Satisfaction Scale For Athlete (SSA): A Study Of Validity And Reliability

Gokhan Caliskan, PhD, Assc. Prof.
Hacer Ozge Baydar, M.Sc, Res. Asst.
Gazi University, College of Physical Education and Sports, Ankara, Turkey

doi: 10.19044/esj.2016.v12n14p13 URL:http://dx.doi.org/10.19044/esj.2016.v12n14p13

Abstract

The purpose of this study is to develop a Satisfaction Scale for Athlete and to test its reliability and validity. Three hundred forty one professional soccer players from Turkish Super League, First and Second League voluntarily participated in this study. SSA consists of 16 items and three subscales, which are satisfaction with coach, satisfaction with team performance and satisfaction with teammates. Exploratory Factor Analysis, Confirmatory Factor Analysis, Multi-Sample Confirmatory Factor Analysis and Factorial Invariance were conducted to construct validity of the Satisfaction Scale for Athlete. MANOVA was performed for known-groups validity analysis of the Satisfaction Scale for Athlete by comparing the scores of soccer players from Turkish Super League with the soccer players from First and Second Leagues. As a result, support for construct validity, reliability and with soccer athletes was established, along with measurement invariance. MANOVA analyses showed predicted discrimination between the leagues. Overall, these results show the reliability and validity of the newly established Satisfaction Scale for Athlete.

Keywords: Athlete Satisfaction, Confirmatory Factor Analysis, Factorial Invariance, Multi-Sample Confirmatory Factor Analysis, Soccer

Introduction

Athlete satisfaction, which is the important outcome to a variety of psychological variables define as a positive, affective state resulting from a complex evaluation of the structures, processes, and outcomes associated with the athletic experience (Chelladurai & Riemer, 1997) or may express concern about athletes performance and the degree to which it reaches or fails to achieve expected levels (Chelladurai, 1984).

Athlete satisfaction is accepted as an imperative component of affective success and productivity (Chelladurai, 1984). According to

Papaioannou et al (2008), athlete's satisfaction determine basically achievement of goals and approval of social agents' such as coach, parents and teammates. Most previous studies support the positive link between athlete satisfaction and the leadership behaviour of a coach; and between satisfaction and individual/team performance (Chelladurai, 1984; Horne and Carron, 1985; Weiss & Friedrichs, 1986; Schliesman, 1987; Chelladurai et al. 1988; Dwyer & Fischer, 1990; Courneya & Chelladurai, 1991; Riemer & Chelladurai,1995; Chelladurai & Riemer, 1998; Riemer & Toon, 2001; Eys at al. 2007).

Researchers have often measured athlete satisfaction by adapting a wide variety of dimensional scales developed. Efforts to study the effects of athlete satisfaction using scales specifically developed and validated in the sports psychology domain led to the development of instruments such as the Sports Satisfaction Inventory (Whittal & Orlick, 1979), The Athletes Satisfaction Questionnaire (Chelladurai, 1984), Scale of Athlete Satisfaction (Chelladurai et al., 1988), the Athlete Satisfaction Questionnaire (Riemer & Chelladurai, 1988).

Whittall and Orlick (1979) developed a 48 item Sport Satisfaction Inventory (SSI), which measures satisfaction in 6 different dimensions: (a) the sport or game itself, (b) practice, (c) coach, (d) teammates, (e) opposition, and (f) personal abilities and performance. Chelladurai (1984) later developed The Athletes Satisfaction Questionnaire using Canadian Varsity University athletes. Chelladurai et al. (1988) also developed a Scale of Athlete Satisfaction (SAS) that includes 18 items and measures 4 dimensions of satisfaction: (a) personal performance, (b) team performance, (c), leadership and (d) overall satisfaction. A well-known multidimensional instrument, the Athletic Satisfaction Questionnaire (ASQ) was developed by Riemer and Chelladurai (1998) to measure the facets of the satisfaction. ASQ contains 56-items and 15 subscales. These subscales include (a) individual performance, (b) team performance, (c) ability utilization, (d) strategy, (e) personal treatment, (f) training and instruction, (g) team task contribution, (h) team social contribution, (i) ethics, (j) team integration, (k) personal dedication, (l) budget, (m) medical personnel, (n) academic support services, and (o) external agents.

These previous scales for measuring athletes satisfaction are more or less similar ways but most of the scales include many items, which may therefore be seen as tedious to complete by the athletes. Moreover, most of these scales were developed for university athletes rather than elite or professional groups of athletes. Therefore, there was a necessity to establish a scale for professionals who do the sport as a job besides passion towards that sport style. As reported by Chelladurai et al. (1988) perceptions of athlete satisfaction might also change from culture to culture. Therefore, the

overall aim of the present study is to develop a short, efficient, new scale, validated in the Turkish professional athlete population. The samples of the present study are professional soccer players from various Turkish leagues. In contrast to the earlier studies, the present study is conducted on Turkish culture, which might reflect both western and eastern cultures (Santos et al. 2007).

The argument for validity of an instrument becomes stronger when the statistical analysis includes EFA and CFA analyses that are completed together. The goal of this study is to collect data from professional athletes to test of the validity of scores from the SSA. Therefore, the purpose of this study was to examine the factorial validity of the SSA using exploratory and confirmatory factor. In addition, the factorial invariance of the SSA using multi-sample confirmatory factor analysis was also evaluated. An instrument for testing validity must measure different populations for generalization. The analysis process was therefore presented as two applications (I and II) using the split file method for preparation of data analysis and generalization of results. Moreover, an instrument for testing validity is the strongest when the various kinds of validity proof are presented in the study (Messick, 1989). Therefore EFA and CFA were used for constructing validity, MANOVA analysis was used for known-groups validity and Internal consistent coefficients for reliability. In this study, three kinds of validity evidence were sought: construct validity, measurement invariance, known-groups validity also reliability as hypothesized below.

Construct Validity

The primary purpose of the study is to examine the factorial validity of the Satisfaction Scale for Athlete. Therefore; it is hypothesized that SSA can be explained with the three factors model.

Known-groups validity

In the present study it is hypothesized that the mean scores of the three SSA subscales discriminate three leagues TSL, First League and Second League from each other.

Reliability

Internal consistency coefficients are used to test the hypothesis of the high reliability of the SSA.

METHOD

Sample

A total of three hundred and forty one (n=341) soccer players, 154 from the Turkish Super League, 100 from the First League and 87 from the

Second League, voluntarily participated in this study. The age of the participants ranged between 17 and 35 years; 66% were between 19 and 29 years old They were more likely to be graduate of high school graduates (63,3 %), generally single and they were likely to play soccer for 1 to 14 years (56,5%) professionally

Procedure

The relevant permission was initially sought from the coach (technical director) to conduct the study in accordance. Then the investigator contacted the coaches who further approved the request to allow their athletes to participate. The researcher visited the team clubs or training places, after having informed the athletes of what they would be asked to do and the reason for doing it. He asked them to fill in the questionnaire forms. Before starting the questionnaire, the athletes were also informed that all responses would be confidential. Data were collected from participants during their winter break camp and training season.

Instrument Development

In this study, item development for the SSA was based on the previous measures of job and athlete satisfaction. According to the literature the three most prominent dimensions of athlete satisfaction are satisfaction with performance (Chelladurai 1984; Pethlickoff 1993), with leadership (Chelladurai, 1984), and with teammates (Maslow, 1954; Smoll, Smith, & Hunt, 1978). Earlier research has supported the idea that leadership, as a characteristic of the job, is a general determinant of satisfaction (Bateman & Strasser, 1984; Glisson & Durick, 1988). Detailed studies examining leadership behaviours have also demonstrated that satisfaction is positively related to leadership behaviours (Downey et al. 1975; Halpin & Winer, 1957; House, Filley, & Kerr, 1971; Hunt & Liesbscher, 1973; Teas, 1983; Eys Loughead & Hardy, 2007). Additionally, researchers in the field (Weiss, Dawis, England, & Lofquist,1967; Courneya & Chelladurai 1991; Riemer & Chelladurai 1997; Nicholls et al. 2012) have put forward theories about strong relationships between performance and satisfaction. The last subscale, satisfaction with teammates**,** as stated by Smoll et al. (1978) the expectation of the high performance consists of a group in which different cultures and mentalities work together. The mentality of teammates is obtained through their acceptance as players and enjoying time spent together. Thus, athlete satisfaction consists of three sub-dimensions, namely, 'satisfaction with coach' 'satisfaction with team performance' and 'satisfaction with teammates'. The present SSA includes 16 questions in total. Each item is presented with the range "7= Extremely satisfied" and

"1= Not at all satisfied" in the same way as the Likert 7 type scale in order to measure the perceptions of the athletes.

Data Collection Procedure and Data Analysis

SSA was carried out with 341 soccer players. The data was randomly separated into two subsamples using the split file method. The missing data, outliers, normality, linearity, homogeneity of variance, multicollinearity assumptions were examined in preparation for the analysis. After examining of the data, the first subsample (n = 177) was used to test the factorial validity of the SSA by EFA. The second subsample (n = 154) was used to test construct validity of the SSA by CFA. The sample size of both subsamples was adequate as suggested by Hair, Black, Babin, Anderson, (2010). Their stated general rule is that sample size should be a ratio of 5 to 10 participants per variable for EFA. For CFA, the sample size of 100 - 150 participants would suffice when each factor has 3 greater numbers of the items and communalities of the variables of .60 or higher are suggested. In order to test the discriminate validity, the SSA scores of soccer players from different league categories were compared using MANOVA for whole data.

RESULTS

Construct validity

EFA results

Exploratory factor analysis was conducted on the data from sample I (n = 177) using varimax rotation that determined three factors: 'Satisfaction with coach', 'satisfaction with team performance' and 'satisfaction with teammates'.

Analysis of the data revealed that the structure of the SSA was three factors and explained 64% of the variance among the items on the scale. In the three-dimensional resolution, correlation coefficients between the items and factors were .55 – .82 for the 1st dimension; .55 - .89 for the second dimension and .75 – .82 for the third dimension (see Table 1).

Table 1: EFA Results

ITEMS	1	2	3
1. The manner in which my talents are (were) employed.	.749		
2. The coach's choice of plays during competitions.	.741		
3. The level of considering athlete's idea about the game strategies.	.612		
4. The tactics used during games.	.780		
5. How the coach reads the game and makes (made) adjustments during the competitions.	.821		
6. The level to which my talents are (were) employed.	.738		
7. The degree to which my role on the team matches (matched) my preferred role	.604		
8. Relationship between the coach and the star athlete.	.554		
9. The team's win/lose record in the season.		.772	
10. The extent to which the team is meeting (has met) its goals for the season.		.885	
11. Eliminating the failures that can affect the team performance.		.653	
12. The level of taking precautions to reach the team to the highest performance.		.548	
13. The level of giving opportunity to the athlete to show multidimensional performances in games.		.516	
14. The level of the athlete's cooperation with each other and commitment to each other.			.812
15. The helping level of the athlete to ease the adaptation of the new joining athlete.			.751
16. The level of all athletes to hide teammates' weakness or mistakes.			.821

CFA results

CFA were used to test the construct validity of the SSA. Table 2 presents the fit index resulting from the measurement analyses of the sample 2 data (*n*=154). CFA output includes many fit indices. Each Structural Equation Modelling (SEM) program (Amos, Lisrel, Eqs, etc) includes a slightly different set, but they all contain the key values such as (chi-square), CFI (Comparative Incremental Fit), RMSEA (Root Mean Square Error of Approximation) and SRMR (Standardized Root Mean Square Residual). In the study, when the value is divided by the degrees of freedom (*df*), if the resulting number is smaller than 2.0 it is considered very good, and between 2.0 and 5.0 is acceptable (Hair et al, 2010). Hu and Bentler (1999) suggested using the CFI together with SRMR. Their combination threshold for concluding an "acceptable fit based on these indexes" was CFI $\geq$ .95 and *SRMR* $\leq$ 0.8. Three measures of the model fit are reported with test, SRMR and *CFI*. The fit indices for the sample 2 are x^2_{101}=267.43; *p*= .00; x^2/df= 2.65'; CFI=.96, NNFI=0.95, SRMR=.06 and RMSEA=0.09 (0.08 – 0.11). This suggests that the factor structure of the SSA for sample 2 is acceptable. These coefficients indicate that the three-dimensional model, foreseen within the scope of the research in the second groups, is most capable of explaining the relations observed among the items.

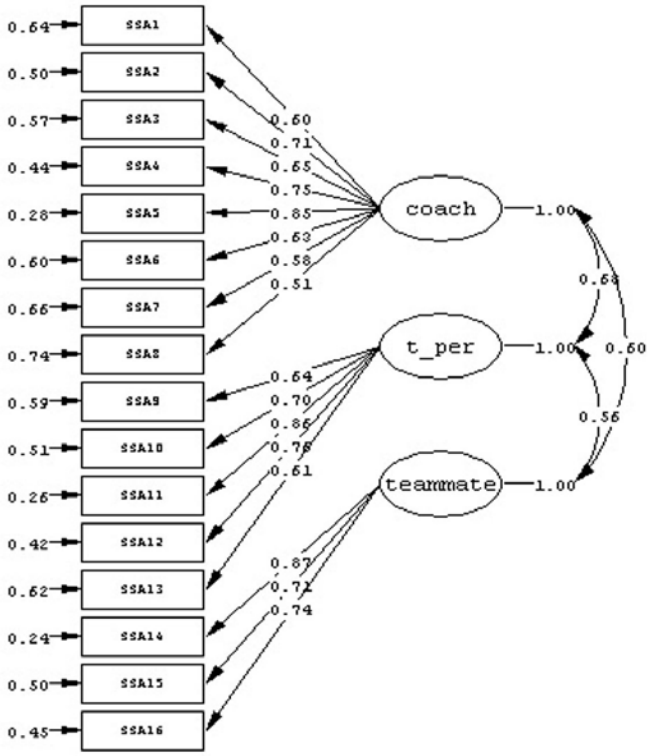

Figure 1: CFA Results

In SEM studies, the factorial structure of a feature is examined by comparing the model proposed in relation to the features assumed to be multi-dimensional and an 'alternative' model, which foresees that these features may be explained via single factor. The general combination of the coefficient pertaining to single-dimensional model is x^2_{104}= 484.15; p = 0.00; x^2/df= 4.66, *CFI*=.92, NNFI=0.91, *S*RMR=.08 and RMSEA=0.14 (0.13 – 0.16). When the combination levels of the single-factor model are compared with the theoretical model, the difference between them was found to be in favour of the model ($\Delta x^2_3 = 216.72$; $p < .05$). According to these results, the theoretical model might explain the differences better in the dataset (variance - covariance), when compared with the single-factor model and the parameters relating to the theoretical model given in Figure 1.

Measurement Invariance

Cross-Validation Sample Analyses

The data obtained from the first and second applications, factor loads were compared using the r_c software revealed that the consistency between the factor loads obtained from sample 1 and sample 2 was 0.99. The first stage examined whether a one-factor model adequately fits the data for the

two groups (Configural Invariance) using the Multi-Sample confirmatory factor analysis method. The consistency coefficients for this model were x^2_{205}= 524.10; p=0.00; x^2/sd= 2.55; CFI=0.95; NNFI;0.94; SRMR=0.07 and RMSEA=0.09(CI 90%= 0.08-0.11). These coefficients show that the "baseline" model has a minimum level of cross-validity. In other words, the model is suitable for both covariance matrices. The second stage examined whether the factor loadings were equivalent across two groups (Metric Invariance). The results showed that the consistency coefficients for this model were x^2_{221}= 548.91; p=0.00; x^2/sd= 2.48; CFI=0.95; NNFI=0.94; SRMR=0.12 and RMSEA=0.09(CI 90%=0.08-0.11).

Multi-group Invariance Analysis results showed that The RMSEA values provided a mediocre fit (MacCallum, et al., 1996) of the one-factor model in the two separate sample and The x^2, x^2/sd, CFI and SRMR recommended that the three-factor model represented an acceptable fit to the sixteen-item SSA in the configural invariance, also other fit indices was acceptable, although SRMR values did not support in the metric invariance.

The chi-square,x^2/sd, CFI and SRMR fit indices revealed that the data were consistent with the hypothesis model for configural invariance, but SRMR values (0.12) was not acceptale for metric invariance. RMSEA values (0.09)provided to mediocre fitting model both invariances. Hu and Bentler (1999) stated that SRMR values close to ≤ 0.08 and RMSEA values close to ≤ 0.06 respectively indicate acceptable fit. However, Chen, Curran, Kriby and Paxton (2008) stated that to identify universal cut off points from the RMSEA should not be pursued as a single way of assessing model fit and other fit indices have are needed to evaluate a SEM. Also it is difficult to justify a cut off of 0.05 and the choice of cutoff values depends on model specifications, degrees of freedom, and sample size. Hooper, Couglan & Mullen revealed that The SRMR is lower when there is a high number of parameters in the model and in models based on large sample sizes. Thus larger RMSEA and SRMR values may depend of sample size and degrees of freedom. As a result other fit indices revealed that three factor-SSA model was acceptable in the two separate sample . And Configural and metric invariance tests further supports the measurement invariance of the three-factor SSA model. Morever, The chi-square difference test,to determine the cross-validation of the measurement model, revealing that equalizing the factor loadings, showed that SSA had full invariance (Δx^2_{16} = 24.81; p > 0.05). Therefore, the factor structure, factor loadings, factor variances, and item uniqueness were invariant across the samples.

Known-groups validity Results

MANOVA was performed for known-groups validity analysis of the SSA by comparing the scores of soccer players from TSL with the soccer

players from First and Second Leagues. Dependent variables were selected as subscales of SSA, which were satisfaction with coach, satisfaction with team performance and satisfaction with teammates, whereas independent variable was selected as league levels.

According to the results, a scattering matrix was homogeneous (F(53,367397)= 4,428, P=.000). Although Box's M coefficient is significant, when the descriptive statistic table was examined, it showed N of the Super League had a large standard deviation, whilst N of Others League had a small standard deviation. This result indicates that the F test is robust (Table 2).

MANOVA's results indicated a significant difference in the satisfaction of the athletes between Super League and Other Leagues (λ =.884, $F_{6,672}$= 7,14, p<.001). Consequently, it was determined that the athletes could be differentiated within the scope of their satisfaction with coach ($F_{2,338}$= 13,597, p<.001), satisfaction with team performance ($F_{2,338}$= 4,195, p<.05) and satisfaction with teammates ($F_{2,338}$= 3,305, p<.05) which reveals that the athletes of the Super League express high opinions about the satisfaction with coach and satisfaction with team performance subjects compared to the First League and Second Leagues, Also the athletes of the First League express high opinions about the satisfaction with teammates subject compared Super League and Second League (Table 3).

Table 2: Descriptive Statistics

Subscale	League	n	M	SD
Coach	Super	154	45.45	7.87
	First	100	41.12	9.11
	Second	87	39.97	9.64
	Total	341	42.78	9.03
Team Performance	Super	154	26.15	5.49
	First	100	25.80	6.36
	Second	87	23.75	7.67
	Total	341	25.43	6.42
Teammate	Super	154	16.64	3.82
	First	100	16.72	3.60
	Second	87	15.45	4.13
	Total	341	16.36	3.87

Table 3: Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	*df*	Mean Square	*F*	*p*
League	coach	2066,303	2	1033,151	13,597	,000
	team performance	339,764	2	169,882	4,195	,016
	teammates	97,599	2	48,800	3,305	,038
Error	coach	25681,638	338	75,981		
	team performance	13688,002	338	40,497		
	teammates	4991,034	338	14,766		
Total	coach	651909,000	341			
	team performance	234617,000	341			
	teammates	96365,000	341			

Reliability

The reliability of the study is tested via the internal consistency coefficient by using the whole data obtained from the SSA, cronbach's alpha (α) was .92 (satisfaction with coach α= .89; satisfaction with team performance: α= -.83; satisfaction with teammates: α= .82), and the total correlation coefficients among the items vary between .47 and .74.

DISCUSSION

The purpose of this study was to develop a new instrument for measuring athlete satisfaction. This study was extended from previous athlete satisfaction works which were modified and adapted for professional soccer players in the Turkish Leagues. The scale was therefore statistically developed, and responses of players were analysed in terms of construct and known-groups validity and also reliability.

The factorial validity was tested by EFA and CFA. The present EFA results suggest that the SSA was a three-factor instrument comprised of subscales that measured satisfaction with coach, team performance and satisfaction with teammates in sample I. The CFA supported the EFA findings. Hu and Bentler (1999) previously reported fit indices using CFI and together with SRMR (CFI ≥ .95 and SRMR ≤ 0.8). In this study, data-model fit indices were found to be acceptable, which were a conclusion of CFI=.96 and SRMR=.7 in CFA's results of sample 2. Moreover, the reliability of the subscale factors was statistically quite good since cronbach alpha (α= .92) between .80 and 1.00 (Cortina, 1993).

Therefore, the results of the EFA and the CFA analyses proved the construct validity of the SSA, which supported the construct validity hypothesis.

Moreover, cross validation tests revealed strong evidence that the same construct has been measured across different groups. Measurement invariance was tested in sequence, configural and metric invariance. Configural invariance showed a good fit indices both sample 1 and sample 2. Next, MGCFA supported Metric invariance to be same structure across samples. These results suggest that three factor structure of SSA is consistent among samples. Thus, In spite of sample differences, athletes understood the meaning given to the values by their indicator in a similar manner. Also, these test yielded a nonsignificant (Δx^2_{16} = 24.81; p > 0.05). Given the nonsignificant difference in the chi-squares associated these nested models (configural and metric invariance model). Finally, MANOVA analysis supported the known-groups validity hypothesis that the TSL soccer players were more satisfied with their coach and team performance than the First and Second League Players, however, First League players were more satisfied with their teammates than Super and Second Leagues Players.

In Sum, the reliability of the SSA was statistically adequate according to the Cronbach alphas. The EFA results (Table 1) support the satisfaction with coach, team performance and the satisfaction with teammates that SSA measures in three dimensions of athlete satisfaction. CFA's results of fit indices are the evidence confirming the factor structure of the SSA. MANOVA scores are evidence supporting the known-groups validity of the SSA observed on the basis of satisfaction with coach, team performance and teammates subscales (Tables 3). Based on analysis of measurement invariance across samples, the factor structure, item loadings, factor variances-covariance and differential item functioning of the SSA model were acceptable and multivariate analysis of variance provided that it was comparable for super and other leagues. Overall, the present SSA is an new instrument that is reliable and valid for use with a Turkish sample. Given the findings of the present study, future research should utilize the SSA to measure athlete satisfaction.

Limitations and direction of future research

The study demonstrates encouraging results; however it has a number of limitations. The response rate was a major concern for the study. It was satisfied for the professional soccer players, but not for the First and Second League, for which there were 4 teams each. Future research into athlete satisfaction should by use more data from the different leagues and sports categories. Additionally, the SSA was tested solely in the Turkish population. The reliability and validity of the SSA should be examined in other cultural contexts.

Conclusion and implications

A sports team considers factors such as satisfaction in order to augment their success, performance and positive image. Developing sufficient psychometric measures of satisfaction is difficult, but necessary task. This study contributes confirmation that the SSA has the psychometric qualities essential for measuring athlete's relative levels of satisfaction. Drawing from the results of construct validity, known-groups validity and reliability, the SSA measure athlete satisfaction in three dimensions with the coach, team performance and satisfaction with teammates. Although the present study supports the SSA model, further research should be applied to confirm or develop these results in a larger sample size. Nevertheless, the SSA can play an important role in the evaluation of teams, designed to foster the development of their satisfaction.

This study provides support for application of the SSA as a measure of athlete satisfaction. The SSA can assist researchers to identify either individuals or whole teams who are satisfied with their coach, with team

performance and with teammates. The SSA might help in identifying the type of experiences that seem to more likely to promote the development of satisfaction. Some of these experiences may involve the leadership of coaches, training plans and quality of relationships among teammates. This might enable coaches to contribute further to team atmosphere and team success.

Acknowledgements

The author would like to thank Assist. Prof. Arif Ozer (Gazi University, Ankara-Turkey) for his critical evaluation of the statistical data,Dr. Idil Vedia Evcimen (Istanbul Technical University, Istanbul-Turkey) for her support with the theoretical concepts, and Prof.Dr. Hulya Asci for her mastership. The author also wishes to thank to all the coaches, the soccer players participated to this study in the 2009-2010 Turkish Professional Soccer Leagues.

References:

Bateman, T. S., & Strasser, S. (1984). A Longitudinal Analysis of the Antecedents of Organizational Commitment. Academy of Management Journal, 27(1), 95–112.

Chelladurai, P. (1984). Discrepancy Between Preferences and Perceptions of Leadership Behavior and Satisfaction Of Athletes in Various Sports. Journal of Sport Psychology, 6, 27–41.

Chelladurai, P., Imamura, H., Yamaguchi, Y., Oimnuma, Y., & Miyauchi, T. (1988). Sport Leadership in A Cross-National Setting: The Case of Japanese and Canadian University Athletes. Journal of Sport & Exercise Psychology, 10, 374 – 389.

Chelladurai, P,. & Riemer, H. A. (1997). A Classification of The Facets of Athlete Satisfaction. Journal of Sport Management, 11, 133–159.

Chelladurai, P., & Riemer, H. A. (1998). Measurement of leadership in sport. In J.L. Duda (Ed.), Advances in Sport and Exercise Psychology Measurement (pp. 227–253). Morgantown, WV: Fitness Information Technology, Inc.

Cortina, J. M. (1993). What Is Coefficient Alpha? An Examination of Theory and Applications. Journal of Applied Psychology, 78(1), 98-104.

Courneya, K. S., & Chelladurai, P. (1991). A Model of Performance Measures Baseball. Journal of Sport and Exercise Psychology, 13, 16–25.

Downey, H. K., Sheridan J. E., & Slocum J.W. (1975). Analysis of Relationships Among Leader Behavior, Subordinate Job Performance and Satisfaction: A Path-Goal Approach. Academy of Management Journal, 18, 253–262.

Dwyer, J. M., & Fischer, D. G. (1990). Wrestlers' Perceptions of Coaches' Leadership As Predictors of Satisfaction with Leadership. Perceptual and Motor Skills, 71, 511–517.
Eys, Mark A., Loughead, Todd M. & Hardy J. (2007). Athlete Leadership Dispersion and Satisfaction in Interactive Sport Teams. Psychology of Sport and Exercise, 8, 281–296.
Glisson, C. & Durick, M. (1988). Predictors of Job Satisfaction and Organizational Commitment in Human Service Organizations. Administrative Quarterly, 33, 61–81.
Hair J. F., Black W. C., Babin B. J, Anderson R. E. (2010). Multivariate Data Analysis, (7th ed.) Prentice Hall, New Jersey.
Halpin, A. W & Winner, B. J. (1957). A Factorial Study of the Leaders Behavior Description, in: R.M. Stogdill and Coons (eds), Behavior, it's Description and Measurement, Columbus: Ohio University.
House, R. J., Filley, A. C., & Kerr, S. (1971). Relation of Leader Consideration and Initiating Structure To R & D Subordinates Satisfaction. Administrative Science Quarterly, 16, 19–30.
Horne, T., & Carron, A. V. (1985). Compatibility In Coach-Athlete Relationships. Journal of Sport Psychology, 7, 137–149.
Hu, L., & Bentler, P. M. (1999). Cut off criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Structural Equation Modeling, 6, 1–55.
Hunt, J. G., & Liesbscher, V. K. C. (1973). "Leadership Preference, Leadership Behavior and Employee Satisfaction. Organizational Behavior and Human Performance, 9, 59–77.
Maslow, A. H. (1954). Motivation and Personality. New York: Harper & Row
Messick, S. (1989). Validity. In R. L. Linn (Ed.), Educational Measurement (pp. 13-103). New York: American Council on Education/Macmillan.
Nicholls, A .R., Polman R. C. J, Levy A. R. (2012). A path analysis of stress appraisal, emotios, coping and performance satisfaction among athletes, Psychology of Sport and Exercise, 13, 263-270.
Papaioannou, A., Ampatzoglou, G., Kalogiannis, P., Sagovits, A. (2008). Social agents, achievement goals, satisfaction and academic achievement in youth sport, Psychology of Sport and Exercise, 9, 122-141.
Petlichkoff, L. M. (1993). Coaching Children, Understanding Their Motivational Process. Sport Science Review, 2 (2), 48–67.
Riemer, H. A., & Chelladurai, P. (1995). Leadership and Satisfaction in Athletics. Journal of Sport and Exercise Psychology, 17, 276–293.
Riemer, H. A., & Chelladurai, P. (1997). A Classification of Facets of Athlete Satisfaction. Journal of Sport Management, 11, 133–159.

Riemer, H. A., & Chelladurai, P. (1998). Development of The Athlete Satisfaction Questionnaire (ASQ). Journal of Sport Exercise Psychology, 20(2), 127–156.
Riemer, H. A., & Toon, K. (2001). Leadership and Satisfaction in Tennis: Examination of Congruence, Gender and Ability. Research Quarterly for Exercise and Sport, 72(3), 243–256.
Santos, M. D., Hefti, J., Tiedeman, S., & Neighbor, T. W. (2007). Turkish Culture and Society: Where East Meets West, World Affairs Council.
Schliesman, E. S. (1987). Relationship Between The Congruence of Preferred and Actual Leader Behaviour And Subordinate Satisfaction With Leadership. Journal of Sport Behaviour, 10, 157–166.
Smoll, F., Smith, R., & Hunt, E. (1978). Towards A Meditational Model of Coach-Player Relationships. Research Quarterly, 49, 528–541.
Teas, R. K. (1983). Supervisory Behavior, Role Stress, and The Job Satisfaction of Industrial Salespeople. Journal of Marketing Research, 20, 84–91.
Weiss, D. J., Dawis, R. V., England, G. W., & Lofquist, L. H. (1967). Manual for the Minnesota Satisfaction Questionnaire. Minnesota Studies in Vocational Rehabilitation (No. XXII), 1–119. Minneapolis: University of Minnesota, Industrial Relations Center.
Weiss, M., & Friedrichs, W. (1986). The Influence of Leader Behaviors, Coach Attributes, and Institutional Variables on Performance and Satisfaction of Collegiate Basketball Teams. Journal of Sport Psychology, 8, 332–346.
Whittall, N. R., & Orlick, T. D. (1979). Sport Satisfaction Inventory. In G.C. Roberts and K.M. Newell (Eds.), Psychology of Motor Behavior and Sport-1978 (pp. 144-155). Champaign, IL: Human Kinetics Publishers.