, T.M., Waldron, J.J., & Ewing, M.E.
 (2001). Helping One Another Maintain the Spirit of the Game: Understanding Females' Perspectives on Sportspersonship and Developing Strategies for Encouraging Good Sport Conduct. Research Quarterly for Exercise and Sport, 72(1), S84.
- Glenn, S. D., & Horn, T. S. (1993). Psychological and personal predictors of leadership behavior in female soccer athletes. *Journal of Applied Sport Psychology*, 5, 17-34.
- Gill, D.L. (1994). Psychological perspectives on women in sport and exercise. In Costa and Guthrie (Eds.). *Women and Sport* (pp. 253-284). Champaign, IL: Human Kinetics.
- Griffin, M.A., & Mathieu, J.E. (1997). Modeling organizational processes across hierarchical levels: Climate, leadership, and group process in work groups. Journal of Organizational Behavior, 18, 731-744.
- Grusky, O. (1963). The effects of formal structure on managerial recruitment: A study of baseball organization. *Sociometry*, 26, 345-353.
- Hemphill, J.K. & Coons, A.E. (1957). Development of the leader behavior description questionnaire. In R.M. Stogdill & A.E. Coons (Eds.), *Leader behavior: Its description and measurement*. Columbus: Ohio State University, Bureau of Business Research.
- Hogg, M.A. (2001). A social identity theory of leadership. *Personality and Social Psychology Review*, 5, 184-200.
- House, R.J. (1971). A path-goal theory of leadership. Administrative Science Quarterly, 16, 321-338.
- House, R.J. (1996). Path-goal theory of leadership: Lessons, legacy, and a reformulated theory. *Leadership Quarterly*, 7, 323-352.
- House, R.J. & Mitchell, T.R. (1974). Path-goal theory of leadership. Journal of Contemporary Business, 3, 81-98.
- House, R.J. & Shamir, B. (1993). Integrating transformational, charismatic, and visionary theories. In M. M. Chemers & R. Ayman (Eds.), *Leadership theory and research: Perspectives and directions* (88-108). San Diego, CA: Academic Press.
- Hughes, R.L., Ginnett, R.C., & Curphey, G.J. (1993). Leadership: Enhancing the lessons of experience. Homewood, IL: Irwin.

- James, L. R. (1982). Aggregation bias in estimates of perceptual agreement. Journal of Applied Psychology, 67(2), 219-229.
- Jarvinen, D.W., & Nicholls, J.G. (1996). Adolescents' social goals, beliefs about the causes of social success, and satisfaction in peer relations. *Developmental Psychology*, 32(3), 435-441.
- Joreskog, K., & Sorbom, D. (1996). LISREL 8: User's Reference Guide. Chicago Scientific Software Int.
- Kavussanu, M., & Roberts, G. C. (2001). Moral functioning in sport: An achievement goal perspective. Journal of Sport and Exercise Psychology, 23, 37-54.
- Kenny D. A., & Zaccaro, S.J. (1983). An estimate of variance due to traits in leadership. Journal of Applied Psychology, 68, 678-685.
- Kozlowski, S. W., & Doherty, M.L. (1989). Integration of climate and leadership examination of a neglected issue. *Journal of Applied Psychology*, 74(4), 546-553.
- Krane, V. (2001). We can be athletic and feminine, but do we want to? Challenging Hegemonic femininity in women's sport. *Quest*, 53, 115-133.
- Larson, R. W. (2000). Toward a psychology of positive youth development. American Psychologist, 55(1), 170-183.
- Maehr, M.L., & Braskamp, L.A. (1986). The motivation factor: A theory of personal investment. Lexington, Mass: Lexington Books/Heath.
- Magyar, T.M., & Feltz, D.L. (in press). The influence of dispositional and situational tendencies on adolescent girls' selection of sport confidence sources. *Psychology of Sport and Exercise*.
- Magyar, T.M., Feltz, D.L., & Simpson, I.P. (2002). Personal and situational determinants of individual and collective efficacy in adolescent rowers. *Research Quarterly for Exercise and Sport*, 73(1), S93.
- McClelland, D.C. & Boyatzis, R.E. (1982). Leadership motive pattern and long-term success in management. Journal of Applied Psychology, 67, 737-743.
- Moritz, S.E., & Watson, C.B. (1998). Levels of analysis issues in group psychology: Using efficacy as an example of a multilevel model. Group Dynamics: Theory, Research, and Practice, 2, 285-298.
- Mumford, M. D., Zaccaro, S.J., Johnson, J.F., Diana, M., Gilbert, J.A., & Threlfall, K.V. (2000a). Patterns of leader characteristics: Implications for performance and development. *Leadership Quarterly*, 11(1), 115-133.

- Mumford, M.D., Marks, M.A., Connelly, M.S., Zacarro, S.J., & Reiter-Palmon, R. (2000b). Development of leadership skills: Experience and timing. *Leadership Quarterly*, 11 (1), 87-114.
- Murphy, S.E. (2002). Leader self-regulation: The role of self-efficacy and multiple intelligences. In Ronald E. Riggio, Susan E. Murphy, & Francis J. Pirozollo (Eds.). Multiple Intelligences and Leadership.
- Newton, M. & Duda, J.L. (1999). The interaction of motivational climate, dispositional goal orientations, and perceived ability in predicting indices of motivation. *International Journal of Sport Psychology*, 30, 63-82.
- Newton, M., Duda, J.L., & Yin, Z. (2000). Examination of the psychometric properties of the Perceived Motivational Climate in Sport Questionniare-2 in a sample of female athletes. *Journal of Sport Sciences*, 18, 275-290.
- Nicholls, J. G. (1984). Achievement motivation: Conceptions of ability, subjective experience, task choice, and performance. *Psychological Review*, 91(3), 328-346.
- Nicholls, J.G. (1989). *The competitive ethos and democratic education*. Cambridge, MA: Harvard University Press.
- Nicholls, J.G. (1992) The general and the specific in the development and expression of achievement motivation. In G.C. Roberts (Ed.), *Motivation in sport and exercise*. (pp. 31-55). Champaign IL: Human Kinetics.
- Northouse, P.G. (2001). Leadership Theory and Practice. Thousand Oaks, CA: Sage Publications, Inc.
- Ommundsen, Y., & Roberts, G.C. (1999). Effect of motivational climate profiles on motivational indices in team sport. Scandinavian Journal of Medicine and Science in Sport, 9, 389-397.
- Paglis, L.L., & Green, S.G. (2002). Leadership self-efficacy and managers' motivation for leading change. *Journal of Organizational Behavior*, 23, 215-235.
- Phillips, J.M. Douthitt, E.A., & Hyland, M. M. (2001). The role of justice in team member satisfaction with the leader and attachment to the team. *Journal of Applied Psychology*, 86, 316-325.
- Rees, C.R., & Segal, M.W. (1984). Role differentiation in groups: The relationship between instrumental and expressive leadership. Small Group Behavior, 15, 109-123.
- Riemer, H. A., & Chelladurai, P. (1995). Leadership and satisfaction in athletics. Journal of Sport and Exercise Psychology, 17, 276-293.

- Roberts, G.C. (2001). Understanding the dynamics of motivation in physical activity: The influence of achievement goals on motivational processes. In G.C. Roberts (Ed.), *Advances in motivation in sport and exercise* (pp. 1-49). Champaign, IL: Human Kinetics.
- Roberts, G.C. & Treasure, D.C. (1995). Achievement goals, motivational climate and achievement strategies and behaviors in sport. *International Journal of Sport Psychology*, 26, 64-80.
- Seifriz, J., Duda, J.L., & Chi, L. (1992). The relationship of perceived motivational climate to intrinsic motivation and beliefs about success in basketball. *Journal of Sport and Exercise Psychology*, 14, 375-391.
- Smith, J.A., & Foti, R. J. (1998). A pattern approach to the study of leader emergence. Leadership Quarterly, 9, 147-160.
- Smoll, F.R., & Smith, R.E. (1989). Leadership behaviors in sport: A theoretical model and research paradigm. Journal of Applied Social Psychology, 19(18), 1522-1551.
- Sorrentino, R.M. (1973). An extension of theory of achievement motivation to the study of emergent leadership. *Journal of Personality and Social Psychology*, 26, 356-368.
- Sorrentino, R.M., & Field, N. (1986). Emergent leadership over time: The functional value of positive motivation. *Journal of Personality and Social Psychology*, 50, 1091-1099.
- Stodgill, R.M. (1948). Personal factors associated with leadership: A survey of the literature. Journal of Psychology, 25, 35-71.
- Stodgill, R.M. (1974). Handbook of leadership: A survey of theory and leadership. New York Free Press.
- Stout, W. (1987). A nonparametric approach for assessing latent trait unidimensionality. *Psychometrika*, 52, 589-617.
- Tabachnik, B.G., & Fidell, L.S. (1996). Using multivariate statistics (3rd Ed.). New York, NY: HarperCollins Publishers Inc.
- Treasure, D.C., & Roberts, G.C. (1998). Relationship between female adolescents achievement goal orientations, perceptions of the motivational climate, belief about success and sources of satisfaction in basketball. *International Journal of Sport Psychology*, 29, 211-230.
- Tropp, K., & Landers, D. (1979). Team interaction and the emergence of leadership and interpersonal attraction in field hockey. *Journal of Sports Psychology*, 1, 228-240.

- Urdan, T.C., & Maehr, M.L. (1995). Beyond a two-goal theory of motivation and achievement: A case for social goals. *Review of Educational* Research, 65(3), 213-243.
- Vos Strache, C. (1979). Players' perceptions of leadership qualities for coaches. *Research Quarterly*, 50, 679-686.
- Vroom V.H. & Yetton P.W. (1973). *Leadership and decision-making*. Pittsburgh: University of Pittsburgh Press.
- Walling, M.D., Duda, J.L., & Chi, L. (1993). The perceived motivational climate in sport questionnaire: Construct and predictive validity. *Journal of Sport and Exercise Psychology*, 15, 172-183.
- Watson, Chemers, & Preiser. (2001). Collective efficacy: A multilevel analysis. Personality and Social Psychology Bulletin, 27, 1057-1068.
- Wood, R.E., & Bandura, A. (1989). Impact of conceptions of ability on self-regulatory mechanisms and complex decision-making. *Journal of Personality and Social Psychology*, 56, 407-415.
- Yoder, J.D. (2001). Making leadership work more effectively for women. Journal of Social Issues, 57, 815-828.
- Yukelson, D., Weinberg, R., Richardson, P., & Jackson, A. (1981). Interpersonal attraction and leadership within collegiate sport teams. *Journal of Sport Behavior*, 6, 29-36.
- Zaccaro, S. J., Foti, R.J., & Kenny, D.A. (1991). Self-monitoring and trait-based variance in leadership an investigation of leader flexibility across multiple group situations. *Journal of Applied Psychology*, 76(2), 308-315.

