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PREDICTORS OF SATISFACTION WITH SPORT LEADERSHIP IN
SMALL-COLLEGE FOOTBALL PLAYERS

by

Derek R. Reinke

A thesis submitted in partial fulfillment
of the requirements for the degree

of

MASTER OF SCIENCE

in

Psychology
(Research and Evaluation Methodology)

Approved:

UTAH STATE UNIVERSITY
Logan, Utah

2001

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ABSTRACT

Predictors of Satisfaction with Sport Leadership in
Small-College Football Players

by

Derek R. Reinke, Master of Science

Utah State University, 2001

Co-Major Professors: Drs. Richard Gordin and Karl White
Department: Psychology

This study investigated eight possible predictors of satisfaction levels in small-college football players. The sample ($N = 442$) included eight nonscholarship football programs from the NCAA Division III or NAIA classifications. Measures included Zhang's Revised Version of Chelladurai's Leadership Scale for Sport, and a seven-item subscale of the Scale of Athlete Satisfaction.

The six subscales of the Revised Leadership Scale for Sport each yielded a significant linear relationship with the satisfaction outcome measure: social support ($r = .696$), situational consideration ($r = .665$), positive feedback ($r = .654$), teaching and instruction ($r = .627$), democratic behaviors ($r = .501$), and autocratic behaviors ($r = -.372$). Minimal correlations were found between satisfaction and the two other predictors evaluated: each team's win/loss percentage ($r = .164$) and each player's estimated amount of playing time ($r = .121$). With the large sample size, these two modest correlations were also statistically significant. However, as neither accounted for

more than 2% of the total variance in satisfaction levels, they are not likely to have practical significance.

The predictors were also evaluated via stepwise multiple regression analysis to assess which combination(s) would account for more of the overall variance.

Unfortunately, a mild case of multicollinearity made it difficult to attribute relative importance to the predictors. For example, the situational consideration subscale recorded especially high correlations with several of the other Revised Leadership Scale for Sport subscales. Overall, results indicate that specific coaching behaviors are more associated with player satisfaction in small-college players than are reported in previous samples of other types of athletes. As such, coaches are encouraged to provide support for players in off-the-field endeavors, offer positive feedback on performance goals, and combine knowledge of the sport with the ability to make adjustments in strategies and coaching behaviors.

A comparison of the current sample of nonscholarship, small-college football players and a sample of full-scholarship (NCAA Division I-AA) football players revealed several interesting differences. In the current sample, the correlations between social support and satisfaction, and democratic behavior and satisfaction, were substantially higher. Additionally, a much stronger negative relationship existed between autocratic coaching behaviors and satisfaction among small-college players.

ACKNOWLEDGMENTS

I would like to express my sincerest appreciation to the coaching staffs of the eight college football teams that participated in this study. The investigation would never have left the drawing board without access to a large sample of current small-college players. Coaches' support of this project overwhelmed even my highest of hopes. My own experience as a student-athlete in a nonscholarship football program was immensely rewarding. I feel indebted for that opportunity and hope that this research gives something back to my favorite sport—small-college football.

I would also like to acknowledge my dedicated committee members. I would like to thank Dr. Rich Gordin, for his initial support of my research premise, timely feedback on manuscript drafts, and encouragement throughout the research and writing process. I am also very grateful to have worked with Drs. Karl White and Tim Slocum. They were always willing to donate their time and are true experts in research design and data analysis.

Finally, I could not have completed this project without the support and encouragement of my dear family, close friends, and wonderfully challenging colleagues. Thanks especially to my parents, Darrell and Sara, my patient and loving girlfriend, Amy Reed, and my “editor,” fellow graduate student Jason Goodson. Thank you all!

Derek R. Reinke

CONTENTS

| | Page |
|--|------|
| ABSTRACT | iii |
| ACKNOWLEDGMENTS | v |
| LIST OF TABLES | viii |
| PROBLEM STATEMENT | 1 |
| REVIEW OF LITERATURE | 3 |
| Measurement of Sport Leadership Styles | 3 |
| Athlete Satisfaction | 11 |
| Playing Time, Winning Percentage, and Satisfaction | 18 |
| Nonscholarship Athletics | 19 |
| Summary and Research Question | 22 |
| METHOD | 24 |
| Participants | 24 |
| Instruments | 24 |
| Procedure | 26 |
| RESULTS | 28 |
| Psychometric Performance of the Instruments | 28 |
| Correlations of the RLSS Subscales with Satisfaction | 33 |
| Relative Strength of the Predictors | 34 |
| DISCUSSION | 38 |
| Implications for Football Coaches | 38 |
| Implications for Sport and Social Science Researchers | 43 |
| Generalizations and Limitations of Results | 46 |
| Suggestions for Future Research on Sport Leadership and Satisfaction | 47 |
| REFERENCES | 50 |
| APPENDICES | 53 |
| Appendix A: Coaches' Letter | 54 |

| | |
|--|-----|
| | vii |
| Appendix B: Informed Consent | 55 |
| Appendix C: The Revised Leadership Scale for Sport..... | 57 |
| Appendix D: Scale of Athlete Satisfaction | 61 |
| Appendix E: Demographic Questions Included with the RLSS and SAS | 62 |
| Appendix F: E-Mailed Permission from P. Chelladurai and J. Zhang | 63 |
| Appendix G: Administrator's Script..... | 65 |
| Appendix H: Descriptive Statistics..... | 66 |

LIST OF TABLES

| Table | Page |
|-------|---|
| 1 | Dimensions of Leader Behavior in Sport (the Five Factors of the LSS)..... 5 |
| 2 | Reliability Estimates of the LSS Dimensions 7 |
| 3 | Internal-Consistency Estimates for the “Perception” Version of the LSS Dimensions 8 |
| 4 | The Six Dimensions of the RLSS 11 |
| 5 | Internal-Consistency Estimates for the “Perception” Version of the RLSS 12 |
| 6 | Meta-Analysis of Studies Using “Perception” Version of LSS and a Measure of “Satisfaction” as the Outcome Variable 14 |
| 7 | Studies Using “Perception” Version of LSS in a Stepwise Multiple Regression with a Measure of “Satisfaction” as the Outcome Variable 15 |
| 8 | Internal-Consistency Estimates (Cronbach’s Alpha) for the “Perception” Version of the RLSS in Zhang and Others’ (1997) Original Work and in the Current Sample 28 |
| 9 | Correlation Matrix of the Eight Predictor and One Outcome Variables 30 |
| 10 | Resulting Multiple Regression Model 33 |
| 11 | Order of Variables Entered into Regression Equation with Repeated Subsampling..... 35 |
| 12 | Comparison with the Division I-AA Sample and the Meta-Analysis of Studies 37 |
| 13 | Descriptive Statistics for the Key Variables 66 |

PROBLEM STATEMENT

For years sport psychologists have been interested in the behaviors and leadership styles selected by coaches (Smoll, Smith, Curtis, & Hunt, 1978; Vroom & Yetton, 1973). This interest led to the development of reliable and valid, sport-specific measures of leadership behaviors, which test different theories in the sport context (Chelladurai & Saleh, 1978; Smith, Smoll, & Hunt, 1977). These measures have been applied to numerous populations of coaches and athletes.

Many of the studies conducted with these instruments have yielded consistent results. For example, athletes competing in team sports have been shown to respond differently than those competing in individual sports (e.g., track and field, wrestling). Team sport participants were shown to prefer more autocratic coaching behaviors, while participants in independent sports showed a preference for democratic coaching behaviors. This finding has been consistent across several samples of collegiate athletes (Chelladurai, 1990). Other studies have resulted in nonspecific findings. For instance, no consensus has been reached that determined which coaching behaviors are the best predictors of athlete satisfaction and performance (Weiss & Friedrichs, 1986).

Although there are a number of studies with major-college athletics, the use of sport leadership instruments has rarely been applied to small, nonscholarship, collegiate athletic programs. Of the small number of studies completed with small-college programs, results suggest distinct differences in preferred coaching behaviors when compared to major-college programs. For example, Weiss and Friedrichs (1986) found that satisfaction levels of basketball players from small colleges were best predicted by

democratic coaching behaviors. Conversely, democratic coaching behaviors among team sport athletes from major colleges showed the least correlation with satisfaction levels (Chelladurai, 1990, 1993).

Moreover, within small colleges, nonscholarship football programs have not been investigated with these measurements of leadership styles. However, exploratory research suggests possible differences in the overall philosophy of football programs competing at the nonscholarship level (McClowry, 1997). One such difference seems to be the increased emphasis placed on winning by major-college football programs.

Given the speculative differences between small- and major-college athletic programs, and the paucity of data collected with athletes in nonscholarship programs, further research seems warranted in this area. There are over 300 small-college football programs in this country, and it is important to verify whether differences exist among these players' reactions to different leadership styles. Although not validated, it is plausible that these small-college football players are competing with different motivations and leadership preferences.

As such, the investigator of the current study measured the perceived coaching behaviors and attempted to delineate the strongest predictors of nonscholarship football players' satisfaction. The primary research question investigated was what are the important predictors of a small-college football player's level of satisfaction with the leadership provided by his coach?

REVIEW OF LITERATURE

To provide a background and theoretical basis for the current investigation, the research literature in four areas was reviewed: (a) the measurement of sport leadership styles; (b) athlete satisfaction; (c) playing time, winning percentage, and satisfaction; (d) and nonscholarship athletics.

Measurement of Sport Leadership Styles

Behaviors and leadership styles of coaches have been studied for the past three decades. Studies have used one of three distinct approaches: (a) coding and evaluating coaches with the Coaching Behavior Assessment System (CBAS); (b) defining a coach's behaviors by the normative model of decision-making styles; and (c) measuring specific facets of a coach's behavior with the Leadership Scale for Sports (LSS).

One approach has been pursued by Smith, Smoll, and their associates (e.g., Smith, Smoll, & Curtis, 1978; Smith et al., 1977; Smoll et al., 1978). Their research focused on assessing coaching behaviors and led to the development of the CBAS. The CBAS is an instrument that is used by an independent observer to code and assess the relationships between coaches' behaviors and players' reactions and/or evaluations. Following an initial observation period, coaches can be trained to improve their effectiveness. While the coach is applying the newly learned behaviors, the researcher evaluates their effectiveness on player outcome variables. This method has been used exclusively with coaches of youth sports.

A second approach has been used by Chelladurai and Haggerty (1978), and is a follow-up and further development of the work done by Vroom and Yetton (1973). This paradigm was based on a proposed normative model of decision-making styles in coaching. The model focuses on the amount of participation in decision-making allowed by coaches. The collective results were integrated into a flow chart diagram that is used to trace resources used by a coach in different decision-making situations. The end result is to categorize coaches by one of the differing decision-making styles. A questionnaire derived from this model addresses which of the styles are preferred by athletes. One common finding with this questionnaire has been that most male athletes prefer autocratic styles. Conversely, female athletes were shown to prefer democratic coaching styles (Erle, 1981).

Thirdly, sport psychologists Chelladurai and Saleh (1978, 1980) developed the LSS. The LSS evolved from the Multidimensional Model of Leadership (Chelladurai & Carron, 1978). It was derived to empirically test the tenets of the Multidimensional Model of Leadership with different populations. To create their scale, Chelladurai and Saleh (1980) used items from several existing leadership scales in business as well as industrial and organizational psychology. To increase the face validity, some wording was changed when necessary (e.g., from “boss” to “coach”).

The first version of the LSS included 99 items and was given to 160 physical education students at a Canadian university. Factor analysis (with iteration and varimax rotation) revealed that a five-factor solution was most meaningful. The factors were labeled: training and instruction, democratic behavior, autocratic behavior, social support, and positive feedback (factor definitions are provided in Table 1).

Table 1

Dimensions of Leader Behavior in Sports (the Five Factors of the LSS)

| Dimension | Description |
|--------------------------|--|
| Training and instruction | Coaching behavior aimed at improving the athletes' performance by emphasizing and facilitating hard and strenuous training; instructing them in the skills, techniques and tactics of the sport; clarifying the relationship among the members; and by structuring and coordinating the members' activities. |
| Democratic behavior | Coaching behavior which allows greater participation by the athletes in decisions pertaining to group goals, practice methods, and game tactics and strategies. |
| Autocratic behavior | Coaching behavior which involves independent decision making and stresses personal authority. |
| Social support | Coaching behavior characterized by a concern for the welfare of individual athletes, positive group atmosphere, and warm interpersonal relations with members. |
| Positive feedback | Coaching behavior which reinforces an athlete by recognizing and rewarding good performance. |

Note. Chelladurai (1993). Reprinted with author's permission.

Thirty-seven items were selected from the 99, on the basis of high factor loading, to represent the five dimensions of leadership behavior. Thirteen new items were added to measure neglected areas and supplement the low number of items in two factors. In addition, the researchers added response categories to the 50 items that were quantified in order to present a common frame of reference. The response categories of "often," "occasionally," and "seldom" were anchored at 75%, 50%, and 25% of the time, respectively. The scale was then given to a different sample of 102 physical education

students and 223 male varsity athletes from various Canadian universities. Again the results were factor analyzed using principal factoring with iteration. Based on those results, a total of 40 items was selected: 13 for training and instruction, 9 for democratic behavior, 5 for autocratic behavior, 8 for social support, and 5 for positive feedback (Chelladurai & Saleh, 1980).

Three separate versions of the LSS were developed, each using a different “stem” to direct the responder. The “Self-perception” version was developed for coaches and each item begins with “In coaching, I...” The “Preference” version assessed which characteristics a player would ideally like his or her coach to exhibit. In this version, each statement begins with, “I prefer my coach to...” The third version is the “Perception” version that asks each player to reflect on the actual behaviors he or she observes in the coach. The stem of each item in this version is, “My coach...”

It has been noted (Riemer & Chelladurai, 1995) that the self-perception version has a low correlation with scores generated from the other two versions. Also, the perception version and the preference version have produced different results. An original tenet of the Multidimensional Model of Leadership suggests that an athlete’s satisfaction will be a result of how well his/her perceptions of his/her coach’s behavior match with what behaviors the athlete prefers a coach to display. To test this tenet, early investigators (i.e., Chelladurai, 1984; Chelladurai, Immamura, Yamaguchi, Oinuma, & Miyauchi 1988; Horne & Carron, 1984) used both versions of the scale to produce discrepancy scores. Their hypothesis was that less discrepancy between preferred and perceived coaching behaviors would be associated with higher satisfaction. This hypothesis did not hold in the data collected. In several studies (Chelladurai et al., 1988;

Horne & Carron, 1984; Riemer & Chelladurai, 1995), the perception version alone accounted for more of the variance in satisfaction scores than did the calculated discrepancy scores. Chelladurai (1990) argued for the discontinued use of discrepancy scores.

All three versions of the LSS have been used frequently in the field of sport psychology, and are widely accepted in the research literature. Additionally, the LSS has been translated into seven different languages (Chelladurai, 1993). Although the scores obtained from the LSS have been shown to have adequate reliability, the evidence is based solely on a small sample tested several years ago (see Table 2).

Estimates of the internal-consistency of the items in each factor have been well documented (see Table 3). In general, these estimates are considered adequate and tend to be highest for the "Perception" version of the LSS. However, the estimates for the autocratic behavior subscale are rather low, which raises some concern.

Table 2

Reliability Estimates of the LSS Dimensions

| Source article | Dimensions | | | | |
|----------------------------|------------|-----|-----|-----|-----|
| | T&I | DB | AB | SS | PF |
| Chelladurai & Saleh (1980) | .72 | .82 | .76 | .71 | .79 |

Note. Based on test-retest data with 53 physical education majors over a four-week interval. T&I = training and instruction, DB = democratic behaviors, AB = autocratic behaviors, SS = social support, PF = positive feedback.

Table 3

Internal-Consistency Estimates for the "Perception" Version of the LSS Dimensions

| Source article | Dimensions | | | | |
|---|------------|-----|-----|-----|-----|
| | T&I | DB | AB | SS | PF |
| Chelladurai & Saleh (1980): Canadian athletes | .93 | .87 | .79 | .86 | .92 |
| Chelladurai (1986): Indian athletes | .87 | .78 | .49 | .70 | .61 |
| Chelladurai et al. (1988): | | | | | |
| Japanese athletes | .89 | .81 | .57 | .84 | .81 |
| Canadian athletes | .88 | .75 | .59 | .84 | .91 |
| Dwyer & Fischer (1990): Canadian wrestlers | .86 | .81 | .52 | .77 | .82 |
| Isberg & Chelladurai (1990): Swedish athletes | .88 | .72 | .54 | .86 | .77 |
| Kim, Lee, & Lee (1990): Korean athletes | .86 | .83 | .64 | .80 | .72 |
| Iordanoglou (1990): Greek soccer players | .86 | .73 | .11 | .59 | .60 |

Note. Chelladurai (1993). Adapted with author's permission.

Chelladurai and Saleh (1980) claimed adequate factorial validity on the basis of the stability of the five-factor solution over three different data sets. They further claim to have established the convergent and discriminant validity of the scale based on adequate item-to-total correlations reported in several studies (Chelladurai, 1986; Chelladurai et al., 1988; Dwyer & Fischer, 1988). However, item-to-total correlations are not generally accepted as measures of convergent and discriminant validity. Without further evidence, the authors have a weak argument.

The latest advancement in the measurement of leadership in sports was put forth by Zhang, Jensen, and Mann (1997). Despite the wide acceptance of the LSS, Zhang et al. delineated several weaknesses that established the necessity of a revision. First, they noted that the wording of several items still resembles that used in workplace surveys rather than using sport-specific language. Chelladurai (1990) also noted this persistent weakness of the LSS, suggesting that it would have been optimal to derive the scales from the insights of the target populations (i.e., coaches and athletes). Additionally, Zhang claimed that the unbalanced numbers of items for each subscale was problematic. The training and instruction subscale has 13 items, while the autocratic behavior and positive feedback subscales have only 5. Zhang was also concerned with the cultural appropriateness of some of the items. The LSS was devised and tested primarily in Canada. As such, some of the items may have limited generalizability to other cultures (e.g., the United States). For example, the item (“... invites athletes home”) measures a coaching behavior that would violate the National Collegiate Athletic Association (NCAA) rulebook. Finally, at least two other authors expressed concerns with the LSS. Both Gordon (1988) and Summers (1983) conducted research with the LSS. Their results

were nonsignificant findings and each decided to examine the factor structure of the LSS after the study. Neither researcher found support for the five factors in his data set.

Zhang et al. (1997) addressed these issues in a comprehensive revision of the LSS. The first revision added items to each factor by interviewing 18 collegiate coaches. A total of 240 new items was added to the original 40. Next, the research team edited and clarified several items with the assistance of three linguistic experts (English professors in Massachusetts).

After these revisions, Zhang et al. (1997) tested the content validity of items. This was accomplished by sending the items to 17 experts in the field of sport psychology. These raters were to assign each item to a factor. The minimum interrater reliability criterion was set at 70% (or 12 out of 17). As a result 120 items were retained in this initial revision. Finally, those 120 items were presented to a large sample of athletes. A total of 661 athletes completed this initial revised "Perception" version of the LSS.

The factor analysis techniques supported the five original factors and one additional factor termed "Situational Consideration Behavior." A total of 74 items showed factor loadings equal to or greater than .40 on a common factor without double loading. The number of items per factor were as follows: 10 for training and instruction (T&I); 19 for democratic behavior (DB); 8 for autocratic behavior (AB); 8 for social support (SS); 15 for positive feedback (PF); and 14 for situational consideration behavior (SC).

Based on the advice of colleagues, it was concluded that each factor would be ideally represented with between 8 and 12 items. As such, seven items from the DB

subscale, three from the PF subscale, and four from the SC subscale were dropped. The final revision contained 60 items.

The definitions of the six factors that Zhang provided are included in Table 4. His internal-consistency estimates, from an early research sample, are provided in Table 5.

Athlete Satisfaction

The construct of athlete satisfaction has interested many researchers (Riemer & Chelladurai, 1995, 1998; Weiss & Friedrichs, 1986). Many coaches and sports psychology theorists have postulated that satisfaction and performance are strongly related (Courneya & Chelladurai, 1991). As sport participation is almost always voluntary, fostering satisfied athletes is a prerequisite for high-level performance and reduced attrition. Riemer and Chelladurai (1998) argued that participant satisfaction is a better measure of a team's success than performance-based measures. For example, winning percentage is a common performance measure, but often it is confounded by luck, poor officiating, level of competition, and scheduling. Many times, the losing team is extremely satisfied with their effort, performance, teamwork, and experience gained. Further, performance measures fail to reflect an athlete's evaluation of practice time, which accounts for the greatest amount of time invested throughout a season (Chelladurai, 1984).

Chelladurai and Saleh's (1978) Multidimensional Model of Leadership includes satisfaction as a primary outcome variable. Not surprisingly, the variable most commonly studied as a criterion in LSS studies has been a measure of athlete satisfaction (Chelladurai, 1993). The reported correlations of LSS and satisfaction in previous LSS

Table 4

The Six Dimensions of the RLSS

| Dimension | Description |
|---------------------------|---|
| Training and instruction | Coaching behaviors aimed at: improving the athletes' 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 | Coaching behaviors aimed at: allowing participation by the athlete in 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 | Coaching behaviors aimed at: making independent decisions; making and stressing personal authority; using commands and punishment; acting without considering the feelings and thinking of the athletes; prescribing the ways to get work done. |
| Social support | 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 the enjoyment of an athlete's life; protecting the athletes from any outside harm. |
| Positive rewarding | Coaching behavior aimed at: reinforcing the athletes by recognizing and good feedback 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 | 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 lineup. |

Note. Zhang (1993). Reprinted with author's permission.

Table 5

Internal-Consistency Estimates for the "Perception" Version of the RLSS (Cronbach's Alpha)

| Dimensions | | | | | | |
|------------|-----|-----|-----|-----|-----|--|
| T&I | DB | AB | SS | PF | SS | |
| .91 | .96 | .48 | .89 | .93 | .88 | |

Note. Zhang et al. (1997). Reprinted with permission. T&I = training and instruction, DB = democratic behaviors, AB = autocratic behaviors, SS = social support, PF = positive feedback, SC = situational consideration.

studies are found in Table 6. The results of investigators who utilized stepwise multiple regression analyses to determine which LSS subscales were strongest predictors of satisfaction are summarized in Table 7.

Close inspection of Tables 6 and 7 suggests several important differences in satisfaction levels of athletes at different levels. Weiss and Friedrichs' (1986) sample consisted of basketball players from the National Association of Intercollegiate Athletics (NAIA), which is a small-college division. The DB subscale was the most predictive of satisfaction levels in this sample, while in other studies this subscale was least predictive. However, the simple correlation between DB and satisfaction was in actuality very similar to the other studies. The apparent difference is how poorly the other four scales correlated with satisfaction level in this small-college sample.

Weiss and Friedrichs (1986) found that the amount of variance in satisfaction

Table 6

Meta-Analysis of Studies using “Perception” Version of LSS and a Measure of “Satisfaction” as the Outcome Variable

| Source article | Sample | Satisfaction Measure | Correlations with satisfaction measure | | | | |
|---|--------------------------------------|---|--|--------|---------|--------|--------|
| | | | T&I | DB | AB | SS | PF |
| Chelladurai (1984) | 87 university basketball players | 1-Item measures in four areas of satisfaction ^a | .53*** | .32** | -.40*** | .29** | .58*** |
| | 52 wrestlers | | .58*** | NS | NS | .35 | .67*** |
| | 57 track & field athletes | | .38** | NS | -.39** | NS | NS |
| Schliesman (1987) | 40 male univ. track & field athletes | 1-Item measure of Satisfaction with Leadership | .30 | .42** | -.27 | .41** | .17 |
| Chelladurai et al. (1988) | 115 Japanese university athletes | Scale of Athlete Satisfaction first used with 7-item subscale “Satisfaction with Leadership” ^b | .59*** | .51*** | -.42*** | .52*** | .49*** |
| | 100 Canadian university athletes | | .60*** | .50*** | -.44*** | .52*** | .71*** |
| Riemer & Chelladurai (1995) | 201 Div. I-AA football players | One-Item measure of Satisfaction with Leadership | .45*** | .01 | -.01 | .13 | .38*** |
| Average ^c correlation across the studies | | | .49 | .25 | -.27 | .32 | .43 |

Note. NS = Nonsignificant. Some of the studies only reported the correlations that were significant.

^aAsked for a response on 1-item measures of four aspects of satisfaction: Individual performance, Team performance, Leadership, and Overall involvement.

^bThis was the first usage of an 18-item scale of overall satisfaction with a coach and program. Factor analysis revealed two dominant factors: a 7-item subscale of satisfaction with leadership, and a 3-item subscale of individual performance.

^cFor the studies that reported a subscale nonsignificant, without specifying correlation, zero correlation was used in figuring the average.

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

Table 7

Studies Using “Perception” Version of LSS in a Stepwise Multiple Regression with a Measure of “Satisfaction” as the Outcome Variable

| Source article | Sample | Overall <u>R</u> -square | Subscales of LSS used as predictors | | | | |
|--|---------------------------------------|--------------------------|---|---|---|---|---|
| | | | T&I | DB | AB | SS | PF |
| Horne & Carron (1984) | 74 Canadian university athletes | .44** | entered 1 st <u>R</u> -square = .29 | NS | NS | entered 2 nd <u>R</u> -square = .12 | entered 3 rd <u>R</u> -square = .03 |
| Weiss & Friedrichs (1986) ^a | 251 NAIA basketball players | .07* | NS | entered 1 st <u>R</u> -square = .05 | NS | entered 2 nd <u>R</u> -square = .02 | NS |
| Chelladurai et al. (1988) ^b | 115 Japanese university athletes | .41*** | | | | | |
| | 100 Canadian university athletes | .57*** | | | | | |
| Dwyer & Fischer (1990) | 152 15-21 year-old Canadian wrestlers | .55*** | entered 3 rd <u>R</u> -square = .08 | NS | entered 2 nd <u>R</u> -square = .10 | NS | entered 1 st <u>R</u> -square = .38 |

Note. For any predictor not entered first, the incremental R-square is reported. NS = Nonsignificant.

^aWeiss and Friedrichs created a 28-Item measure called the Athlete Satisfaction Scale from questionnaires and surveys used in industrial and organizational psychology. Factor analysis showed that their 28 items tapped into six subscales. The stepwise regression is based on an athlete's overall average on all six subscales. No other studies could be found that utilized this measure.

^bChelladurai et al. (1988) created the 18-item Scale of Athlete Satisfaction. The overall R-square reported here is based on the 7-item satisfaction with leadership subscale. The researchers reported only the simple correlations and an overall R-square for the two samples.

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

levels accounted for by the regression model (R-square) was quite low (.07). This number is substantially smaller than that obtained by other investigators using regression models and the LSS subscales to predict satisfaction. For instance, in four studies with major college athletes, the average R-square was .49. This suggests that our ability to predict the satisfaction levels in this group of athletes is much weaker and small-college athletes remain a relative unknown.

One issue that has been a source of confusion in the research is the variety of instruments used to measure athlete satisfaction (Riemer & Chelladurai, 1998). The majority of investigators have employed a single Likert-scale item to measure satisfaction. An example of one of these items is, "How satisfied are you with the leadership you received?" This approach is as limited as it is simplistic. It is impossible to estimate the reliability of the measure without repeated testing. Also, one-item measures can be more affected by random error, ceiling effect, and experimenter bias (Riemer & Chelladurai, 1995).

Riemer and Chelladurai (1998) noted three exceptions to the one-item approach: Whittal and Orlick's (1978) Sport Satisfaction Inventory (SSI), Weiss and Friedrichs' (1986) Athlete Satisfaction Scale (ASS), and Chelladurai and others' (1988) Scale of Athlete Satisfaction (SAS).

Whittal and Orlick (1978) reported the development of an 84-item scale measuring six facets of satisfaction in sports. The authors acknowledged that the scale was only in the initial stages of development and no further development of the scale has been reported in the literature.

Weiss and Friedrichs (1986) developed the ASS by borrowing items from Smith's Index of Organizational Reactions. The ASS is a 28-item measure with six subscales (derived through factor analysis). The subscales include: supervision, playing conditions, teammates, amount of work, kind of work, and social identification. Unfortunately, this scale has not been noted again in the literature.

Chelladurai et al. (1988) developed the SAS to measure the satisfaction of Canadian and Japanese athletes. The scale has 18 items, but factor analysis revealed only two stable dimensions: satisfaction with personal outcomes (three items) and satisfaction with leadership (seven items). Reliability testing revealed a Cronbach's alpha internal-consistency estimate of .95 for the seven-item satisfaction with leadership subscale. The SAS has been used in a handful of unpublished theses and dissertations, but has not been used again in published academic literature.

Riemer (Riemer & Chelladurai, 1998) suggested that none of the above-mentioned scales measure all the possible facets of an athlete's satisfaction within a sports program. Riemer attempted to derive a more exhaustive set of facets measuring athlete satisfaction. His dissertation resulted in a 15-dimension, 56-item measure called the Athlete Satisfaction Questionnaire (ASQ). The ASQ items address a wide range of areas that contribute to an athlete's satisfaction (e.g., budget, team ethics, medical personnel). His original sample included 786 subjects, but the ASQ has not been in the literature long enough to be critically reviewed or empirically validated across different settings and sports.

Playing-Time, Winning Percentage, and Satisfaction

Other variables have been shown to be important in the prediction of athlete satisfaction. Among those variables are the amount of playing time a player is receiving and the success of the team in terms of wins and losses.

Garland and Barry (1988) looked at the relationship between the LSS subscales and amount of playing time a collegiate football player received. The study included 272 football players from three universities. The researchers grouped subjects into three “performance” categories: (a) regulars (those players who regularly started and/or played 50% or more of the time); (b) substitutes (those players who started and/or played less than 50% of the time); and (c) survivors (those players who did not play, except for maybe the last few minutes of a game in which the outcome is no longer in question). This measure of performance was used as the criterion variable, while the five LSS factors (and Cattell’s Sixteen Personality Factor Questionnaire [Cattell, Eber, & Tatsuoka, 1982]) were evaluated as predictor variables. Regression analysis indicated that certain personality traits and leadership behaviors, when taken together, significantly predicted performance. For example, tough-minded, extroverted, emotionally stable players who perceived their coach as offering more training and instruction, social support, and positive feedback were associated with higher levels of performance.

Unfortunately, Garland and Barry’s (1988) design had a major methodological shortcoming, which limited the credibility of their findings. Although they attempted to measure performance level, the instrument they derived simply measured playing time. As such, they actually used the “Perceived” version of the LSS to predict each player’s

amount of playing time. Their conclusion suggested that the ratings caused or indicated the amount of playing time a player received. However, it seems just as likely that a player's perceptions of his coach's behavior would be dictated by the amount of playing time that athlete was receiving. It is plausible that the amount of playing time would be highly correlated with satisfaction with the coach and/or positive ratings of coaching behaviors. In the current study, satisfaction with leadership was the criterion variable. Theoretically, playing time is more justified as a possible predictor of satisfaction than as an outcome variable (Chelladurai & Saleh, 1978).

Weiss and Friedrichs (1986) included a different performance measure as a predictor of athlete satisfaction in their study with NAIA basketball teams. They measured the prior win/loss percentage of a coach, and found it significantly predicted player satisfaction (the beta coefficient was 0.325, which was significant at the .01 level). They concluded that a coach who has enjoyed prior success seemed to have more satisfied players.

Nonscholarship Athletics

Nonscholarship collegiate athletes is a population that has been studied only sporadically. Weiss and Friedrichs (1986) sampled 23 NAIA basketball teams in their LSS and satisfaction study. The NAIA is a small-college division comprised mostly of institutions not offering athletic scholarships. They found distinct differences in the athletes' evaluations of coaching behaviors when compared with the athletes previously studied. Specifically, DB was the LSS subscale that contributed the most to the prediction of satisfaction. This finding is inconsistent with findings from other college

athlete samples (see Table 7). Of note, the NAIA sample was the only group for which the T&I subscale was not a significant predictor of satisfaction. In fact, the meta-analysis of simple correlations (see Table 6) showed that across several studies with major college athletes the T&I subscale had the strongest relationship with satisfaction measures. The differences in R-square statistics between the levels of athletes (as previously detailed) also suggested an overall difference in our ability to predict the satisfaction levels in these athletes.

McClowry (1997) investigated the possible differences in the factors used in evaluating job performance of NCAA Division I-A (highest level of collegiate competition, offering 85 full scholarships to football players) and Division III (smaller colleges offering no athletic scholarships) head football coaches. Athletic directors (AD) at 47 Division I-A colleges and 67 Division III colleges completed surveys in which they were asked to rank the 10 most important coaching duties relating to job evaluation. There were several distinct differences in the responses of ADs at the two levels. Division I-A ADs reported that they primarily evaluate their head football coaches by win/loss percentage and compliance with NCAA rules. For Division III ADs, the responses focused on knowledge of the sport, loyalty to the institution, and serving as a role model for student-athletes. McClowry concluded that the philosophy of athletics for each of these two levels is quite different.

Jambor and Zhang (1997) used the Revised Leadership Scale for Sports (RLSS) to investigate differences in leadership behaviors as a function of gender and coaching level. Subjects included 162 coaches: 25 at the junior high level, 99 at the high school level, and 38 at the college level. The researchers found that coaches at the three

different levels responded differently on three of the six measured leadership behaviors. Scheffé post hoc testing revealed differences in DB, T&I, and SS. College coaches reported using significantly less DB than did high school coaches. The other two scales detected differences when comparing junior high coaches with high school and college coaches. Specifically, junior high coaches reported fewer T&I and less SS behaviors.

In conclusion, Weiss and Friedrichs (1986) reported that NAIA basketball players' satisfaction levels were best predicted by increased DB in their coaches. This subscale was not the most predictive in previous LSS studies with major college athletes (detailed above). Similarly, Jambor and Zhang (1997) reported that high school coaches use significantly more DB than college coaches. Theoretically, nonscholarship athletes could be classified somewhere between high school athletes and major college athletes. If this tenet holds, then Jambor and Zhang's findings are virtually a replication of Weiss and Friedrichs' findings. Regardless, the findings from both studies have implications for the current study. These two findings, taken together with McClowry's (1997) finding of philosophical differences in the administration level of programs, suggest that Division III football players may respond differently to the items on the leadership scale. Further, the predictor(s) of the satisfaction levels of the nonscholarship athletes may be quite different from major college athletes. There are only 115 Division I-A football programs, while the Division III is comprised of 229 programs. That is a large population of Division III football players with potentially different perceptions that have not been thoroughly addressed.

Summary and Research Question

The development of the LSS has been thoroughly reviewed in the sport leadership literature (for comprehensive reviews see Chelladurai, 1990, 1993; or Horn, 1992). The LSS has been widely used and generally well received. Zhang and others' (1997) revision enhanced the psychometric qualities of the scale and incorporated items that are more appropriate for research with NCAA athletes.

Researchers who have used these sport leadership scales have mostly ignored small-college athletics. Only a small selection of studies can be found in all the academic literature focusing on small-college athletics. Of the few studies completed, the results are not consistent with those obtained from studies in which investigators surveyed major-college athletes.

The multiple regression results of Weiss and Friedrichs (1986) suggest that small-college, nonscholarship athletes' satisfaction levels were best predicted by levels of SS and DB. The majority of other investigators who have used the LSS have sampled major college or international level athletes. These researchers have found that the subscale rating of a coach's T&I and PF behaviors are most predictive of the athletes' satisfaction. Moreover, the regression equations reported in these studies account for a significantly greater amount of the overall variance in satisfaction ratings.

One population that has been neglected by LSS research is nonscholarship football players. However, in a thesis investigating the factors involved in the job evaluation of head football coaches, McClowry (1997) found that Division I-A coaches were evaluated primarily on win/loss percentage while the Division III coaches were

evaluated on their knowledge of the sport, loyalty to the institution, and ability to serve as a role model for student-athletes. Also, Jambor and Zhang (1997) found that different behaviors were reported by coaches at differing levels of competition.

All these findings suggested that there might be differences in the perceptions of coaching behaviors of nonscholarship football players when compared with those of major college athletes. The findings of McClowry (1997) and Weiss and Friedrichs (1986) further implied that the predictors of satisfaction levels might be different for this population.

For the current study, the investigator evaluated the predictors of small-college football players' level of satisfaction with a coach. Eight variables were considered: win/loss percentage, amount of playing time, and the six subscales of the "Perception" version of the RLSS (positive feedback, situational consideration, autocratic behaviors, democratic behaviors, training and instruction, and social support).

METHOD

Participants

Football players from eight nonscholarship, small-college programs were included in the sample. Teams were recruited to participate via a contact letter (see Appendix A) sent to the head coach. Four of the universities are located in the Midwest and four in the Pacific Northwest.

Weiss and Friedrichs (1986) made an important distinction in the selection criteria for their sample. They decided that only programs with head coaches in at least their second full year should be eligible for inclusion in the sample. This criterion makes sound theoretical sense, but has not been widely replicated in other studies. For the current study, their selection criterion was included.

The total sample size was 442 athletes. The primary sampling technique was one of convenience, as the researcher had previous contacts at several of the schools that were solicited. This is one of the least methodologically sound sampling techniques. Realizing that fact, and that this study serves as a first investigation in the area, all findings should be viewed tentatively.

Instruments

The current study combined the following measures into one survey administration: a signed consent form (see Appendix B), Zhang and others' RLSS (1997; see Appendix C), the seven-item satisfaction with leadership subscale from Chelladurai and others' (1988) SAS (see Appendix D), demographic information (age, ethnicity,

player-position, years of participation; see Appendix E), and each individual's estimation of playing time (also in Appendix E).

Playing time was measured with the same three-category rating used by Garland and Barry (1988). The players categorized themselves as regulars (those players who regularly started and/or played 50% or more of the time), substitutes (those players who started and/or played less than 50% of the time), or survivors (those players who did not play, except for maybe the last few minutes of a game in which the outcome is no longer in question). The win/loss record was collected by the researcher (recorded from the teams' websites) at the time they filled out the questionnaires. For this variable, the whole team served as the unit of measure as all members of a team share the same winning percentage.

Even though it has been more widely used than the RLSS, the LSS has several psychometric weaknesses, including the low internal-consistency for scores on the autocratic behavior subscale and data that do not support the five factors. The LSS also contains items that are not sport-specific, and one item is in violation of NCAA rules. Zhang and others' (1997) revision of the LSS produced a better instrument. The RLSS features improved psychometric qualities, items that were generated through sport-specific inquiry, an additional subscale that measures the situational consideration of a coach's behaviors, and more balanced numbers of items per factor. Therefore, it was concluded that the RLSS is the superior measure of sport leadership behavior in the NCAA context.

The satisfaction with leadership subscale of Chelladurai and others' (1988) SAS was derived through factor analysis. The internal-consistency of responses to the seven

items was .95 (Chelladurai et al., 1988). This scale has not been critically reviewed in the research literature, but the measure is probably superior to the one-item measure that so many LSS studies have employed. The other measures mentioned in the review of literature (SSI, ASS, and the ASQ) are too comprehensive for the current study. They include 6, 6, and 15 subscales, respectively, while not offering a solid measure of the construct of satisfaction with leadership. The seven-item subscale from the SAS was deemed the most parsimonious measure of the current study's specific criterion variable. Both Zhang and Chelladurai sent permission (via electronic mail, see Appendix F) prior to the use of their scales, and summary tables, in the current study.

Procedure

The contact letter (see Appendix A) was sent to the head football coach at each of 12 small colleges. A number of follow-up contacts (i.e., electronic mailings, phone messages) were required to distend the total sample to eight teams. Each coach was informed of his right to decline the request to be involved in the study.

Questionnaire administrators were recruited at each college that the principal researcher could not visit personally. Consent forms, questionnaires, and an administrator's script were then sent to a contact person at each of those institutions. Administration of the questionnaires required approximately 20 minutes during a team meeting or bus trip. The administrator read through the script that had been prepared by the researcher. Consistent with Riemer and Celladurai's (1995) sampling of football players, the participants were instructed (in the script) to rate their immediate position coach or coordinator rather than the head coach, who is often more removed from the

players. The script also included specific instructions for collecting informed consent, administration of the surveys, and relaying information about contacting the researcher for information about the results of the study (see Appendix G). After completion, the survey materials were repackaged and mailed to the principal researcher.

The confidentiality of each player's responses was strictly guarded. Names appeared on the consent forms only, which were collected several minutes before the questionnaires. Players responded to items by writing directly on the surveys. The surveys were immediately packaged and returned to the principal researcher. No coach or athletic administrator had access to any individual's responses.

RESULTS

Several different results were of importance in this study: (a) the psychometric performance of the instruments; (b) the relationships between the different coaching styles and satisfaction; and (c) the relative strength of the eight predictor variables. Simple descriptive statistics for the key variables are provided in Appendix H.

Psychometric Performance of the Instruments

Collectively, the psychometric performance of the research instruments was of concern for several reasons. There was no previous data from which to predict how the seven-item satisfaction with leadership subscale of the SAS would perform as an independent measure. Similarly, the RLSS has been used only sparingly and its predecessor, the LSS, has a history of psychometric shortcomings.

The satisfaction with leadership subscale of the SAS recorded an alpha reliability coefficient of .938 for this sample of athletes. As detailed in the Instruments section above, the seven-item satisfaction with leadership subscale was originally part of the 18-item SAS (Chelladurai et al., 1988). These authors subjected their results to factor analysis and derived two factors, one being the seven-item subscale of satisfaction with leadership used in this study. The high value of the reliability coefficient for the current sample is critical evidence that this scale performed to acceptable standards.

The six subscales of the RLSS recorded similar internal consistency estimates to those reported in Zhang and others' (1997) original work (see Table 8). Historically, the lowest internal consistency estimates have been reported for the AB subscale of the LSS

Table 8

Internal-Consistency Estimates (Cronbach's Alpha) for the "Perception" Version of the RLSS in Zhang and Others' (1997) Original Work and in the Current Sample

| Source | Dimensions | | | | | |
|---------------------|------------|-----|-----|-----|-----|-----|
| | T&I | DB | AB | SS | PF | SC |
| Zhang et al. (1997) | .91 | .96 | .48 | .89 | .93 | .88 |
| Current sample | .82 | .86 | .54 | .85 | .89 | .77 |

(see Table 3) and the RLSS. One possible critique of this subscale is that some items truly depict behaviors that are autocratic in nature and could be approached differently, while some of the items seem to depict definitive decision-making situations that coaches face everyday and that must be handled independently, regardless of coaching style. This analysis will be further investigated in the Discussion section, where the results and findings, as well as individual RLSS and SAS items, are placed under a more thorough critique.

Another concern with the RLSS subscales arose *a posteriori*, during the data analysis for this particular sample. The data suggest that the subscales are strongly interrelated, as several of the correlations among subscales exceed .60. For a study that had planned to rely on multiple regression analysis, this is somewhat problematic because of an issue statisticians have termed multicollinearity. Multicollinearity is defined as moderate to high intercorrelations among a set of predictor variables (Stevens, 1999).

Stevens explained that multicollinearity causes three problems for researchers.

Multicollinearity: (a) severely limits the size of R -square (the overall variance explained by the model) because the predictors are explaining much of the same variance in the criterion variable; (b) makes determining the importance of a given predictor difficult because the effects of predictors are confounded; and (c) decreases the precision of the regression coefficients, making the resulting equation unstable.

Stevens (1999) also detailed steps for diagnosing and treating multicollinearity.

The simplest way of diagnosing multicollinearity is to examine the correlation matrix for high correlations among predictors, which was discussed above. Stevens' suggestions for treating multicollinearity include combining predictors that are correlated at .8 or higher, or reworking the factor structure of the predictor set or response instrument via factor analysis.

Inspection of the correlation matrix (Table 9) reveals the moderate to high intercorrelations among predictors. In this sample of RLSS responses, the T&I and SC subscales were correlated at .711. Either of these two subscales could be used to explain a significant amount of the variance in satisfaction levels (both have high individual correlations with this criterion variable). However, already having one variable included in an explanation model, there is little new information provided by the second variable. T&I and SC explain much of the same variance in the satisfaction scores such that one or the other becomes much less important in the resulting model.

The PF and SS subscales are correlated at .655, and behave as a "pair" in a similar fashion. SS had the highest correlation with the satisfaction scores, and thus entered the regression equation first, but then PF is only able to account for a limited amount of

Table 9

Correlation Matrix of the Eight Predictor and One Outcome Variables

| Subscales | Satisfaction | Social support | Situational consideration | Positive feedback | Teaching & instruction | Democratic behaviors | Autocratic behaviors | Win/loss percentage |
|---------------------------|-----------------|-----------------|---------------------------|-------------------|------------------------|----------------------|----------------------|---------------------|
| Social support | .696 (.000) | 1.000 | | | | | | |
| Situational consideration | .665 (.000) | .627 (.000) | 1.000 | | | | | |
| Positive feedback | .654 (.000) | .655 (.000) | .637 (.000) | 1.000 | | | | |
| Teaching & instruction | .627 (.000) | .506 (.000) | .711 (.000) | .537 (.000) | 1.000 | | | |
| Democratic behaviors | .516 (.000) | .567 (.000) | .612 (.000) | .491 (.000) | .397 (.000) | 1.000 | | |
| Autocratic behaviors | -.372 (.000) | -.229 (.000) | -.174 (.000) | -.227 (.000) | -.150 (.002) | -.248 (.000) | 1.000 | |
| Win/loss percentage | .164 (.001) | .063 (.190) | .194 (.000) | .024 (.619) | .189 (.000) | .164 (.001) | -.091 (.057) | 1.000 |
| Amount of playing time | .121 (.012) | .089 (.065) | .027 (.574) | -.048 (.315) | -.037 (.446) | .022 (.649) | -.085 (.080) | .025 (.597) |

Note. Two-tailed probabilities are listed in parentheses.

additional variance in the criterion variable even with its high correlation. However, neither of these correlations was as strong as the .8 cut-off point suggested by Stevens (1999). The numbers are large enough to raise some concern, but not so large as to combine or throw out subscales. This is why these highly correlated subscales are referred to as pairs. The subscales are strongly related, but are not so highly correlated that they are measuring nearly the same construct (as would be the interpretation of subscales correlated at .8).

Another method for diagnosing multicollinearity, according to Stevens (1999), is to examine what are known as the variance inflation factors. This method evaluates each predictor, in turn, as the criterion variable of all the other predictor variables. If the R-square approaches .9 in any of these regression equations, multicollinearity exists and the researcher should consider variable deletion options.

The variance inflation factors for the current sample also fell below the standard that Stevens (1999) provides for diagnosing multicollinearity. The highest variance inflation factor was .684 (with SC as the criterion variable). When other subscales were evaluated in the criterion position, the variance inflation factors fell in a range around .5. Again, this is evidence that the subscales measure an amount of the same variance, but are somewhat distinct in their content. We do not have such a severe case of multicollinearity that we need to combine or delete variables, or rework the factor analysis of the RLSS items. (However, a rough check on the factor structure was performed and lent support for the pairing of SS and PF, and SC and T&I.) This mild case of multicollinearity will be addressed in more detail in the discussion of the results

of the multiple regression analysis, as its effects become quite clear on the order in which variables entered the regression model.

Correlations of the RLSS Subscales with Satisfaction

In this investigation, eight variables were considered as possible predictors of the players' satisfaction with the leadership they were receiving: the six subscales of the RLSS, the team's win/loss percentage, and the players' estimation of playing time. All predictors were significantly correlated with the satisfaction with leadership scores. However, with a sample size of 442 athletes, even the most modest effects are reported as statistically significant. The numerical value of the correlation coefficients carries more interpretational importance than the value of the statistical significance test, which is highly dependent on sample size. A full correlation matrix is provided in Table 9.

Four of the six subscales (SS, SC, PF, and T&I) were strongly correlated at .6 or higher. DB was positively correlated with satisfaction at .516, while AB was negatively correlated with satisfaction at a more moderate level of -.372. Win/loss percentage and amount of playing time, while statistically significant at the standard alpha level of .05, were only minimally correlated (at .164 and .121, respectively).

As noted above, there were high intercorrelations among several RLSS subscales. In fact, 6 of the 10 highest correlation coefficients in the entire matrix were between predictors. This includes the strongest of all the pairwise relationships (between T&I and SC). It is also evidenced that SC is strongly related to three other subscales: PF, SS, and DB (with correlations all above .6).

Relative Strength of the Predictors

Stepwise regression is the preferred technique for analyzing the relative importance of each of a set of predictors (Stevens, 1999). The results of this technique are detailed in Table 10. The first variable entered into the regression equation was SS because these scores had the strongest individual relationship with the satisfaction levels. However, the second and third variables entered into a multiple regression equation are not always those with the next strongest relationships with the criterion variable. The second variable entered is that which carries the highest additional predictive power (measured by change in R-square), given that the first variable is already in the equation. This means that a variable that is correlated with the criterion, but also correlated with the first predictor entered, may not be included because it accounts for little of the remaining variance (given that the first variable is included in the regression model).

The answer to the research question of which is the next best predictor of player satisfaction within this sample is dependent on how one poses the question. One answer could be the variable with the next strongest relationship with satisfaction levels, namely, SC. However, SC and SS are correlated at .63, so SC offers very little additional information if SS is already included in the regression model. In fact, SC does not enter until five other variables are in the model. According to this stepwise function, which evaluates additional predictive power only, T&I is the second most important variable. Obviously, multicollinearity has played a role in these results.

Another issue to consider is that the resulting order of variables entered in a stepwise regression function, especially with some degree of multicollinearity present, is

Table 10

Resulting Multiple Regression Model

| Model | Variable entered | <u>R</u> | <u>R-square</u> | Change in <u>R-square</u> | Adjusted <u>R-square</u> |
|-------|---------------------------|----------|-----------------|---------------------------|--------------------------|
| One | Social support subscale | .688 | .473 | n/a | .472 |
| Two | Teaching and instruction | .759 | .576 | .103 | .574 |
| Three | Autocratic behavior | .784 | .615 | .039 | .612 |
| Four | Positive feedback | .798 | .637 | .022 | .633 |
| Five | Amount of playing time | .805 | .647 | .010 | .643 |
| Six | Situational consideration | .810 | .656 | .009 | .651 |

Note. AB has a negative correlation with the SAS scores resulting in a negative regression coefficient (less AB is associated with more satisfaction). The changes in R-square due to the fifth and sixth variables are not likely to have practical significance.

highly sample dependent. It is not valid to claim that a predictor is most important, or second or third most important, if those results are not reliable from sample to sample. To evaluate this possibility, random subsamples of half the original 442 athletes were taken, and the same regression function was analyzed, five separate times. The results of this procedure are listed in Table 11.

Numerous differences appear among the results of these subsamples. First, a sixth variable is only entered once (in addition to the original analysis with all 442 athletes). Also, the relative importance of SC is quite variable. One time SC entered the equation first, while on two occasions it failed to even enter. Referring to the zero-order correlation matrix (Table 9), SC was correlated higher than .6 with four of the other five subscales, and had the highest variance inflation factor. Thus, SC is most prone to the

Table 11

Order of Variables Entered into Regression Equation with Repeated Subsampling

| Order | Subsample number | | | | |
|--------|------------------|------------|------------|------------|------------|
| | One | Two | Three | Four | Five |
| First | SS (.501) | SS (.426) | SC (.513) | SS (.397) | SS (.459) |
| Second | PF (.588) | SC (.538) | SS (.598) | T&I (.503) | T&I (.543) |
| Third | T&I (.631) | PF (.573) | AB (.643) | AB (.545) | AB (.620) |
| Fourth | AB (.663) | AB (.595) | T&I (.665) | PF (.569) | PF (.645) |
| Fifth | PT (.686) | T&I (.609) | PF (.677) | SC (.584) | PT (.656) |
| Sixth | -(no SC) | PT (.619) | -(no PT) | -(no PT) | -(no SC) |

Note. T&I = training and instruction, DB = democratic behaviors, AB = autocratic behaviors, SS = social support, PF = positive feedback, SC = situational consideration, PT = amount of playing time. The R-square of each model is listed in parentheses.

effects of multicollinearity, even beyond the subscale's close relationship with T&I.

The results of the repeated stepwise functions also show the pairing effect discussed previously. SS entered the equation first on four of the five subsamples, as well as in the original. PF was correlated at .654 with the criterion variable (only a few hundredths lower than SS correlated with the criterion), but also correlated at .655 with SS. So as SS tended to enter the equation first, much of PF's predictive power was compromised, and the subscale tended to enter about fourth. Again, SC and T&I had a similar pairwise relationship. Most often one of these subscales entered second, and the other subscale tended to enter about fifth.

DB had a moderate correlation with the satisfaction levels (.516), but its moderate to high correlations with other predictors leaves it out of all the regression models. AB, which had a more modest correlation with the satisfaction levels (-.372), tended to enter into the equation third because it lacked the moderate correlations with other predictors. Similarly, even the variable amount of playing time (with a low correlation of .121 with the criterion) was represented in most of the models because its correlations with the other predictors were virtually zero.

The mild case of multicollinearity is probably not unique to the current sample. Although other studies have not addressed the issue directly, evidence exists in at least Chelladurai and others' (1988) samples of Canadian and Japanese athletes. The overall R -square's reported in these samples (see Table 7) are only a few hundredths higher than the square of the correlation coefficient would be for the strongest predictor alone (see Table 6). These authors simply interpreted the individual subscales' correlations with the satisfaction measure, and did not evaluate the results via multiple regression analysis.

In summarizing the findings for the current sample it is important to stress the two pairs of subscales that combine with AB to predict most of the variance in the satisfaction levels. The first pair is the SS and PF combination. These subscales had the first and third highest correlations with the criterion, respectively, while correlating with each other at .655. The other pair, SC and T&I, were the second and fourth most highly correlated with the criterion, and correlated with each other at .711. AB adds some predictive power to the regression equation apparently because it measures a much different construct than the other five subscales.

DISCUSSION

There are a number of implications which may be drawn from the results of this investigation, and would seemingly hold interest for at least two groups of professionals; namely, sport and exercise psychology researchers and athletic coaches. With regard to coaches at the small-college level, many of these findings may only confirm pre-existing knowledge gained from working with athletes. However, the academic research community has largely ignored the nonscholarship, small-college athlete. As such, findings of the current study may provide meaningful contributions to the existing research base.

Implications for Football Coaches

Perhaps the most obvious implications from the current study may be drawn from comparing these results to those of previous studies using the LSS to predict satisfaction. Seven past studies using the LSS are detailed in Table 6. Table 12 shows how the average correlations across these studies compare to the current findings. The most substantial difference is the strength of the correlation between SS and satisfaction. This finding suggests that for football players at this level of competition, perceived social support is a stronger determinate of satisfaction levels than these behaviors were for other athletes. Another noteworthy difference is evidenced in the correlations between DB and satisfaction levels. This finding suggests that for players at this level, the perceived opportunity to provide input on team decisions is more predictive of satisfaction. In addition, the current sample's correlation between the AB subscale and satisfaction

Table 12

Comparison with the NCAA Division I-AA Sample and the Meta-Analysis of Studies

| Sample | Dimensions | | | | | |
|---|------------|-----|------|-----|-----|-----|
| | T&I | DB | AB | SS | PF | SC |
| Meta-analysis results (see Table 6) | .49 | .25 | -.27 | .32 | .43 | - |
| Three NCAA Div. I-AA teams ($N = 201$) | .45 | .01 | -.01 | .13 | .38 | - |
| Eight Div. III and NAIA teams ($N = 442$) | .63 | .52 | -.37 | .70 | .65 | .67 |

Note. The LSS did not contain the SC subscale, and other subscales have minor differences. These comparisons should be viewed tentatively with those differences in mind. The NCAA Div. I-AA sample was collected by Riemer and Chelladurai (1995).

differs substantially from results of the NCAA Division I-AA (Div. I-AA) sample, but not from the collective results. This finding suggests that small-college football players are less satisfied with a coach who stressed his authority and control over them. The responses of players at major colleges did not show this same negative relationship, suggesting they are more accepting of these behaviors. Unfortunately, the RLSS has not previously been used to predict satisfaction, and the LSS and RLSS are more than nominally different, making these comparisons tenuous.

Regardless, these findings seem consistent with the ideological differences that have been postulated for the nonscholarship level (e.g., Jambor & Zhang, 1997; McClowry, 1997). Football players at this level can be differentiated from those at the major-college level by the coaching behaviors they associate with satisfaction. Small-college players are more satisfied if they perceive increased social support and caring off

the field, more opportunity for input on team decisions and strategies, and less autocratic leadership behaviors. For major-college football players, neither DB ($r = .01$), AB ($r = -.01$), nor SS ($r = .13$) was significantly related to satisfaction levels.

Furthermore, the T&I and PF subscales were highly correlated with satisfaction levels in the current sample, although these findings are less unique. These two subscales had the highest correlations with satisfaction in both the Div. I-AA sample and in the meta-analysis. Although both statistical relationships were somewhat stronger in the current sample, these differences were not large and may be an artifact of the different scales used (LSS and RLSS). Even if these differences were deemed legitimate, the interpretation would not significantly change. These subscales measure perceived coaching behaviors that are highly associated with satisfaction in past samples, as well as in the current sample. In the Div. I-AA sample, these two appeared to be the only important subscales for predicting satisfaction, but that is not manifested in the current sample.

As the SC subscale is new to the RLSS, conclusions from comparisons remain speculative at this time. However, this subscale was highly correlated with T&I ($r = .71$), which would suggest that it may also be related to satisfaction. In fact, the correlation between SC and satisfaction was quite high ($r = .67$). This indicates that the knowledge of the sport's skills, plays, and drills, when supplemented with the ability to make adjustments in strategies and coaching behaviors, is important for player satisfaction. As such, coaches at the nonscholarship, small-college level should continue to be mindful of these collective differences between the collegiate levels and should seek to address the unique needs and motivations of their athletes.

Furthermore, coaches should remain cognizant of the larger finding, namely, the knowledge of those behaviors most associated with satisfaction. Typically, socially supportive, caring, and concerned may not be among the first words that come to mind when describing a football coach; however, the SS subscale yielded the strongest correlation with satisfaction. The SS subscale also related closely with PF, suggesting that most coaches who are socially supportive are also positive with their players on the field. At the small-college level, this combination of behaviors was especially important.

Another finding of potential interest to coaches is the minimal correlation between winning percentage and satisfaction levels. Any interpretation of this correlation should be viewed cautiously as the unit of measurement for the variable was each team, which limits the possible variation. The records of these eight teams ranged from three wins and five losses to undefeated through seven games, but it may be speculated that with a few more teams the statistical relationship would have been different. Further, although the correlation of .16 was statistically different from zero, the variable accounts for less than 3% of the variance. Based on this evidence, winning is not an important variable for predicting satisfaction in a small-college football player. Very few would argue with the notion that both players and coaches desire to win games. The evidence in the current sample does not deny that notion, but rather it suggests that a small-college football player's satisfaction with his coach is based on other variables and is not well accounted for by the record of the team. This confirms a finding by Weiss and Friedrichs (1986), who reported a correlation coefficient of .16 between a coach's prior win/loss record and player satisfaction among their sample of NAIA basketball players. However, their recording of win/loss percentage went back several seasons and may be more of a

measure of a team's and/or coach's winning tradition than the level of success the current players are experiencing.

The relationship between amount of playing time and satisfaction recorded a modest correlation of .12. This statistic was also statistically different from zero, but would account for less than 1.5% of the variance in satisfaction levels. This suggests that amount of playing time is of minimal importance in predicting player satisfaction. However, amount of playing time did enter the stepwise multiple regression model fifth in the current sample, thus falsely appearing more important than DB and SC. Because amount of playing time yielded extremely low correlations with the RLSS subscales, very little of its predictive power was compromised by variables already in the model. The variable was able to increase the overall R -square by one percentage point, which was of statistical significance in this sample, but is not likely to be of practical significance. Conversely, winning percentage failed to enter the regression model because it had slightly higher correlations with SC, DB, and T&I (see Table 9 for the correlation matrix).

The measurement of playing time was self-reported by the selection of one of three options: (a) regulars (those players who regularly started and/or played 50% or more of the time); (b) substitutes (those players who started and/or played less than 50% of the time); and (c) survivors (those players who did not play, except for maybe the last few minutes of a game in which the outcome is no longer in question). This item was first written and used in an LSS study by Garland and Barry (1988). The current investigator decided to use this item based primarily on research precedence. However, because only three response options were available, the item might have had limited

sensitivity. With a more sensitive measure, this variable may have yielded a stronger relationship with satisfaction. Additionally, it could be speculated that a measurement of playing time to predict satisfaction should consider actual versus expected playing time. This would be a slightly different construct, but may be more important to satisfaction levels than playing time per se.

Implications for Sport and Social Science Researchers

The sport and social science research community is likely to hold interests in results beyond how specific coaching behaviors relate to satisfaction levels. For example, researchers are often more interested in the psychometric performance of scales, possible generalizations and limitations of findings, and implications for future research. The current study represents a sample of athletes (nonscholarship, small-college football players) who have not previously been studied. As such, providing such information may be especially meaningful.

Consistent with past research (see Tables 3 and 8), the internal consistency of the AB subscale was below acceptable standards, scoring an estimate of .54. A rough check on the factor structure of the RLSS questions confirmed that the AB items did not produce consistent results. For example, item #34, which states, "Prescribes the methods to be followed," loaded more highly on the factor representing T&I and SC. Item #46, which states, "Presents ideas forcefully," also failed to load on the AB scale. Furthermore, the six remaining AB questions still performed poorly, with an internal consistency estimate of .61. These findings suggest that the AB items are too diverse and may not capture the construct of autocratic leadership behaviors in the sport context.

Additional evidence for problems with the AB subscale is found in its low correlation with the DB subscale. The authors of the LSS and RLSS suggest in their definitions that these subscales represent opposing coaching styles (Tables 1 and 4), yet the correlational data do not support that notion. If the subscales were truly measuring opposing coaching styles, relationships between the two should be characterized by a stronger negative correlation than the $-.25$ calculated for this sample. Adding to the subscale confusion, in Riemer and Chelladurai's (1995) sample of full-scholarship football players, a significant positive correlation ($r = .40$) was found between AB and DB. Furthermore, Riemer (1991) found that football players preferred more AB behaviors and more DB behaviors.

One possible explanation of these findings is that football is a sport that requires a certain amount of autocratic leadership, thus confusing autocracy for non-specific coaching behaviors. However, this explanation does not account for the low internal consistency estimates reported for AB in several other samples (Table 3). The finding is not unique to samples of football players, so perhaps the AB subscale is in need of a major revision, as several sports mandate an amount of autocratic behaviors from coaches. Collectively, the evidence from several studies suggests that the AB items are not performing to acceptable psychometric standards in the measurement of sport leadership.

Zhang's (1993) new subscale, SC, yielded a high correlation with the criterion variable ($r = .67$), but also yielded high correlations with the other RLSS subscales (all correlations were above $.61$, with the exception of AB). This subscale includes several excellent items that scored high correlations with satisfaction and a relatively high

internal consistency estimate (.77). However, the high correlations with four of the other five subscales raise doubts about the discriminant validity of the subscale. The subscale's correlation with T&I (.71) was near the .8 threshold at which Stevens (1999) suggested combining variables, and the correlations with three other subscales are only marginally weaker. Based on the evidence in the current sample, Zhang's (1993) SC subscale adds very little to the measurement of sport leadership.

Similarly, the SS and PF subscales were strongly correlated at .66. This finding raises questions about the unique qualities of this pair of subscales as well (at least among small-college players). Together with the T&I and SC relationship, this high correlation was a primary cause of the multicollinearity and differences among order of variables in the repeated subsampling procedure (Table 11). Perhaps this is the reason that few LSS and RLSS studies have evaluated results via multiple regression analysis (Tables 6 and 7). One possible explanation for the high correlation between SS and PF is that coaches tend to exhibit similar amounts of these behaviors. While the behaviors measured may be autonomous, it is difficult to imagine a coach displaying high levels of one but not the other. Because full correlation matrices have rarely been published as part of LSS studies, it is difficult to evaluate this explanation. In the Div. I-AA sample, the correlation between SS and PF was substantially lower ($r = .40$), suggesting that the finding may be unique to (or at least much stronger at) the small-college level.

The seven-item satisfaction with leadership subscale of the SAS was extracted from 18 original items, via factor analysis, by Chelladurai et al. (1988). For the current sample, the internal consistency estimate of the seven-item satisfaction measure was .94. This suggests that the scale performed as would be expected if truly measuring a single

construct. However, the overall mean on the scale was 5.67 (with a standard deviation of 1.18). The scale is a Likert-type scale ranging from 1 to 7 only. Given this high mean with the limited range, the finding raises some concern about the possibility of a ceiling effect and less than optimal sensitivity.

Generalizations and Limitations of Results

Beyond mere speculation, it is difficult to determine how well the results of any one investigation might generalize to broader populations of student-athletes. However, in this particular literature base, specific previous findings help to render a judgment about the generalizability. Several differences were revealed in comparisons with the Div. I-AA sample, suggesting that some characteristic(s) of full-scholarship programs limit(s) generalizability to all college athletes. At best then, these results may generalize to small-college athletes. However, in Weiss and Friedrichs' (1986) large sample of NAIA basketball players, only DB and SS were significant predictors of satisfaction and the overall R -square was .069. In the current sample, the overall R -square was .810 and DB failed to enter the model. This evidence suggests that these results should not be generalized beyond small-college football players. Further, the current sample was large ($N = 442$) and geographically diverse, but was selected using convenience sampling via personal contacts. Thus, even generalizing beyond this sample is somewhat tenuous.

Several limitations have been detailed throughout this section, including the unit of measurement for winning percentage, the limited categories for reporting amount of playing time, and the possibility of a ceiling effect in the satisfaction scores.

Conceivably, the most relevant and overarching limitation is found in a mantra well

known to researchers – “correlation does not equal causation.” There was no experimental manipulation in the design of this study. Players were already on college teams, already working with coaches, and already satisfied (or not) when they sat down and responded to the questionnaire items. Correlations of scores do indicate a linear mathematical relationship between variables. However, it is possible that most athletes were satisfied and perceived social support, without social support being the cause of the satisfaction levels. For this reason, correlational studies are generally thought of as exploratory, serving only in the initial investigation of relationships or in situations where experimental manipulation is not possible (Stevens, 1999).

Suggestions for Future Research on Sport Leadership and Satisfaction

The most common outcome variable in research on sport leadership is athlete satisfaction (Chelladurai, 1993). Because of this emphasis, the field of sport psychology has an adequate understanding of the relationship between coaching behaviors and satisfaction. The current study extends the research community’s understanding of player satisfaction to a new population of athletes, small-college football players. As with any new research, results from this study should be viewed tentatively. However, a number of salient results form the basis of future research questions.

Among the most interesting of the results were the differences in correlations between the sample of Div. I-AA players and the current sample. However, since the Div. I-AA sample (Riemer & Chelladurai, 1995) included only 201 players, three teams, one region of the country, a one-item satisfaction measure, and used the LSS, the comparison was tenuous. Thus, one obvious way to improve upon the current findings is

to update the comparison group by collecting a large, geographically diverse sample of full-scholarship football players using the RLSS and SAS. This would allow for more controlled and valid comparisons across the competitive levels in college sport.

In the current sample, the SS subscale was exceedingly more significant in predicting satisfaction than in previous research. Seemingly, a clear understanding of this relationship would be of great value to high school and small-college coaches. The opportunity to evaluate this relationship via true experimental design, complete with manipulation of coaching styles, is improbable. However, a systematic qualitative study with open-ended items, interviews, and/or anecdotal evidence could do more to inform coaches of the particular types and amounts of support athletes are requesting. Similarly, qualitative research could be employed to move beyond correlational, exploratory research towards making causal claims about relationships, even without the freedom to manipulate coaching variables. The current investigation evaluated only eight potential predictors of satisfaction. Additional research should focus on predictors not evaluated in this study (maybe exclude the RLSS subscales altogether and include other variables).

As was previously discussed in this section, the AB subscale continues to display psychometric shortcomings. The AB subscale's low internal consistency, and the "defection" of two items, compromised its predictive power and blurred the interpretation of results. Additionally, the T&I and SC subscales lacked discriminate validity (yielding a correlation of .71) in the current sample, and the SS and PF scores were correlated at .66. Collectively, this evidence raises concerns about the utility of RLSS overall. As such, the current investigator cautions those who are considering using the RLSS or LSS

in their research. Perhaps another revision process is necessary before either scale is used again.

Lastly, further research is needed to understand the cause(s) of the observed differences in responses found at the small-college level. Are these differences due simply to the lack of scholarship money, or are some differences accounted for by universitywide variables? Most Div. III colleges are private schools with the smaller enrollment, class sizes, and so forth. Thus, the overall collegiate experience is different for nonscholarship student-athletes, and any number of college-level variables may be important. Further, has the unique experience of small-college football made these players' responses different, or would they have been fundamentally different before competing at the small-college level? This is similar to the selection basis, as most players at the Div. III level have made a choice to compete at this level and attend at that kind of school. This may translate into differences in philosophy (as well as talent) at an early age than the current study measures.

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APPENDICES

Appendix A

Coaches' Letter

8/31/00

Dear Coach _____,

My name is Derek Reinke and I am a graduate student in the psychology department at Utah State University. I am currently working on my graduate thesis. My topic is the predictors of satisfaction levels in football players at nonscholarship programs. As a former linebacker in a Division III program, I have a sense that nonscholarship athletes are unique in several important ways.

Currently, no research focusing on small-college football players has been published in the academic literature. One study with NAIA basketball teams did suggest that small-college athletes have different motivations and leadership needs, and look for different styles (e.g., more democratic behaviors) in their coaches when compared to Division I athletes. I would like to measure the perceived coaching styles and satisfaction levels in a large sample of current Division III and NAIA football players. I will be testing for the significant predictors of an athlete's satisfaction level with their coach.

I am writing to see if you might allow us to survey members of your team as subjects in this study. If you and your team are willing to participate, myself or a research assistant will come to a Monday or Friday meeting later this season (mid-October). The administration of surveys will take approx. 30 minutes. In exchange for your time, I will send each coach a report that includes summary statistics for their team in relation to the entire sample. The report will also include the findings as to which aspects of coaching behaviors and styles are most predictive of a player's satisfaction level. I think your staff will come away with some important insights about what your athletes see in your behaviors and ways you might relate differently in the future.

If you are willing to set aside some time at a team meeting for this activity, please respond (via e-mail or phone call) at your earliest convenience. If you would like more information about the study before deciding, feel free to contact myself or the chair of my thesis committee - Professor of Sport Psychology, Rich Gordin. Thanks for your time and consideration. I wish you the best of luck this season.

Sincerely,

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Principal Investigator
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Appendix B

Informed Consent

Page 1 of 2
8/31/00

- Purpose** This questionnaire is part of an ongoing research project conducted by Professor Rich Gordin and Ph.D. candidate Derek Reinke of Utah State University. This research project is investigating small-college football players' satisfaction levels with sport leadership styles. Approximately eight teams, and a total of 400 athletes, will be participating in this study.
- Procedure** The questionnaire should take no longer than 45 minutes to complete. The findings of this study will be used solely for academic purposes. The administrator of the questionnaires will then collect your responses and mail them to Utah State University. No coach or athletic administrator will have access to your individual responses. However, the collective findings will be available to any coach or player who is interested in the results.
- Voluntary** Participation in this study is entirely voluntary, you may withdraw at anytime without consequence. If you feel that you would rather not provide the requested information, you may leave that item blank or discontinue altogether.
- Confidential** This survey is completely confidential, so please feel free to respond to the questions as honestly as possible. This form will be signed and turned in separately from your answers. You are not to write your name on the actual survey or answer sheet. This way your name will not be known to the researcher. Only the two investigators listed at the bottom of the next page will have access to the individual questionnaires. Research records will be kept confidential consistent with federal and state regulations. Once the surveys have been analyzed, all forms will be kept in a locked file in a locked office on the campus of Utah State University. After the new year, all the original forms will be destroyed.

- Risks & Benefits** There are no foreseeable risks in participating in this research study. The study hopes to benefit small-college coaches and athletes by explaining which coaching behaviors are most associated with athlete satisfaction.
- IRB Approval** The Institutional Review Board (IRB) for the protection of human subjects at Utah State University has reviewed and approved this research project.

We certify that the research study has been explained to the individual, by me or my research staff, and that the individual understands the nature and purpose, the possible risks and benefits associated with taking part in this research study. Any questions that have been raised, have been answered.

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Your questionnaire administrator has explained the study to you and answered your questions. If you have any other questions, feel free to contact us at the numbers listed above. You have been given two copies of this consent form. Please sign both copies and retain one for your files. By signing below, you agree that you understand your rights as a subject and freely choose to participate in this study.

Signature

Date

Appendix C

The Revised Leadership Scale for Sport

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 coach's actual behavior by circling the appropriate space. Answer all items even if you are unsure of a response. Please note that the response is according to how you perceive your present coach. There are no right or wrong answers. Your spontaneous and honest response is important for the success of this evaluation.

Example: My coach likes each athlete on the team 1 2 3 4 5

My coach:

- | | |
|--|-----------|
| 1. Coaches to the level of the athletes. | 1 2 3 4 5 |
| 2. Encourages close and informal relationships with the athletes. | 1 2 3 4 5 |
| 3. Makes complex thing easier to understand and learn. | 1 2 3 4 5 |
| 4. Puts the suggestions made by the team members into operation. | 1 2 3 4 5 |
| 5. Sets goals that are compatible with the athletes' ability. | 1 2 3 4 5 |
| 6. Disregards athletes' fears and dissatisfactions. | 1 2 3 4 5 |
| 7. Asks for the opinion of the athletes on strategies for specific competition. | 1 2 3 4 5 |
| 8. Clarifies goals and the paths to reach the goals for the athletes. | 1 2 3 4 5 |
| 9. Encourages the athletes to make suggestions for ways to conduct practices | 1 2 3 4 5 |

My coach:

- | | |
|--|-----------|
| 10. Adapts coaching style to suit the situation. | 1 2 3 4 5 |
| 11. Uses alternative methods when the efforts of the athletes are not working well in practice or in competition. | 1 2 3 4 5 |
| 12. Pays special attention to correcting athletes mistakes. | 1 2 3 4 5 |
| 13. Lets the athletes try their own way even if they make mistakes. | 1 2 3 4 5 |
| 14. Sees the merits of the athletes' ideas when they differ from the coach's. | 1 2 3 4 5 |
| 15. Shows 'O.K.' or 'Thumbs Up' gesture to the athletes. | 1 2 3 4 5 |
| 16. Remains sensitive to the needs of the athletes. | 1 2 3 4 5 |
| 17. Stays interested in the personal well-being of the athletes. | 1 2 3 4 5 |
| 18. Pats an athlete after a good performance. | 1 2 3 4 5 |
| 19. Explains to each athlete the techniques and tactics of the sport. | 1 2 3 4 5 |
| 20. Congratulates an athlete after a good play. | 1 2 3 4 5 |
| 21. Refuses to compromise on a point. | 1 2 3 4 5 |
| 22. Uses a variety of drills for a practice. | 1 2 3 4 5 |
| 23. Stresses the mastery of greater skills. | 1 2 3 4 5 |
| 24. Alters plans due to unforeseen events. | 1 2 3 4 5 |
| 25. Lets the athletes set their own goals. | 1 2 3 4 5 |
| 26. Looks out for the personal welfare of the athletes. | 1 2 3 4 5 |
| 27. Uses objective measurements for evaluation. | 1 2 3 4 5 |
| 28. Plans for the team relatively independent of the athletes. | 1 2 3 4 5 |
| 29. Tells an athlete when the athlete does a particularly good job. | 1 2 3 4 5 |
| 30. Gets approval from the athletes on important matters before going ahead. | 1 2 3 4 5 |
| 31. Expresses appreciation when an athlete performs well. | 1 2 3 4 5 |

My coach:

- | | |
|--|-----------|
| 32. Puts the appropriate athletes in the lineup. | 1 2 3 4 5 |
| 33. Encourages the athletes to confide in the coach. | 1 2 3 4 5 |
| 34. Prescribes the methods to be followed. | 1 2 3 4 5 |
| 35. Dislikes suggestions and opinions from the athletes. | 1 2 3 4 5 |
| 36. Conducts proper progressions in teaching fundamentals. | 1 2 3 4 5 |
| 37. Supervises athletes' drills closely. | 1 2 3 4 5 |
| 38. Clarifies training priorities and works on them. | 1 2 3 4 5 |
| 39. Possesses good knowledge of the sport. | 1 2 3 4 5 |
| 40. Fails to explain his/her actions. | 1 2 3 4 5 |
| 41. Encourages an athlete when the athlete makes mistakes in performance. | 1 2 3 4 5 |
| 42. Praises the athletes good performance even after losing a competition. | 1 2 3 4 5 |
| 43. Puts an athlete into different positions depending on the needs of the situation. | 1 2 3 4 5 |
| 44. Assigns tasks according to each individual's ability and needs. | 1 2 3 4 5 |
| 45. Recognizes individual contributions to the success of each competition. | 1 2 3 4 5 |
| 46. Presents ideas forcefully. | 1 2 3 4 5 |
| 47. Lets the athletes decide on plays to be used in a competition. | 1 2 3 4 5 |
| 48. Is willing to perform a personal favor for an athlete. | 1 2 3 4 5 |
| 49. Compliments an athlete for good performance in front of others. | 1 2 3 4 5 |
| 50. Gives the athletes freedom to determine the details of conducting a drill. | 1 2 3 4 5 |
| 51. Gets input from the athletes at daily team meetings. | 1 2 3 4 5 |

My coach:

52. Claps hands when an athlete does well. 1 2 3 4 5
53. Gives credit when it is due. 1 2 3 4 5
54. Helps the athletes with their personal problems. 1 2 3 4 5
55. Asks for the opinion of the athletes on important coaching matters. 1 2 3 4 5
56. Rewards an athlete as long as the athlete tries hard. 1 2 3 4 5
57. Lets the athletes share in decision making and policy formulation. 1 2 3 4 5
58. Visits with the parents/guardians of the athletes. 1 2 3 4 5
59. Keeps aloof from the athletes. 1 2 3 4 5
60. Increases complexity and demands if the athletes find the demands are too easy. 1 2 3 4 5

Item Number Under Each of the RLSS Factors

(Prepared for the Researcher)

| Factor | Number of Items | Item Number |
|---------------------------|-----------------|---|
| Democratic Behavior | 12 | 4,7,9,13,14,25,30, 47,50,51,55,57 |
| Positive Feedback | 12 | 15,18,20,29,31,41, 42,45,49,52,53,56 |
| Teaching and Instruction | 10 | 3,12,19,22,23,27, 36,37,38,39 |
| Situational Consideration | 10 | 1,5,8,10,11,24,32,43,44,60 |
| Social Support Behavior | 8 | 2,16,17,26,33,48,54,58 |
| Autocratic Behavior | 8 | 6,21,28,34,35,40,46,59 |

Appendix D

Scale of Athlete Satisfaction

Directions: The statements below relate to different aspects of your coach's leadership. Please indicate how satisfied you are with each by circling the appropriate number. Please answer all items.

| | EXTREMELY DISSATISFIED | DISSATISFIED | SLIGHTLY DISSATISFIED | NEUTRAL | SLIGHTLY SATISFIED | SATISFIED | EXTREMELY SATISFIED |
|---|---------------------------|--------------|--------------------------|---------|-----------------------|-----------|------------------------|
| 1. The leadership provided by my coach | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. How my coach treats me | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. My coach's ability to teach me | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. The guidance provided by my coach | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. Respect and fair treatment I get from my coach | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. How my coach deals with problems | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. The support I get from my coach | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Appendix E

Demographic Questions Included with the RLSS and SAS

How old are you? 18 19 20 21 22 23 24 Other

Ethnicity? Caucasian (white) African-American Asian-American
 Pacific Islander Native American Other

How many years have you been on the team (include any redshirt seasons)?

This is my: 1st year 2nd year 3rd year 4th year 5th year

Position? Offensive lineman Offense, non-lineman
 Defensive lineman Defense, non-lineman Kicker/Specialist

About how much playing time are you receiving this year?

I start or play 50% or more of the time.

I play less than 50% of the time.

I play very little, only when the outcome is no longer in question.

Appendix F

E-Mailed Permission from P. Chelladurai and J. Zhang

Permission to use SAS and RLSS

Date Sent: Thursday, May 18, 2000 3:44 PM

From: Packianathan Chelladurai <chelladurai.1@osu.edu>

Subject: RE: A question about the LSS

Hi, Derek:

Thanks for your interest in my work.

I can not answer the question whether the LSS or RLSS is better because I have vested interested in the LSS. You have to make the decision yourself with advice from your advisor.

On the question of satisfaction of athletes, I am attaching two files containing two satisfaction instruments: SAS and ASQ. The SAS is a shorter version with only two facets of satisfaction. You are free to use it if you prefer. The ASQ is the result of Dr. Riemer's doctoral dissertation. It has been published with me as the coauthor. It is more elaborate. If you want to use it, please get in touch with Dr. Riemer whose address you will find in the attachment.

The third attachment is the manual for the LSS. Feel free to use it in your research as well as any tables of psychometric properties per your request.

Chelladurai

Date Sent: Tuesday, June 20, 2000 12:52 PM

From: jhzhang@UH.EDU (James J. Zhang)

Subject: RE: A question about your RLSS

Dear Derek:

After I revised the LSS, I sent a copy to Chella. However, I have not heard anything from him. An application manual is in the mail for you and you have my permission to use the RLSS and its contents in your research. Good luck.

James J. Zhang

Permission to reprint tables

Date Sent: Wednesday, September 26, 2001 4:04 PM
From: Packianathan Chelladurai <chelladurai.1@osu.edu>
Subject: RE: Permission to reprint LSS tables

Yes, Derek:

You have my permission to reprint the tables, but only in your thesis or dissertation.

All the best.

Chelladurai

Date Sent: Thursday, September 27, 2001 7:56 AM
From: Gershon Tenenbaum <tenenbau@coe.fsu.edu>
Subject: RE: Request to reprint tables found ISSP publication

Dear Derek,

You have my permission to include the two tables in your thesis or dissertation. As you mentioned, include the references appropriately.
Good luck with your project, Gershon

Date Sent: Wednesday, October 03, 2001 12:28 PM
From: James Zhang <jamesz@hhp.ufl.edu>
Subject: RE: Permission to reprint RLSS table

Dear Derek:

I think you have gotten great findings. Good job! yes, you have my permission to reprint the table in my application manual, and include it in your thesis and/or any publication associated with it. Best regards,

Dr. James J. Zhang

Appendix G

Administrator's Script

Please follow the script closely to insure that athletes taking the questionnaire at different sites receive the same instructions. You are to read all the words in quotations aloud to the athletes. Additional instructions are given to you in parentheses.

(If you are unfamiliar to the athletes, please read the one line introduction. If you are familiar to them, please begin the administration on the second line)

“Hello team, my name is _____ (name) and I am _____ (title)”
 “I am here today to administer a questionnaire dealing with sport leadership styles and satisfaction. Your participation is completely voluntary and your responses will be kept confidential as detailed in this consent form.” **(hold up a copy of the ‘Informed Consent’ form)** “I will pass out the signed consent form now. Please take two copies each.” **(begin distributing the ‘Informed Consent’ forms, 2 copies per player)** “You are to keep one copy of the consent form for your information. Please read the form carefully so you are aware of the nature of the questionnaire and your rights as a subject in this research project. If you have any questions, please raise your hand. When you have read the form, please sign and date one copy as indicated at the bottom of the form and I will collect them.” **(Pause a few moments, then collect the signed forms)**

“Next, I will pass out the questionnaire.” **(...as you distribute the questionnaires, continue to read...)** “Please write directly onto these pages. Does any one need a pen or pencil? **(...pass a pen or pencil to anyone who needs one...)** The items on the questionnaire will ask you to rate your coach. I realize that football programs generally have a staff of several coaches. Please select the one coach that you work most closely with. That may be your position coach or coordinator. Please respond to all the items with that coach in mind. When you have finished the questionnaire, please bring it forward to me. Are there any questions?” **(Do your best at answering any questions.)** “If there are no (other) questions, then go ahead and begin.”

(When approximately half or two-thirds of the team has finished, but BEFORE any athletes leave the room, please read the following ‘debriefing’ comments.)

“Let me interrupt those of you who are still working just to make a few final remarks. First, on behalf of the graduate student conducting this project, I would like to thank you for your participation. If you are interested in learning more about the purpose of the study, or in learning how the results come out, feel free to contact Derek Reinke, whose phone number and e-mail address are given on the consent form.”

(Allow the athletes ample time to finish the questionnaire, then collect all remaining materials and return them to the box for shipping.)

Appendix H
Descriptive Statistics

Table 13

Descriptive Statistics for the Key Variables

| Variable | Valid <u>N</u> | Minimum | Maximum | Mean | Std. Deviation |
|----------|----------------|---------|---------|------|----------------|
| SAS | 435 | 1.00 | 7.00 | 5.67 | 1.18 |
| DB | 439 | 1.25 | 4.67 | 3.13 | 0.65 |
| PF | 442 | 1.08 | 5.00 | 3.96 | 0.63 |
| T&I | 441 | 1.20 | 5.00 | 3.96 | 0.55 |
| SC | 438 | 1.80 | 5.00 | 3.89 | 0.52 |
| SS | 438 | 1.13 | 5.00 | 3.68 | 0.73 |
| AB | 438 | 1.50 | 4.25 | 2.87 | 0.47 |
| Win/loss | 8 | 0.38 | 1.00 | 0.60 | 0.20 |