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## The revised leadership scale for strength and conditioning

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To the Graduate Council:

I am submitting herewith a thesis written by Brian Gearity entitled "The revised leadership scale for strength and conditioning." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Human Performance and Sport.

Dennie Kelley, Major Professor

We have read this thesis and recommend its acceptance:

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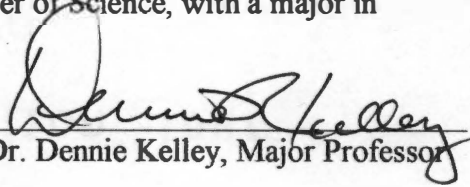
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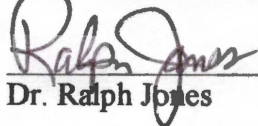
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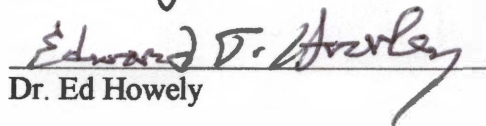
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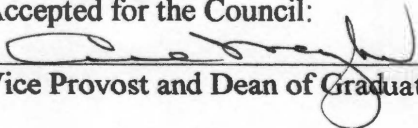
  
Dr. Dennie Kelley, Major Professor

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**THE REVISED LEADERSHIP SCALE FOR STRENGTH AND CONDITIONING**

**A Thesis**

**Presented for the**

**Master of Science**

**Degree**

**The University of Tennessee, Knoxville**

**Brian Gearity**

**August 2003**

## DEDICATION

I dedicate this thesis to my father John Gearity, MBA. For the many ways, over many years, you've provided support in my lifelong quest of learning and especially your constant reminders to 'graduate'.

And to my late mother Lauree Gearity, Ph.D, who inspired me to pursue a life of education and of educating others.

## ACKNOWLEDGEMENTS

I would like to acknowledge the following people who supported me in a variety of ways.

I would like to acknowledge the help of Cary Springer, a statistical consultant (and now I dare say friend), who's practical help and simple explanations of statistics were significantly greater (at a 0.01 level) than any statistics course I've taken so far.

To my thesis committee Dr. Kelley, Dr. Jones, and Dr. Howley, whose patience and support has allowed me to contribute a significant, yet realistic, contribution to the strength and conditioning field.

To Dr. James Zhang who allowed me the freedom to use the Revised Leadership Scale for Sport.

To my girlfriend Cayla Bearg, the strength coaches at the University of Tennessee and friends who have had to listen to me ramble on about leadership and spend countless hours away reading and collecting data.

To the athletes who completed the scale wholeheartedly, thank you, and the promise that if I can help you in your academic endeavors in the future, I'll be glad to.

## ABSTRACT

The purpose of this study was to establish reliability scores for the Revised Leadership Scale for Strength and Conditioning (RLSSC). Modifications were made to the Revised Leadership Scale for Sport (RLSS) (Zhang et al., 1996) to make it specific to strength and conditioning. Sixty-one Division I athletes from a large public southeastern university responded to the scale. Fifty-three scales were deemed usable and analyzed to assess a reliability score. Reliability scores, determined by Cronbach's alpha, ranges from: 'social support', .75; 'situational consideration', .76, 'training and instruction', .90; 'democratic behavior', .83, 'autocratic behavior', .64; and 'personal feedback', .84.

Reliability scores revealed were within acceptable limits. Validity for the RLSSC can be inferred through the already established reliability and validity scores of the RLSS. The RLSSC is a reliable and valid instrument to assess leadership preference of athletes.

Recommendation for use of the RLSSC include assessing athlete's perception of leadership, strength and conditioning coaches perception of their own leadership, and a qualitative study to provide a thick, detailed description of leadership between strength and conditioning coaches and athletes.



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## I. INTRODUCTION

### *Statement of the Problem*

Leadership is an often used term in athletics, however, little practical, empirical research exists on the subject. Although there are many definitions of leadership, a definition of leadership for the purpose of this paper is, “. . . the action of an individual to influence others toward set goals” (Martens, 1987, pg. 33). Research in leadership in sporting organizations has been a developing topic over the past twenty years. Although great volumes of research have been compiled on the topic of leadership, it is beyond the scope of this study to elaborate on all topics and theories of leadership (see Bass, 1990, Yukl, 1989, & Chelladurai, 1990).

The Strength and Conditioning Coaches Leadership Scale for Sport (SCCLSS) was developed and used to assess coaches' perception of their own leadership behavior (Brooks, Ziatz, Johnson, & Hollander, 2000). The SCCLSS was modified from the Leadership Scale for Sport (LSS), the first leadership scale for sport created and validated by Chelladurai and Saleh (1980). Validity of the SCCLSS was not tested in the Brooks et al. (2000) study, but rather the authors noted validity was already established for the LSS. After Brooks et al. (2000) made changes to the LSS, these changes were reviewed by Chelladurai, who deemed them as insignificant. In the Brooks et al. (2000) study, the SCCLSS demonstrated low reliability scores reported through the use of Cronbach's alpha. Brooks et al. (1996) reported the following alpha coefficients for the five factors of the SCCLSS: 'social support', 0.40; 'training and instruction', 0.45; 'democratic

behavior', 0.48, 'autocratic behavior', 0.56; and 'positive reinforcement', 0.43. Thus, it appears that revisions to the SCCLSS are needed to provide a reliable and valid instrument. The LSS went through several revisions by the original authors before being accepted as a valid testing tool. In recent years, the LSS has been revised by different researchers (Zhang, Jensen, & Mann, 1996). Zhang et. al (1996) revised the LSS and created a more reliable and valid instrument through more stringent methodologies, the Revised Leadership Scale for Sport (RLSS). With a preliminary study on the SCCLSS complete, research must now focus on creating a more reliable leadership scale for strength and conditioning.

#### *Purpose of the Study*

The purpose of this study was to establish reliability scores using the Revised Leadership Scale for Strength and Conditioning (RLSSC). The RLSSC is a revision of the RLSS (Zhang et al. 1996). There is a clear need for creating such a scale as strength and conditioning has been a growing part of sport organizations, especially at the collegiate level, over the past 20 years. All Division I colleges or universities employ at least one strength and conditioning coach. The strength and conditioning coach often spends more time with individual athletes than does the athlete's respective sport coach. Many players, sport coaches, athletic trainers, and strength and conditioning coaches believe physical development has become an established necessity in sport. While many books and research articles have focused on the leadership of sport head coaches or assistant coaches (Zhang et. al. 1996; Chelladurai, 1984; Chelladurai & Carron, 1983; Chelladurai,

Imamura, Yamaguchi, Oinuma, & Miyauchi 1998; Chelladurai, Malloy, Imamura, & Yamaguchi, 1987; Dwyer & Fischer, 1988; Garland & Barry, 1988; Gordon, 1986; Horne & Carron, 1985; Robinson & Carron, 1982; Schliesman, 1987; Summers, 1983; Terry, 1984; Terry & Howe, 1984; Weiss & Friedrachs, 1986, Zhang & Jambor, 1997), virtually no research exists on the coaching behaviors or management styles of strength and conditioning coaches (Brooks et. al., 2000). While many books and research articles discuss how to design a resistance training program (Fleck & Kraemer, 1987; Stone & O'Bryant, 1987, Siff, 1999; Stone et. al. 1982; Yessis, 1982), little specific, practical research exists on how the strength and conditioning coach should lead athletes.

## II. REVIEW OF LITERATURE

### *History of Leadership*

#### Great Man Theory

Early leadership studies focused on a 'Great Man' theory (Bass, 1990). Leaders were thought to have been born with the natural attributes of an effective leader. 'Great Man' theory focused on the leader as possessing superior physical attributes, character, and personality. The 'Great Man' theory eventually led to various trait theories of leadership. Research focused on how the leader was different from his follower, how he was a 'better' man. Research on trait theory and the 'Great Man' theory were ultimately found to be undependable in different situations and were abandoned (Bass, 1990).

#### Behavioral Theories

The first behavioral studies on leadership were labeled the Ohio State Studies and Michigan Studies (Fleishman, 1957a; Fleishman, 1957b; Hemphill and Coons, 1957; Halpin and Winer, 1957; Katz, Maccoby, and Morse, 1950; Katz, Maccoby, Gurrin, and Floor, 1951). Through various revisions and subsequent studies, two critical factors from each group emerged. The Ohio State Studies determined two critical factors of leader behavior which they labeled, 'initiating structure' and 'consideration'. Initiating structure is a work-related factor such as defining roles and the task at hand. Consideration is a relationship oriented-factor such as care, respect among workers, and friendship. Similar to the Ohio State Studies, the Michigan Studies determined two critical factors of leader behavior which they labeled, 'employee orientation' and 'production orientation'.

Employee orientation is similar to the dimension of consideration in the Ohio State Studies. The employee-oriented leader considers the value of the individual and the individual's worth as a human being. While the production-oriented leader is associated with initiating structure, or the degree to which workers can get the job or task at hand completed. While these studies did provide a framework to categorize leadership behavior, they did little to discuss the situation-specifics of leader behavior.

### Situational Theories

Several researchers expanded upon the work of the Ohio State and Michigan Studies and proposed that the situation will influence the effectiveness of leader behavior (Evans, 1970a, Evans, 1970b, Evans, 1974; House, 1971; House and Mitchell 1974; Kerr, Schreisheim, Murphy, and Stogdill, 1974; Fiedler, 1969). While there are many situational theories (Bass, 1990) since this study focused on revising the Revised Leadership Scale for Sport, it is relevant here to only discuss the theories used to create the Revised Leadership Scale for Sport (RLSS) (Zhang et. al., 1996). The RLSS is a revision of Leadership Scale for Sport (Chelladurai, 1978). Chelladurai put forth a contingency model of leadership that was a combination of the path-goal theory of leadership (Evans, 1970a; Evans, 1970b; Evans, 1974; House, 1971; House and Dessler, 1974), the adaptive-reactive theory of leadership (Osborn and Hunt, 1975), and the discrepancy model of leadership (Yukl, 1971).

House's path-goal theory of leadership proposes that the behavior of the leader is to provide a path to which workers can attain the goals of the organization. The theory

proposes that the worker has some degree of motivation to accomplish the goals of the organization. The leader also provides the necessary rewards to which satisfy workers' consideration needs. Thus, the leader provides a path to create work, as well as self fulfillment (Chelladurai, 1978; House, 1971; Bass, 1990). Chelladurai (1978) summarizes the adaptive-reactive theory of leadership as, "Osborn and Hunt's (1975) adaptive-reactive theory of leadership visages leader behavior as consisting of his adaptation to the conditions of the wider organizational system and his reactions to the wants, desires, and pressures of subordinates" (pg. 32). Yukl's (1971) discrepancy model of leadership proposes that subordinate satisfaction is related to the discrepancy of subordinate preferences and the actual behavior of the leader. Thus, satisfaction would be greatest when the subordinate's preferences and the subordinate's perception of leader behavior are congruent. Based on these three situational theories and the lack of leadership theories specific to sport, Chelladurai noted, "It is also apparent that specific leader behaviors will be more relevant to some situations than to others. Hence, there is a need to develop a scale that taps leader behavior that are more appropriate to athletics" (Chelladurai, 1978, pg. 35).

#### *Development of the LSS and the RLSS*

The Leadership Scale for Sport was developed to provide a reliable and valid scale specific for leadership in sport (Chelladurai, 1978). In the past, numerous questionnaires or scales had been used to determine leadership behavior in industry or business, but none were adapted to the context of sport (Chelladurai, 1978). The first study using the



LSS incorporated items from past questionnaires from industry and business (Chelladurai & Saleh, 1978). Chelladurai hypothesized that group performance and athlete satisfaction were related to the congruence between athlete's preferred leadership behavior and the perceived leadership behavior of the coach. After modifying these items and making them meaningful to sporting situations (Chelladurai, 1978), Chelladurai administered the 99-item LSS to 160 students (males=80, females=80) enrolled in physical education degree programs at a Canadian university. Using factor analysis, these researchers were able to determine five meaningful dimensions of leader behavior (Chelladurai & Saleh, 1978). Using principal factoring with iteration and varimax rotation, 37 of the 99 items were selected with a factor loading of .40 or higher on one factor, and with no loading on any other factor exceeding the .30 level (Chelladurai, 1978). The five dimensions of leader behavior revealed were labeled (a) 'training behavior', (b) 'democratic behavior', (c) 'autocratic behavior', (d) 'social support', and (e) 'rewarding behavior.' Based upon Chelladurai and Saleh's (1980) recommendations, revisions to the scale were made and the revised LSS had a total of 40 questions. Response categories were anchored at often (75%), occasionally (50%), and seldom (25%), respectively. The researchers also found that by changing the preface of each item, three versions of the LSS could be studied (preferred, perceived, and actual). The revised LSS was administered to a new sample of physical education students (males=45, females=57) at different Canadian universities. These students were asked to indicate their preference for specific leader behavior in relation to their favorite sport

(Chelladurai, 1980). The revised LSS was also administered to 223 varsity athletes (81 basketball players, 62 wrestlers, 57 track and field athletes, and 23 oarsmen) at different Canadian universities who were asked to express their preference of leadership behavior and perceptions of their coach's behavior in the sport in which they were currently competing (Chelladurai, 1980). Of the 102 physical education students responding to the first questionnaire, 53 responded four weeks after the first test. Test-retest estimates range from .71 to .82 (Chelladurai, 1978). Cronbach's alpha was used to determine coefficient scores. Coefficient scores ranged from .45 to .95 and were found to be within acceptable limits (Chelladurai, 1978).

Zhang, Jensen, and Mann (1996) conducted a study to revise the three versions of the LSS. Zhang et. al. (1996) cited several reasons for revising the LSS, "Through a careful review and evaluation of the construction process and the quality of the LSS, the development process of the LSS may also be critically analyzed in accordance with a number of appropriate and necessary measurement procedures. Specifically, the analysis entails assessment of the suitability of the content validity and construct validity testing procedures used to develop the LSS, in particular an apparent failure to follow the simple structure principles of factor analysis. Nunnally (1978) once stated that 'most measures must be kept under constant surveillance to see if they are behaving as they should' (p.87), therefore, it is expected that careful revision of the LSS should result in a more effective measurement tool" (pg.108). Additionally, Zhang et. al. (1996) noted that items from the LSS were obtained from scales created for business and industry, rather than

specific sport contexts. While the LSS proposes the importance of situational factors, Zhang et. al. (1996) notes the lack of actual situational items in the LSS. While developing the LSS, Chelladurai, citing Kerlinger (1973), used different samples to support factorial validity. However, Zhang (1996) challenges this assumption by noting the LSS was developed through the use of Canadian intercollegiate athletes, and thus may not be culturally relevant to intercollegiate athletes in the United States. Lastly, Zhang et. al. (1996), noted that the five factors of the LSS were not supported by the findings of Gordon (1983) and Summers (1983).

Through factor analysis, the RLSS resulted in six common factors across the three versions, one more than in the original LSS (Zhang et al., 1996). Zhang et al. (1996) used different extraction and rotation techniques than were used in the original LSS. Using different subjects throughout the study, a five-stage process was used in the revision. Coaches, linguistic experts, and experts in coaching leadership were employed and consulted for revisions. A large number of coaches and athletes from different sports were then tested using the Revised Leadership Scale in Sport. A sixth and seventh factor were integrated into the RLSS labeled 'Situational Consideration Behavior' and 'Group Maintenance,' respectively (Zhang, 1996). The results of this study revealed that 'Situational Consideration Behavior' converged with the original five factors, while 'Group Maintenance Behavior' had low content validity scores and blended in with other factors, and was thus dropped from the final scale. The Revised Leadership Scale in Sport (RLSS) was found to be a reliable and valid instrument to test leadership in sport.

The authors recommended that future researchers arrange items in a random order, include Likert 5-scale wordings and quantifications (i.e., always-100% of time, often-75% of time, occasionally-50% of time, seldom-25% of time, never-0% of time), obtain a composite score for a factor equal to the sum of its item scores, and interpret each factor independently (Zhang, et al., 1996). Like the LSS, a manual for the use and interpretation of the RLSS was prepared and can be used to assess an athlete's preference and an athlete's perception of leadership, and a coach's perception of their own behaviors.

#### *Use of the LSS and RLSS*

Several studies have used either the LSS or RLSS to test a variety of variables affecting leadership. The effects of personality traits, maturity, athlete's experience, nationality, gender, performance, organizational goals, institutional limits and variables, task characteristics, gender differences, coaching experience, coaching level, athlete preferences and perceived leadership, ability, satisfaction, task dependence, task variability, open or closed sports, and different situations have all been studied using the five factors of the LSS or the six factors of the RLSS (Chelladurai, 1978; Chelladurai, et al., 1988; Jambor & Zhang 1997; Chelladurai & Saleh, 1978; Chelladurai & Carron, 1983; Chelladurai, 1984; Schliesman, 1987; Sherman, Fuller, Speed, 2000; Neil & Kirby, 1985; Riemer & Chelladurai, 1995; Raalte, et al., 1992).

### *Development and Use of the SCCLSS*

While these studies focus on the coach or athlete of a particular sport, only one study has looked at the leadership behavior of strength and conditioning coaches (Brooks, et.al. 2000). In previous research, athletes have ranked strength and conditioning coaches in terms of coaching expertise in sport, physical, and mental domains (Raalte, et.al. 1992). Athletes rated eleven different coaching and noncoaching practitioners. The expertise of the strength coach was rated by athletes as second in the sport domain, first in the physical domain, and eleventh in mental domain. The Brooks et al. (2000) study revised the LSS and created the Strength and Conditioning Coaches Leadership Scale for Sport (SCCLSS). Brooks et al. (2000) also revealed certain job responsibilities of the Division I strength coach. The strength coach plays an important role working with athletes, but is also an administrator within the athletic department. In the Brooks, et al. study (2000), only head and assistant strength and conditioning coaches' perceptions of their own behavior was assessed. Comparisons between head and assistant strength coaches' perception of leadership were analyzed and discussed. No significant differences were found between head or assistant coaches regarding the five factors of leadership behavior. The study also revealed no significant differences between male and female strength coaches regarding the five factors of leadership behavior (Brooks, et.al. 2000). However, internal consistency estimates using Cronbach's alpha were below the recommended level (Cronbach, 1951 and Nunnally, 1978). With only 26% of all Division I strength coaches responding, it is likely that this affected reliability. Brooks et al. (2000) noted

future researchers may want to add more homogenous items to each of the five factors. They also recommended that test-retest reliability scores be established for the SCCLSS (Brooks, et.al 2000). The researchers reported consulting with two strength and conditioning coaches and Dr. Chelladurai, creator of the original LSS, for feedback and editorial changes during the development of the SCCLSS. It is also worth noting that during the initial creation of the LSS, reliability scores were not attained from the coach's version of the scale, but merely assumed because reliability scores were obtained for the athlete's preference and athlete's perception version of the scale (Chelladurai, 1978). Referring back to the development of the LSS, there were several stages of tests and revisions to the scale. Chelladurai (1990) gave several recommendations based on the purported problems with the LSS. Additionally, the findings of some studies have not supported the five dimensions of the LSS (Gordon, 1986; Summers, 1983). With the internal consistency of the SCCLSS being below acceptable limits, a stronger subscale structure could help alleviate the problem of not meeting recommended coefficient scores. Zhang et al. (1997) also noted the LSS was developed with the use of Canadian subjects, which may cause interference with the validity of the LSS when used with non-Canadian subjects. Chelladurai (1990) listed two additional areas of concerns regarding the items on the scale: items on the scale should come from coaches, athletes, and sport, rather than their origins in business and industry and the items on the scale should account for the context of leader behavior, not just frequency. Although the 60-item RLSS has stronger psychometric properties, higher

factor loadings of items and higher alpha coefficient scores, than the 40-item LSS, and was validated through more rigorous testing, it has not been used in the context of strength and conditioning. The SCCLSS has been studied in the context of strength and conditioning (Brooks et al., 1996), however, its reliability scores were below acceptable limits.

### III. METHODS

The purpose of this study is to establish reliability scores using the Revised Leadership Scale for Strength and Conditioning (RLSSC). Reliability was tested by calculating the alpha coefficient. Alpha coefficient, commonly referred to as Cronbach's alpha, measures the internal consistency of the items on the scale. Cronbach's alpha determines the degree to which the items within each factor are related to each other. The RLSSC is a revision of the Revised Leadership Scale for Sport (RLSS), a reliable and valid scale (Zhang et al. 1996). The RLSS can be used in three ways. The RLSS can be used to assess an athlete's perception of their coach's behaviors, an athlete's preference of coaching behaviors, and a coach's perception of their own behaviors.

The subjects used for this study participated in a university-sponsored varsity sport during the 2002-2003 school year. The university is a large public institution in the southeastern United States affiliated with the NCAA. All men's sport head coaches were contacted and asked for their approval prior to surveying athletes they coach (Appendix A). Individual athlete participation was voluntary, and a consent form was signed by the athlete prior to completing the scale. A total of 61 athletes from 6 sports responded to the scale. A member of the strength and conditioning staff at this university or the author administered the scale. Athletes voluntarily completed scales before workouts, after workouts, or occasionally in their dorm. Of the 61 completed scales, 53 (n=53) were determined to have been completed to the satisfaction of the author. The unused scales were left out because it was either obvious they were completed apathetically (all items



where answered with the same response) or a consistently suspicious pattern (such as 1, 2, 3, 1, 2, 3...) items were answered developed on the scoring sheet. Approval for use of the modified version of the RLSS was obtained from the primary author, Dr. James Zhang, and athletes were asked to respond to the modified version (Appendix, C). After minor changes were made to the scale, Dr. Zhang confirmed that the changes were insignificant to affect construct validity of scale. The scale, the Revised Leadership Scale for Strength and Conditioning (Appendix, D), assessed athlete's preference of leadership style among strength and conditioning coaches. This Likert style scale contains 60 items and responses are anchored as follows (1) 'always', 100% of the time, (2) 'often', 75% of the time, (3) 'occasionally', 50%, (4) 'seldom', 25%, and (5) 'never', 0%. Athletes also responded to a series of standard demographic questions (Appendix, E).

All scales were completed with an NCS Pearson evaluation sheet, commonly referred to as a 'scantron sheet'. Only the primary investigator, Brian Gearity, and advisor, Dr. Dennie Kelley, have access to completed scales. Completed scales are stored in a locked filing cabinet in Dr. Kelley's office in the Health, Physical Education, Recreation and Dance building located at 1914 Andy Holt Dr. Data were analyzed by the computer program Statistical Packages for the Social Sciences version 11.0, commonly referred to as SPSS. SPSS 11.0 is a computer software program designed for data analysis in the social sciences. Reliability was determined using Cronbach's alpha. Coefficient scores above 0.70 are considered acceptable (Cronbach, 1951 and Nunnally, 1978), however, previous research has allowed for slightly lower levels to be considered acceptable

(Chelladurai, 1978 and Zhang et al., 1996). Raw data were made available to the research committee and the University of Tennessee's Statistical Consulting Center when needed. There was a very low potential for risk, as athletes responded to survey type questions used to assess leadership.

#### IV. RESULTS

The purpose of this study is to establish reliability scores using the Revised Leadership Scale for Strength and Conditioning (RLSSC). Reliability was tested by calculating the alpha coefficient. Athletes from the sports of baseball (n=11), football (n=15), basketball (n=16), swimming and diving (n=14), golf (n=6), and tennis (n=4) responded to a series of demographic questions and the RLSSC. The subjects' ages ranged from 19 to 23 and were freshman (n=11), sophomores (n=15), juniors (n=16), seniors (n=8), or 5<sup>th</sup> year seniors (n=1). Subjects characterized themselves as either American Indian/Alaskan Native (n=2), Asian or Pacific Islander (n=3), Black (n=13) or White (n=31).

An overall reliability score was established for the RLSSC, as well as for each of the six factors. The overall coefficient score, Cronbach's alpha, was 0.9328. The coefficient scores for the six factors are: 'social support', 0.75; 'situational consideration', 0.76, 'training and instruction', 0.90; 'democratic behavior', 0.83, 'autocratic behavior', 0.64; and 'personal feedback', 0.84. All of these scores are considered within acceptable limits except the factor of 'autocratic behavior'. However, autocratic behavior has consistently been found to be the least reliable factor in previous research using the RLSS and LSS. Zhang et al. (1996) reported a coefficient score of .59 for 'autocratic behavior' while Chelladurai (1978) reported a coefficient score of .45. Therefore, the coefficient score of .64 for autocratic behavior is considered acceptable.

Reliability scores for the RLSSC are higher than those found by Brooks et al. (2000).

Table 1 shows reliability coefficient scores as they compare to other work with the RLSS, LSS, and SCCLSS. Validity of the RLSSC is also enhanced by increased alpha coefficients.

**Table 1: Coefficient Scores for Leadership Scales**

Factor	Scale Used			
	RLSSC	RLSS	SCCLSS	LSS
	Gearity (2003)	Zhang et al. (1996)	Brooks et al. (2000)	Chelladurai (1978)
Social Support	0.75	0.88	0.4	0.7
Training and Instruction	0.90	0.87	0.45	0.83
Democratic Behavior	0.83	0.96	0.48	0.75
Autocratic Behavior	0.64	0.59	0.56	0.45
Positive Feedback	0.84	0.89	0.43	0.82
Situational Consideration	0.76	0.84		

## V. DISCUSSION

The results of this study establish reliability scores within acceptable limits for the six factors of the Revised Leadership for Strength and Conditioning (RLSSC). Content validity of the RLSSC is found through the previously established Revised Leadership Scale for Sport (RLSS) (Zhang et al. 1996) and the approval of changes made by an expert on leadership, Dr. James Zhang. The Revised Leadership Scale for Strength and Conditioning scale has been labeled as such for several reasons. Strength and conditioning is not a sport, therefore, a scale used to assess leadership in this area should not contain the word 'sport' as it would be misleading. While weightlifting, powerlifting, and bodybuilding are sports, the RLSSC is used to assess the athlete and coach leadership relationship as it pertains to training, not actual competition. Additionally, the scale is not for the sole use of strength and conditioning coaches, although strength and conditioning coaches would benefit from using the scale to gain a better understanding of their athletes coaching preference.. The RLSSC can measure more than a coach's perception of their own behavior, therefore, the word 'coach' would be misleading. It could also be used to assess athlete preference and athlete perception of leadership. Since the RLSSC is a revision of the RLSS, it seems appropriate to carryover the label of 'revised' to current scale.

If Chelladurai's contingency model is correct, satisfaction should be related to the congruence between preferred and perceived behavior (Chelladurai, 1978). With the establishment of a valid scale for strength and conditioning, future studies may help

clarify the contingency model as it relates to strength and conditioning. Additionally, strength and conditioning coaches will be able to determine if different behaviors should be used with athletes of different sports. Athletes preferred behaviors with strength and conditioning coaches would educate coaches as to what behaviors are expected by athletes of a particular sport. Lastly, the National Strength and Conditioning Association's (NSCA) Education Recognition Program (ERP) does not currently require a coaching, management, or leadership course. The findings of this study and subsequent use of the SCCLSS may influence further development of the ERP.

Several questions arose regarding the development of leadership scales for sport and the methodology used. The RLSS and Leadership Scale for Sport (LSS) have promoted that they can be used to assess athlete's preference to leadership by changing the prefix to 'I prefer my strength and conditioning coach to...'. However, the distinction between individual and other teammates is unclear. While the prefix asks individual opinion, the questions are phrased in terms of 'athletes', not the individual. While one athlete may indeed prefer a particular style of leadership, he or she may not want to generalize his or her preference to all, which the term 'athletes' may very well imply. This is considered a limitation of the use of these scales. After reviewing the literature carefully, one needs to be weary of transferring the use of a leadership scale to a variety of populations.

Reliability and validity of a scale is normally confirmed through the assessment of a specific sample. When the scale is transferred cross-culturally, through different age groups or any variety of applications, the items on the scale may not be relevant to the

sample being tested, as they were validated to a specific sample. Lastly, the athlete's preference of leadership is undoubtedly influenced by the athlete's previous experiences in strength and conditioning. Additional research to the relationship between an athlete's current perceived leadership, and history of leadership should be assessed to determine the significance of past experiences with preferred leadership. While leadership scales can provide a quick and general assessment of leadership, this author recommends the use of a qualitative study to assess leadership preference by athletes and the situations where they are preferred. A qualitative study could provide a wealth of detailed knowledge on the ever elusive area of leadership.

This study has significant impact for strength and conditioning coaches. For example, strength and conditioning coaches could determine what leadership behaviors are preferred and perceived among a variety of sports at the collegiate level. With the availability of a quick and easy-to-use scale, strength and conditioning coaches could enhance their relationship with athletes, which presumably will increase satisfaction. Additionally, with the use of a valid and effective instrument to assess an important aspect of athletic performance and coaching, it encourages further research in the field of strength and conditioning coaching.

Also, colleges and universities may apply to become a recognized education program of the National Strength and Conditioning Association (NSCA). The NSCA is a nationally recognized association committed to the dissemination of research and practical knowledge of strength and conditioning at many levels. By applying for and meeting



certain educational requirements, colleges and universities can apply for the NSCA/s Education Recognition Program (ERP). The results of this study could contribute to the requirements set forth in the ERP. By adding a leadership course specific for strength and conditioning coaches to the ERP, future strength and conditioning coaches will be better prepared and more effective coaches.

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## APPENDICES

## Appendix A

### COACH'S CONSENT

#### "The Revised Leadership Scale for Strength and Conditioning"

Your athletes are invited to participate in a research study titled, "The Revised Leadership Scale for Strength and Conditioning." The purpose of this study is to establish a reliable and valid scale used to assess leadership preferences of athletes. Athletes are asked to complete a scale containing sixty questions that require a 1-5 rating. It takes approximately 15 minutes to complete the scale. Findings from the study may require the researcher to contact athletes to participate in a second study. Athletes will complete the scale on two different occasions five weeks apart. The second study will involve a similar scale with fewer questions.

There will be no monetary compensation for completing the scale. However, the results from the study can be used to enhance the strength coach/athlete relationship.

There are no risks involved with the scale. Completed scales are kept confidential and locked in the office of Dr. Dennie Kelley, professor of sport management at the Univ. of Tennessee. Only the primary investigator, Brian Gearity, and Dr. Dennie Kelley will have access to the scales. If you have any questions regarding the scale or wish to know the results of the study, you may contact Brian Gearity by email [btgearity@yahoo.com](mailto:btgearity@yahoo.com) or phone (865)405-1336.

Individual athlete's participation is voluntary, refusal to participate will involve no penalty or loss of benefits to which participants are otherwise entitled and participants may discontinue participation at any time without penalty or loss of benefits to which they are otherwise entitled.

If it appears to the researcher that a scale was not completed adequately, the scale will be removed from the study.

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#### Consent

I have read the above information. I have received a copy of this form. I agree to allow the athletes of my sport to participate in this study.

Coach's **Signature** \_\_\_\_\_ **Date** \_\_\_\_\_

## Appendix B

### INFORMED CONSENT

#### “The Revised Leadership Scale for Strength and Conditioning”

You are invited to participate in a research study titled, “The Revised Leadership Scale for Strength and Conditioning.” The purpose of this study is to establish a reliable and valid scale used to assess leadership preferences of athletes. You are asked to complete a scale containing sixty questions that require a 1-5 rating. It takes approximately 15 minutes to complete the scale. Findings from the study may require the researcher to contact you to participate in a second study. You will be asked to complete the second scale five weeks after the initial scale. The second study will involve a similar scale with fewer questions.

There will be no monetary compensation for completing the scale. However, the results from the study can be used to enhance the strength coach/athlete relationship.

There are no risks involved with the scale. Completed scales are kept confidential and locked in the office of Dr. Dennie Kelley, professor of sport management at the Univ. of Tennessee. Only the primary investigator, Brian Gearity, and Dr. Dennie Kelley will have access to the scales. If you have any questions regarding the scale or wish to know the results of the study, you may contact Brian Gearity by email [btgearity@yahoo.com](mailto:btgearity@yahoo.com) or phone (865)405-1336.

Participation is voluntary, refusal to participate will involve no penalty or loss of benefits to which participants are otherwise entitled and participants may discontinue participation at any time without penalty or loss of benefits to which they are otherwise entitled.

If it appears to the researcher that a scale was not completed adequately, the scale will be removed from the study.

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#### Consent

I have read the above information. I have received a copy of this form. I agree to participate in this study.

Participant's **Signature** \_\_\_\_\_ **Date** \_\_\_\_\_

**Appendix C**

**MANUAL FOR THE APPLICATION OF  
THE REVISED LEADERSHIP SCALE FOR SPORT (RLSS)**

**by**

**James J. Zhang  
Barbara E. Jensen  
Betty L. Mann**

**1995**

**34**

## Manual for the Application of the Revised Leadership Scale for Sport (RLSS)

The leadership scale for Sport was originally formulated by P. Chelladurai and S. D. Saleh in 1980, and was later revised by James J. Zhang, Barbara E. Jense, and Betty L. Mann in 1995. Three versions of the Revised Leadership Scale for Sport (RLSS) are listed in the following pages respectively, which are athlete preference version, athlete perception version, and coach self-evaluation version. The dimensions of coaching leadership behaviors are defined as follows:

### Training & Instruction Behavior (TI). Coaching behaviors aimed at:

- improving the athlete's performance by emphasizing and facilitating hard and strenuous training.
- instructing the athletes in the skills, techniques, and the tactics of the sport.
- providing the athletes with facilities, equipment, and practice methods which allow for the safety of the athletes.
- planning training practices and evaluating the performance of the athletes.
- having knowledge and being responsible.

### Democratic Behavior (DB). Coaching behaviors aimed at:

- allowing participation by the athlete in decisions pertaining to group goals, practice methods, and game tactics and strategies.
- respecting and accepting the rights of the athletes.
- encouraging involvement of the athletes in personnel selection and performance evaluation.
- admitting mistakes and confronting problems.

### Autocratic Behavior (AB). Coaching behaviors aimed at:

- making independent decisions.
- making and stressing personal authority.
- using commands and punishment.
- acting without considering the feeling and thinking of the athletes.
- prescribing the ways to get work done.

Social Support Behavior (SS). Coaching behaviors aimed at:

- providing the athletes with psychological supports which are indirectly related to athletic training or competition.
- helping the athletes with personal problems.
- providing for the welfare of the athletes.
- establishing friendship, positive group atmosphere, and warm interpersonal relations with the athletes.
- making sport part of enjoyment of an athlete's life.
- protecting the athletes from any outside harm.

Positive Feedback Behavior (PF). Coaching behaviors aimed at:

- reinforcing the athletes by recognizing and rewarding good performance.
- encouraging an athlete after making a mistake.
- correcting the behavior rather than blaming the athletes.
- complimenting the athletes properly.
- using body language properly.

Situational Consideration Behaviors (SC). Coaching behaviors aimed at:

- considering situational factors, such as time, game, environment, individual, gender, skill level, and health condition.
- setting up individual goals and clarifying ways to reach the goals.
- differentiating coaching methods at different maturity stages and skill levels.
- selecting an athlete for the appropriate game position or line up.

### **The Revised Leadership Scale for Sport (Athlete's Preference Version)**

Directions: Each of the following statements describe a specific behavior that a coach may exhibit. For each statement there are five alternative answers, as follows: 5 means 'always' (100% of the time); 4 means 'often' (75% of the time); 3 means 'occasionally' (50% of the time); 2 means 'seldom' (25% of the time); and 1 means 'never' (0% of the time).

Please indicate your preference by circling the appropriate space. Answer all items even if you are unsure of a response. Please note that this is not an evaluation of your present coach or any other coach. **It is your own personal preference that is required.** There are no right or wrong answers. Your spontaneous and honest response is important for the success of this evaluation.

Example: I prefer my coach to like each athlete on the team. 1 2 3 4 5

#### **I prefer my coach to:**

1. Coach to the level of the athletes. 1 2 3 4 5
2. Encourage close and informal relationship with the athletes. 1 2 3 4 5
3. Make complex things easier to understand and learn. 1 2 3 4 5
4. Put the suggestions made by the team members into operation. 1 2 3 4 5

5. Set goals that are compatible with the athletes' ability. 1 2 3 4 5
6. Disregard athletes' fears and dissatisfactions. 1 2 3 4 5
7. Ask for the opinion of the athletes on strategies for specific competition. 1 2 3 4 5
8. Clarify goals and the paths to reach the goals for the athletes. 1 2 3 4 5
9. Encourage the athletes to make suggestions for ways to conduct practices. 1 2 3 4 5
10. Adapt coaching style to suit the situation. 1 2 3 4 5
11. Use alternative methods when the efforts of the athletes are not working well in practice or in competition. 1 2 3 4 5
12. Pay special attention to correcting athletes' mistakes. 1 2 3 4 5
13. Let the athletes try their own way even if they make mistakes. 1 2 3 4 5
- I prefer my coach to:**
14. See the merits of athletes' ideas when differ from the coach's. 1 2 3 4 5
15. Show 'O.K.' or 'Thumbs Up' gesture to the athletes. 1 2 3 4 5
16. Remain sensitive to the needs of the athletes. 1 2 3 4 5
17. Stay interested in the personal well-being of the athletes. 1 2 3 4 5
18. Pat an athlete after a good performance. 1 2 3 4 5
19. Explain to each athlete the techniques and tactics of the sport. 1 2 3 4 5
20. Congratulate an athlete after a good play. 1 2 3 4 5
21. Refuse to compromise on a point. 1 2 3 4 5
22. Use a variety of drills for a practice. 1 2 3 4 5
23. Stress the mastery of greater skills. 1 2 3 4 5



- |   |           |
|---|-----------|
| 24. Alter plans due to unforeseen events.                                   | 1 2 3 4 5 |
| 25. Let the athletes set their own goals.                                   | 1 2 3 4 5 |
| 26. Look out for the personal welfare of the athletes.                      | 1 2 3 4 5 |
| 27. Use objective measurements for evaluation.                              | 1 2 3 4 5 |
| 28. Plan for the team relatively independent of the athletes.               | 1 2 3 4 5 |
| 29. Tell an athlete when the athlete does a particularly good job.          | 1 2 3 4 5 |
| 30. Get approval from the athletes on important matters before going ahead. | 1 2 3 4 5 |
| 31. Express appreciation when an athlete performs well.                     | 1 2 3 4 5 |
| 32. Put the appropriate athletes in the lineup.                             | 1 2 3 4 5 |
| 33. Encourage the athletes to confide in the coach.                         | 1 2 3 4 5 |
| 34. Prescribe the methods to be followed.                                   | 1 2 3 4 5 |
| 35. Dislike suggestions and opinions from the athletes.                     | 1 2 3 4 5 |
| 36. Conduct proper progressions in teaching fundamentals.                   | 1 2 3 4 5 |
| <b><u>I prefer my coach to:</u></b>   |           |
| 37. Supervise athletes' drills closely.                                     | 1 2 3 4 5 |
| 38. Clarify training priorities and work on them.                           | 1 2 3 4 5 |
| 39. Possess good knowledge of the sport.                                    | 1 2 3 4 5 |
| 40. Fail to explain his/her actions.  | 1 2 3 4 5 |
| 41. Encourage an athlete when the athlete makes mistakes in performance.    | 1 2 3 4 5 |
| 42. Praise the athletes' good performance after losing a competition.       | 1 2 3 4 5 |

43. Put an athlete into different positions depending on the needs of the situation. 1 2 3 4 5
44. Assign tasks according to each individual's ability and needs. 1 2 3 4 5
45. Recognize individual contributions to the success of each competition. 1 2 3 4 5
46. Present ideas forcefully. 1 2 3 4 5
47. Let the athletes decide on plays to be used in a competition. 1 2 3 4 5
48. Perform personal favors for the athletes. 1 2 3 4 5
49. Compliment an athlete for good performance in front of others. 1 2 3 4 5
50. Give the athletes freedom to determine the details of conducting a drill. 1 2 3 4 5
51. Get input from the athletes at daily team meetings. 1 2 3 4 5
52. Clap hands when an athlete does well. 1 2 3 4 5
53. Give credit when it is due. 1 2 3 4 5
54. Help the athletes with their personal problems. 1 2 3 4 5
55. Ask for the opinion of the athletes on important coaching matters. 1 2 3 4 5
56. Reward an athlete as long as the athlete tries hard. 1 2 3 4 5

**I prefer my coach to:**

57. Let the athletes share in decision making and policy formulation. 1 2 3 4 5
58. Visit with the parents/guardians of the athletes. 1 2 3 4 5
59. Keep aloof from the athletes. 1 2 3 4 5
60. Increase complexity and demands if the athletes find the demands are too easy. 1 2 3 4 5

## Appendix D

### **The Revised Leadership Scale for Strength and Conditioning (Athlete's Preference Version)**

**Directions:** Each of the following statements describe a specific behavior that a coach may exhibit. For each statement there are five alternative answers, as follows: 5 means 'always' (100% of the time); 4 means 'often' (75% of the time); 3 means 'occasionally' (50% of the time); 2 means 'seldom' (25% of the time); and 1 means 'never' (0% of the time).

Please indicate your preference by filling in the circle on the separate answer sheet provided. Answer all items even if you are unsure of a response. Please note that this is not an evaluation of your present coach or any other coach. **It is your own personal preference that is required.** There are no right or wrong answers. Your spontaneous and honest response is important for the success of this evaluation.

Example: I prefer my coach to like each athlete on the team. 1 2 3 4 5

#### **I prefer my strength and conditioning coach to:**

1. Coach to the level of the athletes. 1 2 3 4 5
2. Encourage close and informal relationships with the athletes. 1 2 3 4 5
3. Make complex things easier to understand and learn. 1 2 3 4 5
4. Put the training suggestions made by team members into operation. 1 2 3 4 5
5. Set training goals that are compatible with the athletes' ability. 1 2 3 4 5
6. Disregard athletes' fears and/or dissatisfactions. 1 2 3 4 5
7. Ask for the opinion of the athletes on specific strategies for enhancing the strength and conditioning program. 1 2 3 4 5
8. Clarify strength training goals and the paths to reach these goals for the athletes. 1 2 3 4 5
9. Encourage the athletes to make suggestions for ways to conduct strength and conditioning workouts. 1 2 3 4 5

10. Adapt coaching style to suit the situation. 1 2 3 4 5
11. Use alternative methods when the athletes' efforts are not working well during lifting or training. 1 2 3 4 5
- I prefer my strength and conditioning coach to:**
12. Pay special attention to correcting athletes' mistakes during workouts. 1 2 3 4 5
13. Let the athletes try their own way even if they make mistakes. 1 2 3 4 5
14. See the merits of athletes' ideas when different from the coach's. 1 2 3 4 5
15. Show an 'O.K.' or 'Thumbs Up' gesture to the athletes. 1 2 3 4 5
16. Remain sensitive to the needs of the athletes. 1 2 3 4 5
17. Stay interested in the personal well-being of the athletes. 1 2 3 4 5
18. Pat (on shoulder or back) an athlete after a good performance. 1 2 3 4 5
19. Explain to each athlete the techniques and tactics of the strength and conditioning drill (running form or lifting technique). 1 2 3 4 5
20. Congratulate an athlete after a good lift. 1 2 3 4 5
21. Refuse to compromise on a point. 1 2 3 4 5
22. Use a variety of drills in a workout. 1 2 3 4 5
23. Stress the mastery of greater skills. 1 2 3 4 5
24. Alter training sessions' plans due to unforeseen events. 1 2 3 4 5
25. Let the athletes set their own training goals. 1 2 3 4 5
26. Look out for the personal welfare of the athletes. 1 2 3 4 5
27. Use objective measurements for evaluation (vertical jump, long jump). 1 2 3 4 5
28. Plan training programs for the team without the input of the athletes. 1 2 3 4 5

29. Tell an athlete when the athlete does a particularly good job working out. 1 2 3 4 5
30. Get approval from the athletes on important strength and conditioning matters before going ahead. 1 2 3 4 5
31. Express appreciation when an athlete performs well during workouts. 1 2 3 4 5

**I prefer my strength and conditioning coach to:**

32. Suggest to the head coach which athletes should be on the first team (start). 1 2 3 4 5
33. Encourage the athletes to confide in the strength and conditioning coach. 1 2 3 4 5
34. Prescribe the strength training methods to be followed. 1 2 3 4 5
35. Dislike suggestions and opinions from the athletes. 1 2 3 4 5
36. Conduct proper progressions in teaching fundamentals. 1 2 3 4 5
37. Supervise athletes' drills closely. 1 2 3 4 5
38. Clarify training priorities and work on them. 1 2 3 4 5
39. Possess good knowledge of strength and conditioning. 1 2 3 4 5
40. Fail to explain his/her actions. 1 2 3 4 5
41. Encourage an athlete when the athlete makes mistakes while working out. 1 2 3 4 5
42. Praise the athletes' good effort after failing a lift. 1 2 3 4 5
43. Put an athlete into different positions depending on the needs of the situation. 1 2 3 4 5
44. Assign tasks according to each individual's abilities and needs. 1 2 3 4 5
45. Recognize individual contributions to the success of each strength and conditioning workout. 1 2 3 4 5

46. Present ideas forcefully. 1 2 3 4 5
47. Let the athletes decide on strength and conditioning exercises to be used in a workout. 1 2 3 4 5
48. Perform personal favors for the athletes. 1 2 3 4 5
49. Compliment an athlete for a good performance in front of others. 1 2 3 4 5
50. Give the athletes freedom to determine the details of conducting a drill. 1 2 3 4 5
- I prefer my strength and conditioning coach to:**
51. Get input from the athletes during workouts. 1 2 3 4 5
52. Clap hands when an athlete does well. 1 2 3 4 5
53. Give credit when it is due. 1 2 3 4 5
54. Help the athletes with their personal problems. 1 2 3 4 5
55. Ask for the opinion of the athletes on important strength training matters. 1 2 3 4 5
56. Reward an athlete as long as the athlete tries hard. 1 2 3 4 5
57. Let the athletes share in decision making and policy formulation. 1 2 3 4 5
58. Visit with the parents/guardians of the athletes. 1 2 3 4 5
59. Keep aloof (apart or away) from the athletes. 1 2 3 4 5
60. Increase complexity and demands if the athletes find the demands are too easy. 1 2 3 4 5

## Appendix E

### DEMOGRPAHIC QUESTIONS FOR ATHLETES VERSION OF LEADERSHIP SCALE FOR STRENGTH AND CONDITIONING

Please DO NOT write your name on the answer sheet. Fill out the appropriate response for the boxes labeled SEX and BIRTHDATE. For identification number, please write your social security number in the first nine columns. Column 'J' should be left blank. Please fill in only one circle for all responses and fill in the circle completely.

#### Question #61

Gender

A=Male

B=Female

#### Question #62

Ethnic background

A=American Indian/Alaskan Native

B=Asian or Pacific Islander

C=Black

D=Hispanic

E=White

For Questions #63-70

Fill in circle A for 'Yes' answers

Fill in circle B for 'No' answers

I play:

- |                         |       |      |
|-------------------------|-------|------|
| 63) Baseball            | A=Yes | B=No |
| 64) Basketball          | A=Yes | B=No |
| 65) Cross Country       | A=Yes | B=No |
| 66) Football            | A=Yes | B=No |
| 67) Golf                | A=Yes | B=No |
| 68) Swimming and Diving | A=Yes | B=No |
| 69) Tennis              | A=Yes | B=No |
| 70) Track and Field     | A=Yes | B=No |



Question #71

Please fill in the circle with the corresponding letter.

The most recent sport I played/playing is:

A=Baseball

B=Basketball

C=Cross Country

D=Football

E=Golf

F=Swimming and Diving

G=Tennis

H=Track and Field

Question #72

During my most recent sport, I would consider myself a:

A=Starter/1<sup>st</sup> team

B=Back-Up/2<sup>nd</sup> team

C=Third team

D=Fourth Team

Question#73

I have played \_\_\_\_ years with the most recent team.

A=1

B=2

C=3

D=4

E=5

F=6+

Question #74

I have \_\_\_\_ years of varsity experience.

A=1

B=2

C=3

D=4

E=5

F=6+

**Question #75**

**I started playing my most recent sport in:**

**A=College**

**B=High School (9-12)**

**C=Junior High/Middle School (7-8)**

**D=Elementary School (1-6)**

**Question #76**

**Academically, I am a:**

**A=Freshman**

**B=Sophomore**

**C=Junior**

**D=Senior**

**E=Fifth Year Senior**

**F=1<sup>st</sup> year Graduate Student**

**Question #77**

**I have been in college \_\_\_\_ years:**

**A=1**

**B=2**

**C=3**

**D=4**

**E=5**

**F=6+**

**Question #78**

**I worked with a strength coach in high school?**

**A=True**

**B=False**

**Questions #79**

**\_\_\_\_ strength coaches currently work with my sport?**

**A=1**

**B=2**

**C=3**

**D=4**

**E=5+**

Question #80

I work with \_\_\_\_ strength coaches on a day-to-day basis?

A=1

B=2

C=3

D=4

E=5+

Question #81

I usually work with \_\_\_\_ strength coach(es) on a day-to-day basis?

A=1

B=1-2

C=2

D=2-3

E=3

F=3-4

G=4

H=4-5

I=5

J=5+

## Vita

Brian Gearity was born in Beachwood, OH on July 31, 1979. He went to elementary, middle and high school in the Beachwood school district, Beachwood, OH. From there he went to nearby John Carroll University in University Heights, OH, where he earned a degree in Exercise Science and Physical Education in May, 2001. He is currently pursuing a Masters degree in Sport and Leisure Studies from the University of Tennessee, Knoxville (UTK). He served as a graduate teaching associate for the Health, Physical Recreation and Dance department during the 2001-2002 school-year and is currently a graduate assistant in the strength and conditioning department of men's athletics at UTK.