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Investigation of Perceived and Preferred Leadership Behavior in Terms of Gender of Athletes: A Meta-Analysis Study

Yeliz Eratlı Şirin[1], Fatma Pervin Bilir[2] and Nurşen Şahin[3]

1.Çukurova University School of Physical Education and Sports, Department of Sports Management, Adana, TURKEY.

2.Çukurova University School of Physical Education and Sports, Department of Sports Management, Adana, TURKEY.

3.Health Sciences Institute, Cukurova University; 01330 Balcali, Saricam. Adana. TURKEY.

Abstract

In sports teams, team leaders play an important role for the success of athletes and their high level of performance. The ones who lead the team are generally the coaches. Therefore, this study aims to examine the athletes' perceptions and preferences of leadership behaviors by gender of athletes. A total of 20 studies that included 173 studies using Chelladurai & Saleh's sport leadership scale were included in the study. Effect sizes for random effects model; the study included 20 studies, which were sub-dimensions of training and instruction, democratic, autocratic, social support and positive feedback by using Hedge "g" coefficient. Different methods were used to examine publication bias in funnel plots, Duval and Tweedie's trim and fill method and meta-analysis such as Egger's regression test. As a result of the findings, it was found that there was no differences in gender in training and instruction, autocratic, social support and positive feedback - except democratic- which are sub-dimensions of leadership behaviors in sports, and it was found that the gender of the athletes were not related to their perception of leadership behaviors and preferences This result shows that the gender of the athletes is not a demographic variable that is effective in their perceptions and preferences of leadership behaviours except for democratic behavior. This study provides valuable information for understanding the dynamics of sports leadership among young athletes and the importance of the gender of the athlete in the athlete-coach interaction.

Keywords: leadership scale in sport, effect size, meta-analysis, coach leadership style

1. Introduction

The concept of leadership is one of the concepts that are widely discussed and researched in social sciences, especially in the fields of management, psychology, sociology and educational sciences. One of these aforementioned fields where leadership is being investigated is sports management. In the past decade, studies on sports management and sports psychology have mainly focused on the athletes and the effects of different psychological variables on the performance of athletes [1-3]. One of the most important factors that affect performance and success of athletes is leadership [4].

Leadership is defined as the process of influencing the activities of the individual or group to achieve specific goals under certain conditions [5]. According to another definition, leadership is defined as a behavioral process of influencing individuals and groups towards set goals [6]. When it comes to sport environment, leadership, in terms of effective coaching, is a necessary group function with significant impacts at both individual and team level for top performance. In this direction, effective coaches are defined as the one who are prepared to meet the individual needs of their athletes and realize that they can make a difference in the team performance by improving their own coaching skills and understanding the effect that their behavior can have on their athletes [7].

2. Literature Review

As a result of researches on leadership in sports, it is seen that there are different approaches and researchers working in this field have developed their own leadership models by using these theories. The first of these theories is the Normative Model of Decision Styles in Coaching, developed by Chelladurai and Haggerty [8]; the second theory is developed by Smoll et al. [9] with the name of the Mediatioal Model of Leadership in Sport; and the third model is the Multidimensional Model of Leadership, developed by Chelladurai and Saleh [10] and Chelladurai [11-12]. The last model in the literature to determine the effectiveness of the coach is developed by Horn [13] with the title of the Model of Coaching Effectiveness.

Among these models, Leadership Scale for Sport (LSS), developed by Chelladurai and Saleh [10] the most commonly used scale in the literature. There are 3 different versions of the Leadership Scale for Sport developed by

Chelladurai and Saleh [10]. The first version is athletes' preference version; the second one is the athletes' perceptions of their coaches' behaviour and the last one is coaches' perception of their own behaviour. The scale was adapted and used to identify formal and informal athlete leaders [14]. All three versions of the scale define the following subscales: Training and Instruction, which refers to the behaviour of the coach that is directed towards improving the performance of athlete's and behaviours including instructions in the skills of the athlete's; Democratic Behaviour, which relates whether the coach allows athletes to participate in important coaching decisions associated with group goals; Autocratic Behaviour, which refers to the authority and independent decision making of the coach; Social Support, which is related to the coach's concern for the welfare of his/her athletes, creating a positive environment and interpersonal relationships with athletes; and Positive Feedback, which refers to the coach's behaviour of reinforcing athletes and recognizing and rewarding good performances [10]. In summary, this model includes the conceptualization of coach behaviour, the direct task factor (eg, training and instruction), the decision-making style factor (eg, democratic and autocratic behaviour), and the motivational factors (eg, social support and positive feedback).

Some studies have focused on the factors that affect the behavior of a leader. According to Chelladurai [11], these factors are situational factors (type of sport, socio-cultural environment), demographic characteristics of the leader (age, gender, experience, personality) and characteristics of the athletes (age, gender, skill level, psychological characteristics). Other studies have focused on the results of the behavior of the leaders, how the behavior of the leaders affect the performance of the athletes and the satisfactory levels of the athletes [15-17]. To give an example for these studies from the literature, those following ones can be considered: Athletes' Preferences for Coach Behaviour [18-20]; leadership in sports and satisfaction [21-25]; leadership in sports and motivation [26-27]; Kim and Cruz [1] have conducted a meta-analysis, which is more comprehensive with more sample (n= 24), and investigated the influence of coaches' leadership styles on athletes' satisfaction and team cohesion. In these studies, the determination of the leadership types of coaches according to various variables. At the same time, in the literature, it is investigated how the leadership preferences and perceptions of the athletes vary according to their gender [28-30]. For instance, Hastie [31] found that young female athletes preferred a coach that exhibited less autocratic and more positive feedback behavior com-pared to boys, whereas Sherman et al. [32] showed no overall gender differences in coaching preferences. Martin and Barnes [15] pointed out that athletes prefer coaches for more education and training, positive feedback and democratic behavior, and less autocratic behavior. Hastie [33] stated that there is an increasing tendency of athletes to autocratic choice. For example, Riemer and Toon [22] investigated the reasons for differentiation of leadership preferences of male and female athletes and stated that the gender of the coaches of the athletes was an effective variable. When the obtained results are examined, while in some studies, the athletes' perceptions of leadership differed by gender [30, 32, 34-35], there were no differences in some other studies [3, 36]. When the results of these studies are examined, they are inconsistent with each other, therefore, it is difficult to obtain generalizable information. Different gender combinations of the coach and athlete (ie, male coach and male athlete, male coach and female athlete, female coach and female athlete and female coach and male athlete) are known as a critical factor affecting athlete perception. In this context, meta-analysis studies come into prominence.

Different gender combinations of coach and athlete (i.e., male coach and male athlete, male coach and female athlete, female coach and female athlete, and female coach and male athlete) have been known as a critical factor influencing athletes' perception. It is considered that an overall image of the studies in the literature is important and it is thought that whether the gender of the athlete perceives leadership behaviors and whether it is effective or not is an important factor. Therefore, it is thought that this study will guide the use of this demographic variable in future studies. Therefore, gender variable was considered in this study. The purpose of this study is to provide some evidence for possible revisions and to provide the conceptual model of sports leadership perceptions and preferences according to their gender.

2.1. Research Questions

Based on this thought, it is planned to present a contributory study to the literature by evaluating the leadership studies in sports in terms of gender among the demographic characteristics. From this point of view, it was tried to find the answers of the following questions:

- According to the gender variable, are there any statistically significant differences between the athletes' perceptions and preferences of leadership behavior, and the sub-scale means of training and instruction behavior?
- According to the gender variable, are there any statistically significant differences between the athletes' perceptions and preferences of leadership behaviour, and the sub-scale means of democratic behaviour?
- According to the gender variable, are there any statistically significant differences between the athletes' perceptions and preferences of leadership behaviour, and the sub-scale means of autocratic behaviour?
- According to the gender variable, are there any statistically significant differences between the athletes' perceptions and preferences of leadership behaviour, and the sub-scale means of social support behaviour?

- According to the gender variable, are there any statistically significant differences between the athletes' perceptions and preferences of leadership behaviour, and the sub-scale means of positive feedback behaviour?

3. Materials and Methods

In the field of sports, the scale, which is developed by Chelladurai [8] and Chelladurai and Saleh [10] and the sole scale that deals both the athletes' perceptions of leadership and preferences, and coaches' perception of their own behaviour together, enables the athletes to evaluate the leadership behaviors. This scale, which is commonly used in studies related to leadership in sports, has been the main starting point of this study.

3.1. Procedure

This study was designed according to meta-analysis method. Meta-analysis, a quantitative study, is performed by merging the results of the studies related to the determined subject in the literature. In the study, in order to determine whether the leadership characteristics of actors of the sport change by gender, the following databases were reviewed: Emerald, ISI Web of Science, SAGE, Science Direct, Eric, Taylor & Francis Online, EBSCO host, Scopus, Google Scholar, ULAKBIM (Turkish Academic Network and Information Center) and Thesis Center of CHE (Council of Higher Education)

3.2. Inclusion Criteria

The review criteria of this research were conducted as "Chelladurai and /or Saleh" and "leadership scale for sport", and year limitation was activated during search phase. During this search, conducted within the first and second criteria of the study, a total of 173 studies have been reached. All studies meeting other criteria are included in the meta-analysis. The following criteria's were used for the studies to be included in the meta-analysis:

- The necessity of having been used "the leadership scale for sports" developed by Chelladurai [8] and Chelladurai and Saleh [10],
- The necessity of having been conducted or published online between 2008-2018,
- The necessity of having been used the forms developed for athletes,
- The necessity of having been used of gender variable,
- The necessity of sample size, mean and standard deviation, "t" or "p" values or the data required to calculate these values to be given.
- The necessity of being a quantative study.

A total of 18 studies meeting all these criteria have been reached and been included in meta-analysis. In two of these studies, two different forms of the scale were used. therefore, the findings of the studies in the meta-analysis were included separately. Based on this, 20 studies were included in the meta-analysis.

3.3. Study Characteristics

This process yielded 173 articles have been reached in the reviwed databases. In addition, five sub-dimensions of the reviwed scale were defined as a sub-group for each studies, and the 20 studies included in the analysis were dealed according to five sub-dimensions. (Emerald = 1, ISI Web of Science = 8, SAGE = 14, Science Direct = 7, Eric = 4, Taylor & Francis Online = 52, EBSCO host = 5, Scopus = 15, Google Scholar = 44, ULAKBIM = 8, Thesis Center of CHE = 15). In the study, firstly the number of studies was determined for the research question, and the samples used in these studies were examined. Table 1 shows the meta-analysis of the study.

3.4. Data Analysis

In meta-analysis, the effect size can be measured by using fixed effects and random effects models. While the same effect level is being measured in all studies and weighting is carried out by the numbers of observations in the sample; the effect level in the random effects model differs depending on the characteristics of the sample and offers generalizable results. Therefore, random effects model was used in this study. In the research, the effect levels of each population and each study were measured by "Hedge's g" method by means of "Comprehensive Meta-Analysis" program. Because the other methods, "Cohen d" and "Glass Δ", have slight bias for small samples in measuring the effect sizes of populations [37].

4. Results

As shown in Table 1, the mean scores of experimental and control groups are nearly the same, indicating equality of two groups regarding their knowledge of targeted structures.

Table 1: Summary of Studies

No	Author	Year	Gender	Sample Size	Players	Scale
	Martin et. al.	1999/ 2008(online publish)	Male/Female	239	Atlethes	Preferences
	Riemer&Toon	2001/ 2013 (online publish)	Male/Female	108	Tennis atlethes	Preferences
	Riemer&Toon	2013 (online publish)	Male/Female	108	Tennis atlethes	Perceptions
	Shapie et. al.	2016	Male/Female	132	Atlethes	Preferences
	Nacar&Gacar	2013	Male/Female	94	Volleyball players	Perceptions
	Paradis&Loughead	2010	Male/Female	205	Soccer and basketball players	Formal (perceptions)
	Chiu et. al.	2016	Male/Female	201	Swimmers	Perceptions
	Yalcın	2013	Male/Female	422	University athletes	Perceptions
	Eskiyecek et. al.	2015	Male/Female	173	Atlethes	Preferences
0	Paradis &Loughead	2010	Male/Female	205	Soccer and basketball players	Informal (perceptions)
1	Sharma	2015	Male/Female	82	Badminton players	Preferences
2	Sirin et. al.	2012	Male/Female	110	Atlethes	Perceptions
3	Sirin et. al.	2012	Male/Female	110	Atlethes	Perceptions
4	Bilir et. al.	2018	Male/Female	118	Hockey players	Perceptions
5	Ilhan & Gencer	2012	Male/Female	57	Badminton players	Preferences
6	Sarı et. al.	2012	Male/Female	250	University athletes	Perceptions
7	Cengiz et. al.	2012	Male/Female	222	Taekwondo athletes	Perceptions
8	Rodriguez	2009	Male/Female	237	Swimmers	Perceptions
9	Cruz & Kim	2017	Male/Female	167	Badminton players	Preferences
0	Machado & Costa	2015	Male/Female	30	Futsal players	Preferences

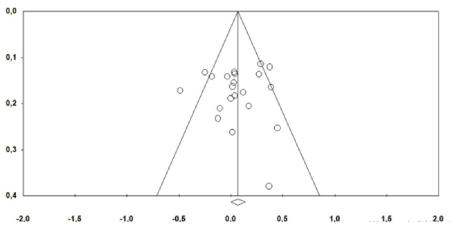
Table 2: Descriptive table for gender variable studies

Sub Dimensions	Studies Number	Gender	Sample Size
Training and Instruction	20	Female	1447
		Male	1771
Democratic Behavior	20	Female	1447
		Male	1771
Autocratic Behavior	20	Female	1447
		Male	1771
Social Support	20	Female	1447
		Male	1771
Positive Feedback	20	Female	1447
		Male	1771

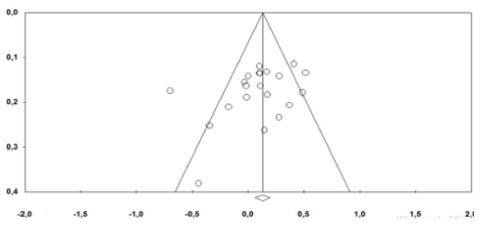
According to Table 2, it is seen that each sub-dimension of 20 studies and gender variable in five sub-dimensions are discussed. The total sample size in these sub-dimensions is 3218. It was determined that in this sample, females were represented with 1447 and male with 1771.

4.1. Publication Bias

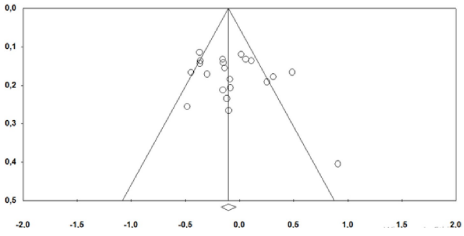
Publication bias refers to the failure to represent all the studies by the studies selected from the ones on a specific subject. Different methods are used to determine publication bias. Some used methods in this direction are as follows: Funnel Scatterplot, Duval and Tweedie's Trim and Fill, Egger's Linear Regression Test. The Funnel Plots used in this study to determine the publication bias is given below:



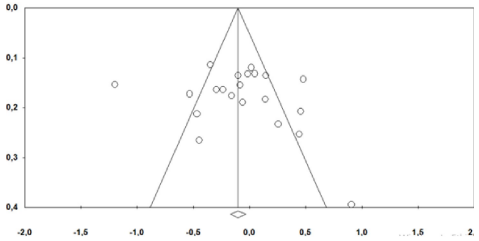
Training and instruction



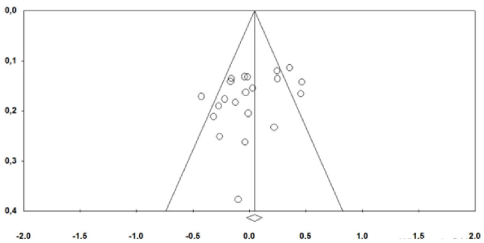
Democratic behavior



Autocratic behavior



Social support



Positive feedback

Figure 1*.Funnel Plot Charts*

According to Sterne et al. [38], if the plots, which were measured for each studies and showing the effect value, are symmetrically distributed on both sides of the vertical line within the funnel, then it means there is no publication bias. According to the Figure 1, in each of the sub-dimensions, it is seen that the studies are symmetrically distributed on both sides of the vertical line within the funnel. Therefore, it can be said that there is no publication bias in the study. However, it is difficult to say that the funnel scatter plot always gives a clear result. The results concerning the Duval and Tweedie's Trim and Fill test and Egger's Linear Regression test are given in Table 3.

Table 3: Regarding the publication bias Duval and Tweedie'strim and fill, Egger's linear regression testing results

	Duval And Tweedie' s Trim and Fill Test		Egger's Regresyon Test (*p*)
Sub Dimensions	Trimmed Studies	Observed /Adjusted	
Training and Instruction	0	-0.09$_{(-0.21, 0.02)}$ / -0.09$_{(-0.21, 0.02)}$	0.230
Democratic Behavior	4	-0.14 $_{(-0.24, -0.25)}$/-0.20 $_{(-0.29,-0.10)}$	0.051
Autocratic Behavior	1	0.09 $_{(-0.03, 0.21)}$/ 0.08 $_{(-0.04, 0.20)}$	0.171
Social Support	1	-0.06$_{(-0.19, 0.08)}$/ -0.08$_{(-0.22, 0.05)}$	0.419
Positive Feedback	3	-0.05$_{(-0.18, 0.07)}$/ -0.10$_{(-0.22,0.02)}$	0.081

The results of Duval and Tweedie's Trim and Fill test, which is performed to determine publication bias, is given in Table 3. This method gives the number of works that need to be trimmed in order to make the funnel scatter plot symmetrical. Thus, the effect size of the trimmed studies is re-calculated. Inexistence of statistically significant difference between the observed and corrected values indicates that there was no publication bias [39]. According to Table 3, the difference between the observed and corrected values in five sub-dimensions in 95% confidence interval was not statistically significant. Therefore, we can suggest that there is no publication bias in this study. In addition, Egger's Linear Regression test in another method used to determine the publication bias. The fact that the result of this test was not significant indicates that there is no publication bias [40]. The results obtained in this study show that there are no publication biases for five sub-dimensions (p> 0.05).

4.2. Heterogeneity Test

Before the analysis, the heterogeneity test, one of the assumptions found in the random effects model, was carried out. For this purpose, Q-test showing the heterogeneity of the effect sizes of the examined studies and I^2 value showing the level of heterogeneity is given in Table 4.

Table 4: Heterogeneity test results

Sub Dimensions	**k**	**Q**	**I^2**	**df**	**p**
Training and Instruction	2	48.0	60.	19	.
	0	02	418		000
Democratic Behavior	2	30.9	38.	19	.
	0	03	516		041
Autocratic Behavior	2	51.2	62.	19	.
	0	20	905		000
Social Support	2	62.4	69.	19	.
	0	13	558		000
Positive Feedback	2	54.9	65.	19	.
	0	46	420		000

The heterogeneity value is evaluated by examining I^2. According to Higgins et al. (2003); a lower value than 25% means the heterogeneity value is low, 50% means a moderate value and a value higher than 75% means that the heterogeneity value is high [41]. For this study, when I^2 value is examined, it is seen that the heterogeneity value in the sub-dimensions of training and instruction, autocratic behavior, social support and positive feedback is at moderate level; and it is at low level for democratic behavior sub-dimension. On the other hand, for the meta-analysis, the value of Q in the x^2 critical values table for the df and the significance level is smaller than the Q value obtained is the

heterogeneity [42]. Accordingly, studies are heterogeneous in all sub-dimensions.

Table 5: Effect size results of studies by random effects model

Sub Dimensions	K	*z*	Hedge's g	p
Training and Instruction	20	-1.562	-0.092	0.118
Democratic Behavior	20	-3.064	-0.145	0.002
Autocratic Behavior	20	1.525	0.093	0.127
Social Support	20	-0.841	-0.057	0.400
Positive Feedback	20	-0.851	-0.054	0.395

As can be seen in Table 5; in the sub-dimension of Training and Instruction; according to the random effects model, while the standardized mean differences were -0.092 in the 95% confidence interval among the athletes including 2343 female and 2629 male, it was found that z score was not statistically significant ($z = -1.562$, $p > 0.05$) (See Appendix 1). According to this, in the sub-dimension of training and instruction, there were no statistically significant difference between the female and male athletes' perceptions and preferences of leadership behavior. In the sub-dimension of Democratic behaviour, according to the random effects model, the standardized mean differences of female and male athletes were -0.145in the 95% confidence interval. However, z score was statistically significant ($z = -3.064$, $p<0.05$) (See Appendix 2). According to this result, athletes' perceptions and preferences of leadership behaviors do differ by gender in the sub-dimension of democratic behavior In the sub-dimension of Autocratic behaviour, the standardized mean differences were 0.093in the 95% confidence interval and it was found that z score was not statistically significant ($z = 1.525$, $p > 0.05$) (See Appendix 3). In the sub-dimension of autocratic behaviour, this result shows that athletes' perceptions and preferences of leadership behaviors do not depend on their gender. In the sub-dimension of social support, the standardized mean differences of female and male athletes were -0.057in the 95% confidence interval and it was found that z score was not statistically significant ($z = -0.841$, $p > 0.05$) (See Appendix 4). In this case, it can be suggested that athletes' perceptions and preferences of leadership behavior do not differ according to gender in the sub-dimension of social support. In the sub-dimension of positive feedback behaviour, the standardized mean differences of athletes were -0.054 in the 95% confidence interval. However, z score was not statistically significant ($z = -0.851$, $p > 0.05$) (See Appendix 5).This result shows that athletes' perceptions and preferences of leadership behaviours do not differ in terms of gender in the positive feedback sub-dimension.

5. Discussion and Conclusion

This study aims to examine the athletes' perceptions and preferences of leadership behaviors by gender of athletes. For this purpose, the results obtained from the meta-analysis studies were dealed and discussed according to the sub-dimensions below.

In the training and instruction sub-dimension, it was found that the gender of the athletes was not an important variable in their perception and preferences of the leadership behaviour. This result indicates that the technical, tactical and skills training of the athletes does not cause a different perception or preference according to be a female or male athlete. This result shows that both genders have the same perceptions and preferences in learning basic knowledge and skills specific to sports branch. Indeed, it is determined that female athletes have a higher preference than male athletes in the research on the preferred leadership styles and satisfaction of university student athletes [43]. Moreover, in the studies conducted by Cengiz et al. [44], it is stated that female athletes have higher perceptions than male athletes in terms of taekwondo branch in this sub-dimension. On the other hand states that the volleyball athletes' perception of leadership behaviors does not differ according to gender in the training and instruction behavior sub-dimension [45]. In addition, in the studies conducted by Rodriguez [46], Sarı et al. [24] and Eskiyecek et al. [47] it is suggested that there is no differentiation according to gender in this sub-dimension. The results of this study are consistent with the results of the aforementioned studies.

In the sub-dimension of democratic behavior, it is seen that the gender of the athletes is an important variable in their perception and preference of leadership behaviors According to this; female athletes' recognition and preferences

under democratic behavior is statistically higher when compared with the male athletes. It is not usual to have differences according to gender in recognition and preferences of this dimension which imply taking care of athletes's opinions, having their involvement in and decision making process, having their contribution while taking common decisions. Because, participation in any decision concerning the group or team concerned is a desired and expected situation by both genders. In the studies conducted by Rodriguez [46], Nacar and Gacar [45], İlhan and Gencer [20], Cengiz et al., [44], Sarı et al. [24] and Eskiyecek et al. [47] it was found that there was no difference in the sub-dimension of democratic behaviors according to gender and they were found to be compatible with the results of this study. However, Shapie et al. [43] stated that female athletes have higher democratic behavior preferences than male athletes. This indicates that female have a high preference for participation in decisions and it was found to be compatible with the result of this study. In another research Cruz and Kim [35] found that male athletes with female coaches preferred more democratic behavior, autocratic behavior, and social support behavior than did those with male coaches while female players with male coaches favored more democratic behavior autocratic behavior and social support than did those with female coaches

When the sub-dimension of Autocratic behaviour is examined, gender was found to be insignificant variable. The athletes' perceptions and preferences do not differ according to gender in autocratic behaviour, with a single authority, in which the leader individuals are generally the only decision makers, and in which the group or other people who make up the team do not participate in the decisions. This may be an indication that the existing situation is not interpreted differently in terms of genders. While there was no difference between the genders in the studies of Shapie et al. [43], Nacar and Gacar [45], Sarı et al. [24], Cengiz et al. [44], and İlhan and Gencer [20], in the study conducted by Eskiyecek et al. [47] on the athletes' preferences for leadership behaviour, it was found that male athletes have higher autocratic behavior preferences than female athletes in the sub-dimension of autocratic behaviour. In addition, Rodriguez's [46], Windsor [48], Beam et al. [49] and Chelladurai [8] studies also reported that male athletes perceived higher autocratic behaviour than female athletes.

It was determined that gender was not a significant variable in social support sub-dimension. It was found that in this sub-dimension, which refers to the fact that athletes have all kinds of support by their leaders in time outs and in every respect, the difference between perception and preference was not different between the genders. In Nacar and Gacar's [45], study, it is revealed that there is a difference between genders in this sub-dimension and that female athletes have higher perceptions of social support than male athletes.In addition, Machado and Costa [50], found that female athletes' preference of social behaviour was higher that male athletes. However, in the studies conducted by Rodriguez [46], İlhan and Gencer [20], Sarı et al. [24], Cengiz et al. [44], Eskiyecek et al. [47] and Shapie et al. [43], it is stated that there was no difference by gender in this sub-dimension and this was consistent with the results of this study.

It was determined that there was no difference by gender in the positive feedback sub-dimension. Gender is not a significant variable in this sub-dimension which expresses rewarding in leadership behaviors. In Machado and Costa's [50], study, this sub-dimension emerged as the least preferred leadership behaviour sub-dimension in female athletes. In the studies of Rodriguez [46], Nacar and Gacar [45], İlhan and Gencer [20], Cengiz et al. [44], Sarı et al. [24] and Eskiyecek et al. [47], no preference or perception difference was found in this sub-dimension by gender. The results of the a fore mentioned studies are consistent with the results of this study. On the contrary, Pitts (2018) further argued that female student-athletes in the Midwest Conference overwhelmingly preferred positive feedback leadership behavior compared to their male counterparts [51].

6. Conclusions

In this study, it is concluded that there is no differentiation by gender in the sub-dimensions of leadership behaviour including training and instruction, autocratic behaviour, social support and positive feedback and there is a difference in the sub-dimension of democratic behavior. This result shows that the gender of the athletes is not a demographic variable that is effective in their perceptions and preferences of leadership behaviours except for democratic behavior. When it is examined whether the studies on leadership in sports vary according to the gender in terms of coaches, although a finer result is expected; the results of this study were evaluated within their limitations. For the literature, it can be recommended to conduct meta-analysis studies where both athletes and coaches are evaluated together and different demographic characteristics are analyzed together.

References

1. Kim, H.D., Cruz, A.B. The influence of coaches' leadership styles on athletes' satisfaction and team cohesion: A meta-analytic approach. International Journal of Sports Science & Coaching. 2016; 11(6): 900-909.
2. Myers, M.D., Park, S.E., Ahn, S., Lee, S., Sullivan, P.J., Feltz, D.L. Proposed sources of coaching efficacy: A meta-analysis. Journal of Sport & Exercise Psychology. 2017; 39(4): 261-276. doi: 10.1123/jsep.2017-0155

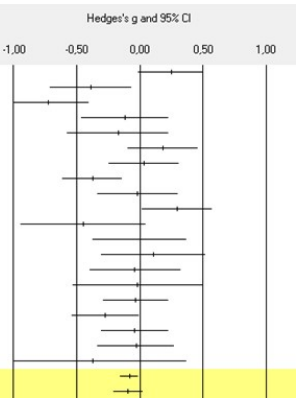
3. Norman, L. The coaching needs of high performance female athletes within the coach-athlete dyad. International Sport Coaching Journal. 2015; 2, 15-28.
4. Dupuis, M, Bloom G.A, Loughead T.M. Team captain's perceptions of athlete leadership. Journal of Sport Behavior. 2006; 29(1): 60-78.
5. DuBrin, AJ. Essentials of management. 2nd ed. Cincinnati, OH: South-Western Publishing; 1990.
6. Barrow, J.C. The variables of leadership: A review and conceptual framework. Academy of Management Review. 1977; 2: 231-251.
7. Anshel, M.H. Sport psychology: From theory to practice. 4th ed. San Francisco, CA: Benjamin Cummings; 2003.
8. Chelladurai P, Haggerty TR. Normative model of decision-making styles in coaching. Athletics Administration. 1978; 1: 6-9.
9. Smoll, F.L, Smith, R.E, Curtis, B., Hunt, E. Toward a mediational model of coach-player relationships. Research Quarterly American Alliance for Health, Physical Education and Recreation. 1978; 49: 528-541.
10. Chelladurai, P., Saleh, S.D. Dimensions of leader behavior in sports: Development of a leadership scale. Journal of Sport Psychology. 1980; 2: 34-45.
11. Chelladura, P. Leadership in sports – A review. International Journal of Sport Psychology. 1990; 21: 328-354.
12. Chelladurai P. Leadership. In Singer RN, Murphy M, Tennant LK, editors. Handbook of research on sport psychology. New York, NY: Mcmillan; 1993.
13. Horn TS. Coaching effectiveness in the sport domain. In Horn TS, editor. Advances in sport psychology. Champaign, IL: Human Kinetics; 2002.
14. Paradis, K.F., Loughead, T.M. Examining the mediating role of cohesion between athlete leadership and athlete satisfaction in youth sport. International Journal of Sport Psychology. 2010; 41: 1-20.
15. Martin SB, Barnes K. Coaching behavior questionnaire. Unpublished manual. University of North Texas, Denton. 1999.
16. Baker J, Yardley J., Côté J., Coach behaviors and athlete satisfaction in team and ındividual sports. International Journal of Sport Psychology. 2003; 34: 226-239.
17. Gillet, N., Vallerand, R.J., Amoura, S. Influence of coaches' autonomy support on athletes' motivation and sport performance: A test of the hierarchical model of intrinsic and extrinsic motivation. Psychology of Sport and Exercise. 2010; 11: 155–116.
18. Alfermann, D., Geisler, G., Okade, Y. Goal orientation, evaluative fear, and perceived coach behavior among competitive youth swimmers in Germany and Japan. Psychology of Sport and Exercise. 2013; 14: 307-315.
19. Høigaard, R., Jones, G.W., Peters, D.M. Preferred coach leadership behaviour in elite soccer in relation to success and failure international. Journal of Sports Science & Coaching. 2008; 3: 241-250.
20. Ilhan, L., Gencer, E. Üniversitelerarası badminton şampiyonasına katılan sporcu-öğrencilerin antrenör davranışı tercihlerinin incelenmesi. Gazi Beden Eğitimi ve Spor Bilimleri Dergisi. 2012; 17(1-4): 25-31. (In Turkish)
21. Riemer, H., Chelladurai, P. Leadership and satisfaction in athletes. Journal of Sport Exercise Psychology. 1995; 17: 276–293.
22. Riemer, H., Toon, K. Leadership and satisfaction in tennis: Examination of congruence, gender, and ability. Research Quarterly for Exercise and Sport. 2001; 72: 243-256
23. Reinboth, M., Duda., J.L., Ntoumanis, N. Dimensions of coaching behavior, need satisfaction, and the psychological and physical welfare of young athletes. Motivation and Emotion. 2004; 28: 297-313.
24. Sarı, I., Soyer, F., Yiğiter, K. The relationship among sports coaches' perceived leadership behaviours, athletes' communication skills and satisfaction of the basic psychological needs: A study on athletes. Internatıonal Journal of Academıc Research. 2012; 4(1): 112-119.
25. Turnman, P.D. Athletes' perception of coach power use and the association between playing status and sport satisfaction. Communication Research Reports. 2006; 23: 273-282.
26. Reinboth, M., Duda., J.L. Perceived motivational climate, need satisfaction and indices of well being in team sports: A longitudinal perspective. Psychology of Sport and Exercise. 2016; 7: 269-286.
27. Dadaneh, S.Z., Azizi, B., Hosseini, P. The relationship between leadership style and coaching emotional intelligence for selected team sports in Universities of Sanandaj. European Journal of Physical Education and Sport Science. 2016; 1: 74-84.
28. Chia, J.S., Pyun, D.Y., Kwon, H.H. The impact of congruence between perceived and preferred leadership on satisfaction among college student-athletes in Singapore. Asia Pacific Journal of Education 2015; 35: 498-513.
29. Coykendall, T. Player preferences for coaching behaviors. [Undergraduate thesis]. St. John Fisher College; 2014.
30. Witte, K.S. Coaching leadership preferences: Insight from the National Collegiate Athletic Association Division III Athlete. International Sport Coaching Journal. 2011; 4: 73-87.
31. Hastie, P.A. Factors affecting coaching preferences of secondary school volleyball players. Perceptual and Motor

Skills. 1995; 80: 347-350.
32. Sherman, C., Fuller, R., Speed, H. Gender comparisons of preferred coaching behaviors in Australian sports. Journal of Sport Behavior. 2000; 23: 389-406.
33. Hastie PA. Coaching preferences of high school girl volleyball players. Perceptual and Motor Skills. 1993; 77: 1309-1310.
34. Farneti, C., Turner, B.A. Student-athletes' perceptions of leadershipstyles of division III basketball coaches. Journal for the Study of Sports and Athletes in Education. 2013; 7: 210–228.
35. Cruz, A.B., Kim, H.D. Leadership preferences of adolescent players in sport: Influence of coach gender. Journal of Sports Science and Medicine. 2017; 16: 172-179.
36. Weinberg, R., Gould, D. Foundation of sport and exercise psychology. 6th ed. Champaign, IL: Human Kinetics; 2015.
37. Üstün, U., Eryılmaz, A. A research methodology to conduct effective research syntheses: Meta-analysis. Education and Science. 2014; 39: 1-32.
38. Sterne, J.A., Sutton, A.J., Ioannidis, J.P.A., Terrin, N., Jones, D.R., Lau, J., Higgins, J.P.T. Recommendations for examining and interpreting funnel plot asymmetry in meta-analyses of randomised controlled trials. BMJ. 2011; 343: 1-8.
39. Pamuk, M., Atlı, A., Kış, A. Investigation of theses in Turkey on loneliness in terms of gender: A meta-analyticstudy. Journal of Theory & Practice in Education (JTPE). 2015; 11: 1392-1414.
40. Klassen, R.M., Tze, V.M. Teachers' self-efficacy, personality, and teaching effectiveness: A meta-analysis. Educational Research Review. 2014; 12: 59-76.
41. Dinçer S. Meta-analize giriş [Introduction to meta-analysis]. Ankara: Anı Publishing; 2013. (In Turkish)
42. Dinçer S. Eğitim bilimlerinde uygulamalı meta-analiz [Applied meta-analysis in educational sciences]. Ankara: Pegem Academy; 2014. (In Turkish)
43. Shapie, M.N.M., Zenal, Z., Parnabas, V., Abdullah, N.M. The correlation between leadership coaching style and satisfaction among university Silatolahraga athletes. Journal of Martial Arts Anthropology. 2016; 16: 34-39.
44. Cengiz, R., Aytan, G.K., Abaka, U. The relationship between self-efficacy levels and leadership qualities that the taekwondo athlete perceive. NWSA-Sports Sciences. 2012; 7: 68-78.
45. Nacar, E., Gacar, A. The investigation of the relationship between the coach and teammates and the unity of the team in volleyball. Advances in Environmental Biology. 2013; 7: 223-228.
46. Rodriguez, F.M. Perceived leadership in swimming: Leadership styles of NCAA swim coaches and its relationships with athlete satisfaction, turnover intention, and commitment. [M.Sc thesis]. Athens, Georgia: The University of Georgia; 2009.
47. Eskiyecek, C.G., Bayazıt, B., Sarı, İ. The investigation in terms of age gender and sports of coach leadership behaviours preferred in athletes (The sample of Diyarbakır) International Refereed Academic Journal of Sports, Health and Medical Science. 2015; 5: 27-42.
48. Windsor, W.J. Gender comparisons of preferred coaching behaviors among selected Division I soccer players. Dissertation Abstracts International: Section A. Humanities and Social Sciences. 2008; 68(12-A): 5138.
49. Beam, J.W., Serwatka, T.S., Wilson, W.J. Preferred leadership of NCAA Division I and II intercollegiate student-athletes. Journal of Sport Behavior. 2004; 27(1): 3-17.
50. Machado, G.F., Costa, I.T. Preferred leadership style in collegiate futsal: The moderating effect of gender. Paper presented at Anais do 5º Congresso Internacional dos Jogos Desportivos; Belo Horizonte, Minas Gerais; 2015. pp. 656-662.
51. Pitts, T.D., Nyambane, G., Butler, S.L. Preferred leadership styles of student athletes in a Midwest NAIA conference. The Sport Journal. 2018; 27(60): 1-23.

APPENDIX

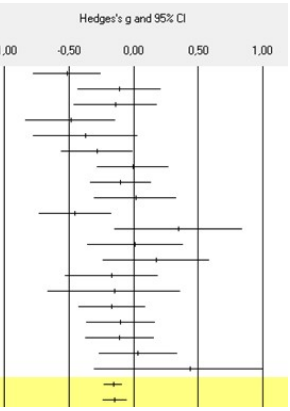
Appendix-1: Effect sizes of studies involving gender variable (Training and instruction sub-dimension)

Model	Study name	Subgroup within study	Hedges's g	Standard error	Variance	Lower limit	Upper limit	Z-Value	p-Value
	Martin et al.,	TI	0,249	0,133	0,018	-0,011	0,509	1,873	0,061
	Riemer&	TI	-0,389	0,165	0,027	-0,713	-0,065	-2,355	0,019
	Riemer&Too	TI	-0,728	0,169	0,029	-1,059	-0,396	-4,304	0,000
	Shapie et	TI	-0,119	0,176	0,031	-0,465	0,226	-0,678	0,498
	Nacar&Gac	TI	-0,172	0,205	0,042	-0,575	0,230	-0,838	0,402
	Paradis&	TI	0,182	0,141	0,020	-0,095	0,459	1,285	0,199
	Chiu et	TI	0,032	0,141	0,020	-0,245	0,310	0,230	0,818
	Yalcin,2013	TI	-0,375	0,121	0,015	-0,612	-0,139	-3,108	0,002
	Eskiyecek	TI	-0,017	0,163	0,027	-0,338	0,303	-0,107	0,915
	Paradis&Lo	TI	0,299	0,142	0,020	0,021	0,577	2,110	0,035
	Sharma,201	TI	-0,449	0,253	0,064	-0,945	0,047	-1,775	0,076
	Siirin et	TI	0,000	0,189	0,036	-0,371	0,371	0,000	1,000
	Siirin et.	TI	0,107	0,211	0,044	-0,306	0,519	0,507	0,612
	Bilir et	TI	-0,038	0,183	0,034	-0,397	0,321	-0,209	0,834
	Ilhan&Genc	TI	-0,017	0,262	0,069	-0,531	0,497	-0,063	0,950
	Sari et al.,	TI	-0,032	0,132	0,017	-0,291	0,227	-0,244	0,807
	Cengiz et	TI	-0,272	0,136	0,019	-0,539	-0,005	-2,000	0,046
	Rodriguez,2	TI	-0,038	0,135	0,018	-0,303	0,227	-0,283	0,777
	Cruz&Kim,2	TI	-0,029	0,155	0,024	-0,332	0,274	-0,187	0,851
	Machado et	TI	-0,368	0,380	0,144	-1,113	0,376	-0,969	0,332
Fixed			-0,082	0,036	0,001	-0,153	-0,011	-2,267	0,023
Random			-0,092	0,059	0,004	-0,209	0,024	-1,562	0,118



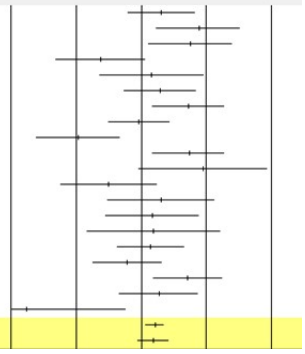
Appendix-2: Effect sizes of studies involving gender variable (Democratic behavior sub-dimension)

Model	Study name	Subgroup within study	Hedges's g	Standard error	Variance	Lower limit	Upper limit	Z-Value	p-Value
	Martin et al.,	DB	-0,516	0,134	0,018	-0,780	-0,253	-3,843	0,000
	Riemer&	DB	-0,109	0,164	0,027	-0,430	0,213	-0,663	0,508
	Riemer&Too	DB	-0,143	0,164	0,027	-0,464	0,179	-0,870	0,384
	Shapie et	DB	-0,487	0,179	0,032	-0,837	-0,137	-2,727	0,006
	Nacar&Gac	DB	-0,370	0,207	0,043	-0,776	0,035	-1,792	0,073
	Paradis&	DB	-0,278	0,142	0,020	-0,556	-0,001	-1,965	0,049
	Chiu et	DB	-0,001	0,141	0,020	-0,279	0,276	-0,009	0,993
	Yalcin,2013	DB	-0,102	0,120	0,014	-0,337	0,133	-0,850	0,395
	Eskiyecek	DB	0,018	0,163	0,027	-0,302	0,339	0,113	0,910
	Paradis&Lo	DB	-0,452	0,143	0,020	-0,732	-0,172	-3,165	0,002
	Sharma,201	DB	0,346	0,252	0,064	-0,148	0,840	1,372	0,170
	Siirin et	DB	0,014	0,189	0,036	-0,357	0,385	0,076	0,940
	Siirin et.	DB	0,175	0,211	0,044	-0,238	0,589	0,832	0,405
	Bilir et	DB	-0,172	0,184	0,034	-0,532	0,187	-0,939	0,348
	Ilhan&Genc	DB	-0,147	0,263	0,069	-0,662	0,368	-0,561	0,575
	Sari et al.,	DB	-0,168	0,132	0,017	-0,428	0,091	-1,273	0,203
	Cengiz et	DB	-0,100	0,136	0,018	-0,366	0,166	-0,737	0,461
	Rodriguez,2	DB	-0,107	0,135	0,018	-0,372	0,158	-0,789	0,430
	Cruz&Kim,2	DB	0,034	0,155	0,024	-0,269	0,337	0,219	0,827
	Machado et	DB	0,442	0,381	0,145	-0,305	1,189	1,159	0,246
Fixed			-0,154	0,036	0,001	-0,225	-0,084	-4,275	0,000
Random			-0,145	0,047	0,002	-0,238	-0,052	-3,064	0,002



Appendix-3: Effect sizes of studies involving gender variable (Autocratic behavior sub-dimension)

Model	Study name	Subgroup within study	Hedges's g	Standard error	Variance	Lower limit	Upper limit	Z-Value	p-Value
	Martin et al.,	AB	0,155	0,132	0,018	-0,105	0,415	1,170	0,242
	Riemer&	AB	0,444	0,166	0,027	0,119	0,769	2,679	0,007
	Riemer&Too	AB	0,376	0,165	0,027	0,053	0,700	2,279	0,023
	Shapie et	AB	-0,311	0,177	0,031	-0,658	0,036	-1,754	0,079
	Nacar&Gac	AB	0,082	0,205	0,042	-0,320	0,484	0,402	0,688
	Paradis&Lo	AB	0,148	0,141	0,020	-0,129	0,425	1,048	0,295
	Chiu et	AB	0,365	0,143	0,020	0,085	0,644	2,556	0,011
	Yalcin,2013	AB	-0,015	0,120	0,014	-0,250	0,219	-0,129	0,897
	Eskiyecek	AB	-0,485	0,165	0,027	-0,809	-0,161	-2,933	0,003
	Paradis&	AB	0,368	0,142	0,020	0,090	0,647	2,590	0,010
	Sharma,201	AB	0,478	0,253	0,064	-0,019	0,974	1,885	0,059
	Siirin et	AB	-0,250	0,190	0,036	-0,623	0,122	-1,317	0,188
	Siirin et.	AB	0,152	0,211	0,044	-0,261	0,565	0,720	0,471
	Bilir et	AB	0,086	0,183	0,034	-0,273	0,445	0,470	0,638
	Ilhan&Genc	AB	0,097	0,262	0,069	-0,417	0,612	0,371	0,710
	Sari et al.,	AB	0,072	0,132	0,017	-0,187	0,331	0,545	0,586
	Cengiz et	AB	-0,108	0,136	0,018	-0,374	0,158	-0,799	0,424
	Rodriguez,2	AB	0,360	0,136	0,019	0,093	0,627	2,640	0,008
	Cruz&Kim,2	AB	0,137	0,155	0,024	-0,167	0,440	0,884	0,377
	Machado et	AB	-0,884	0,394	0,155	-1,655	-0,112	-2,245	0,025
Fixed			0,106	0,036	0,001	0,035	0,177	2,934	0,003
Random			0,093	0,061	0,004	-0,027	0,213	1,525	0,127



Appendix-4: Effect sizes of studies involving gender variable (Social support sub-dimension)

Model	Study name	Subgroup within study	Statistics for each study							Hedges's g and 95% CI
			Hedges's g	Standard error	Variance	Lower limit	Upper limit	Z-Value	p-Value	-1,00 -0,50 0,00 0,50 1,00
	Martin et al.,	SS	0,017	0,132	0,017	-0,242	0,277	0,131	0,896	
	Riemer&	SS	0,235	0,164	0,027	-0,087	0,557	1,430	0,153	
	Riemer&Too	SS	-0,160	0,164	0,027	-0,481	0,161	-0,975	0,329	
	Shapie et	SS	0,160	0,176	0,031	-0,186	0,505	0,907	0,364	
	Nacar&Gac	SS	-0,455	0,208	0,043	-0,862	-0,048	-2,189	0,029	
	Paradis&	SS	-0,479	0,143	0,020	-0,759	-0,199	-3,349	0,001	
	Chiu et	SS	0,103	0,142	0,020	-0,174	0,381	0,728	0,467	
	Yalcin,2013	SS	-0,014	0,120	0,014	-0,249	0,220	-0,120	0,905	
	Eskiyecek	SS	0,296	0,164	0,027	-0,026	0,617	1,801	0,072	
	Paradis&Lo	SS	-0,685	0,145	0,021	-0,969	-0,401	-4,724	0,000	
	Sharma,201	SS	-0,443	0,253	0,064	-0,939	0,053	-1,752	0,080	
	Siirin et	SS	0,060	0,189	0,036	-0,311	0,431	0,318	0,751	
	Siirin et.	SS	0,468	0,213	0,045	0,051	0,885	2,197	0,028	
	Bilir et	SS	-0,143	0,183	0,034	-0,502	0,217	-0,778	0,436	
	Ilhan&Genc	SS	0,447	0,266	0,071	-0,073	0,968	1,685	0,092	
	Sari et al.,	SS	-0,048	0,132	0,017	-0,307	0,211	-0,362	0,718	
	Cengiz et	SS	-0,147	0,136	0,018	-0,413	0,119	-1,082	0,279	
	Rodriguez,2	SS	0,101	0,135	0,018	-0,164	0,366	0,745	0,456	
	Cruz&Kim,2	SS	0,083	0,155	0,024	-0,220	0,387	0,538	0,591	
	Machado et	SS	-0,908	0,395	0,156	-1,681	-0,134	-2,301	0,021	
Fixed			-0,056	0,036	0,001	-0,127	0,015	-1,553	0,120	
Random			-0,057	0,068	0,005	-0,189	0,076	-0,841	0,400	

Appendix-5: Effect sizes of studies involving gender variable (Positive feedback sub-dimension)

Model	Study name	Subgroup within study	Statistics for each study							Hedges's g and 95% CI
			Hedges's g	Standard error	Variance	Lower limit	Upper limit	Z-Value	p-Value	-1,00 -0,50 0,00 0,50 1,00
	Martin et al.,	PF	0,017	0,132	0,017	-0,243	0,276	0,126	0,899	
	Riemer&	PF	-0,457	0,166	0,027	-0,782	-0,132	-2,754	0,006	
	Riemer&Too	PF	-0,280	0,164	0,027	-0,603	0,042	-1,705	0,088	
	Shapie et	PF	0,217	0,177	0,031	-0,129	0,563	1,230	0,219	
	Nacar&Gac	PF	0,009	0,205	0,042	-0,393	0,411	0,045	0,964	
	Paradis&	PF	-0,464	0,143	0,020	-0,744	-0,184	-3,250	0,001	
	Chiu et	PF	0,166	0,142	0,020	-0,112	0,444	1,171	0,242	
	Yalcin,2013	PF	-0,245	0,120	0,014	-0,480	-0,009	-2,034	0,042	
	Eskiyecek	PF	0,031	0,163	0,027	-0,289	0,351	0,191	0,849	
	Paradis&Lo	PF	-0,661	0,145	0,021	-0,944	-0,377	-4,565	0,000	
	Sharma,201	PF	0,262	0,251	0,063	-0,231	0,755	1,043	0,297	
	Siirin et	PF	0,271	0,190	0,036	-0,102	0,644	1,423	0,155	
	Siirin et.	PF	0,317	0,212	0,045	-0,098	0,731	1,496	0,135	
	Bilir et	PF	0,123	0,183	0,034	-0,237	0,482	0,670	0,503	
	Ilhan&Genc	PF	0,037	0,262	0,069	-0,477	0,551	0,142	0,887	
	Sari et al.,	PF	0,042	0,132	0,017	-0,216	0,301	0,321	0,748	
	Cengiz et	PF	-0,250	0,136	0,019	-0,516	0,017	-1,834	0,067	
	Rodriguez,2	PF	0,159	0,135	0,018	-0,106	0,425	1,178	0,239	
	Cruz&Kim,2	PF	-0,030	0,155	0,024	-0,333	0,273	-0,195	0,846	
	Machado et	PF	0,100	0,377	0,142	-0,639	0,839	0,264	0,792	
Fixed			-0,079	0,036	0,001	-0,150	-0,008	-2,193	0,028	
Random			-0,054	0,063	0,004	-0,178	0,070	-0,851	0,395	