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Examination of the Relationship Between Elite-Levels Archers' Levels of Self-Talk And Shooting Performances According to Some Varıables

Begünhan Elif ORUÇ[1], Rüştü ŞAHİN [2], Şeyma Öznur CESUR[3]
[1]Gelişim University, Istanbul, Turkey
https://orcid.org/ 0000-0003-2223-6041
[2]Gelişim University, Istanbul, Turkey
https://orcid.org/0000-0002-5742-6198
[3]Yalova University, Yalova, Turkey
https://orcid.org/ 0000-0002-1402-7728
Email: b.hanunsal@gmail.com, rsahin@gelisim.edu.tr, seyma.goksin@yalova.edu.tr

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Abstract

This thesis aims to examine the relationship between the level of self-talk with elite archers according to some variables and their shooting performance. A total of 242 elite-level archers, 113 women, and 129 men, voluntarily participated in the study. The archers participating in the study are the athletes competing in the compound bow (n = 100) and recurve bow categories (n = 142) and 102 of them were on the National Team. In the study, the Self-Talk Scale developed by Zervas, et., al. (2007) and adapted to Turkish by Engür (2011) and the Personal Information Form prepared by the researcher were used. The data obtained in the study were analyzed with the SPSS27 package program. Correlation, Kruskal Wallis, and Mann-Whitney U tests were used in the solution and interpretation of the data. While interpreting the results, the significance level was determined as $p < 0.05$. As a result of this study, it was determined that there is a statistically significant difference in their levels of self-talk with them in terms of gender, sports age, and being a national athlete, and there is a weak but positive correlation between the shooting performance of the archers and their level of speaking with them according to the gender variable.

Keywords: Archery, Psychological Skill Training, Self-Talk

Introduction

Athletes push the limits of their skills every day with the physical, psychological, technical, and tactical pieces of training they apply and make an effort to improve them. Psychological skill training has also been seen as an important training method that should be applied in recent years, and it has been a training method that has been developed and started to be applied (Altıntaş & Akalan, 2008).

Karagözoğlu and İkizler (1997) describe psychological skills training as the systematic management of psychological skills such as controlling stress, directing attention, and providing motivation before, after, and during sports activities. Although the level of using and developing the skills they have varies from athlete to athlete, it is thought that athletes with high performance achieve success by using their physical and psychological skills in a balanced way. Studies show that many factors affect the performance of the athlete. As the differences in the factors affecting the performance, it is thought that the physical and psychological skills that the athlete will need during the performance will change (Muratlı et., al. 2007).

Archery, a branch in which psychological and physical skills should be used in harmony and balance, is an Olympic and individual sport. Archers are expected to perform their technical movements in a limited area within a certain period, without contacting their opponents, by staying alone with their shooting equipment and themselves. For a person watching the archers from the outside, a successful archer consists of the archer's controlling the shooting equipment and the shooting technique that his body will apply (Needham, 2013).

The importance of psychological skills for archers is explained by Wise (2014), who states that successful shooting can be achieved in any condition where he gains his physical form consisting of equipment and shooting technique, and then his mind can manage his subconscious with the help of psychological skills. Psychological skill training used by athletes varies. Kale et al., (2020) examine psychological skill training under the headings of goal setting, imagery, self-talk, autogenic training, and performance profile.

Inner speech, which is one of the psychological skills, also appears in the literature as "talk to oneself" or "self-talk". It is stated that talking to yourself is a technique that athletes use during the thinking, planning, and management work they apply to improve their performance. It is

thought that it is also used in defining the technical movement sequence specific to the branch, applying it in the correct order, and evaluating the feedback on the results. It is argued that with this technique, athletes gain confidence and competence, realize their mistakes, and produce solutions to correct them (Anderson, 1997).

This research aims to determine whether there is a relationship between the ability of elite-level archers to talk to themselves and their shooting performance. It is estimated that archers use the self-talk function to maintain their motivation in training and competition environments;

According to some variables, the effect of using this method on shooting performance is unknown. With this research, the differences between the levels of using the self-talk function according to some variables and the effect of the level of using the self-talk function on the shooting performance of the elite archers according to some variables will be examined.

Material and Method

In this study, in which the relationship between archers' self-talk skills and shooting scores will be examined according to some variables, Karasar (2008) explained a research model that aims to determine the existence and/or degree of co-covariancetween two or more variables (Ekici & Hevedanlı, 2010). In this study, the relational survey model and the causal comparison method, which are quantitative research methods and aim to determine the causes of an existing/naturally occurring situation or event and the variables affecting these causes or the results of an effect, were used (Büyüköztürk, et al., 2008).

Research Group

The necessary permissions were obtained from the Archery Federation for this study, which was applied to Turkish Archery Federation licensed archers aged 18 and over. The universe of this research consists of Turkish Archery Federation licensed archers aged 18 and over. The minimum number of samples was determined by the power analysis method. The sample of the study consisted of 242 elite archers aged 18 and over, participating in the competitions in the category of youth and adults, and the participants were determined voluntarily. Participants were informed about the research by the researcher. The questionnaire and Personal Information Form were sent online to Turkish Archery Federation archery clubs in the digital environment. The participants' self-talk levels were associated with the highest outdoor ranking total score and shooting performance they achieved in their careers and other variables found in the personal information form.

Data Collection Tools

In the study, the Self-talk Questionnaire was used to determine the level of self-talk function of the participants, and the Personal Information Form prepared by the researcher was used to determine their descriptive information. Personal information form; It consists of questions about gender, age, sports age, bow category, and whether they are a national athlete or not. In addition, the shooting score information to be used to examine the relationship between the self-talk levels of the athletes and their shooting performance was obtained by asking the highest total score of the archers, out of 720 total points, in the national or international outdoor competitions they participated in their careers, in the personal information form.

The Self Talk Questionnaire (S-TQ) used was developed by Zervas et al. (2007), adapted into Turkish by Engür (2011), and tested for validity and reliability. The scale consists of 11 items in which judgments are made according to 5 evaluation steps (1 Never, 2 Rarely, 3 Sometimes, 4 Often, 5 Always) and includes 2 subscales.

These subscales are Motivational Function and Cognitive Function. The 1st, 2nd, 3rd, and 11th items of the scale belong to the Cognitive Function sub-dimension, and the 4th, 5th, 6th, 7th, 8th, 9th and 10th items belong to the Motivational Function sub-dimension. In Engür (2011)'s study, the Cronbach alpha value in the "Motivational function" subscale was .93. In the Cronbachalpha "Cognitive Function" subscale, which is the internal consistency coefficient, it was found to be .87. In general, the reliability coefficient of the scale was determined as .95. It is possible to use the scale at the level of elite and non-elite groups, experienced and low-experienced athletes, children, youth, and adult athletes (Engür, 2011).

Data Analysis

The data obtained in the study were analyzed with the SPSS 27 package program. Kolmogorov Smirnov and Shapiro Wilk tests were used while investigating the normal distribution of variables. While interpreting the results, 0.05 was used as the significance level; It was stated that in the case of $p<0.05$, the variables did not comply with the normal distribution, and in the case of $p>0.05$, the variables were in compliance with the normal distribution. While examining the differences between the groups, the nonparametric Mann-Whitney U test was used in pairwise group comparisons in cases where the variables did not conform to the normal distribution. When examining the differences between the groups, nonparametric Mann-Whitney U tests were used in cases where the variables did not comply with the normal distribution, and Kruskal Wallis tests were used if the groups were more than two. In case of significant differences in the Kruskal Wallis test, the groups with differences between them were determined by the Post-Hoc multiple comparison test. Correlation analysis was performed while examining the relationship between the shooting scores of the archers and the scores they got from the self-talk scale according to the variables. While interpreting the results, 0.05 was used as the significance level; It was stated that there was a significant relationship in the case of $p<0.05$, and there was no significant relationship in the case of $p>0.05$.

Findings

Table 1. Frequency and Distribution Table for Categorical Variables

		F	%
Age	18-20 Age	78	32,2
	21-25 Age	70	28,9
	26 Age and Over	94	38,9
Gender	Male	129	53,3
	Female	113	46,7
Category of Bow	Compound	100	41,3
	Recurve	142	58,7
National Team	Yes	102	42,1
	No	140	57,9
Age for Sports	2-4 Age	68	28,1
	5 Age And Over	174	71,9

Table 1 shows the distribution of the archers participating in our research according to some demographic characteristics. When the table is examined, it is seen that 53,3% of the participants are male, 46,7% are female, 41,3% are compound, and 58,7% are recurve bow category athletes. 42,1% of archers are athletes who have been on the national team before. 28,1% of the archers stated that the age for sports is between 2-4 years, and 71,9% of them are 5 years and above.

Table 2. Descriptive Statistics for Numerical Variables

	n	Mean	ss.	Min	Max
Age	242	26,02	8,73	18	59
Sports Age	242	7,94	5,74	2	40
Shooting Points	242	638,80	50,16	423	715
Motivational Function	242	25,26	6,50	7	35
Cognitive Function	242	14,91	3,82	4	20
Self-Talk Function	242	40,17	9,91	11	55

Table 2 contains descriptive information about the numerical variables of our research. When the table is examined, the age of our study participants varies between 18-59, and the average is 26,02. The sports age of the archers varies between 2-40, with an average of 7,94. The shooting points of the archers vary between 423-715, with an average of 638.80 points. The scores of the participants in the motivational function sub-dimension range from 7 to 35, with an average of 25,26 points. The scores of the participants in the cognitive function sub-dimension range from 4 to 20, with an average of 14,91 points. The participants' total scores from the self-talk function range from 11 to 55, with an average of 40,17 points.

Table 3. Mann-Whitney U Test Results Regarding the Comparison of Self-Talk Function and Shooting Scores According to Gender Variable

Gender		n	Mean	ss.	Min	Max	Z	p
Shooting Points	Male	129	644,74	50,15	423	715	**-2,515**	**0,012***
	Female	113	632,01	49,52	450	710		
Motivational Function	Male	129	23,50	6,67	7	35	**-4,51**	**0,001***
	Female	113	27,27	5,69	10	35		
Cognitive Function	Male	129	13,91	4,04	4	20	**-4,134**	**0,001***
	Female	113	16,04	3,22	7	20		
Self-Talk Function	Male	129	37,41	10,28	11	55	**-4,569**	**0,001***
	Female	113	43,32	8,49	21	55		

***** $p<0,05$ significance level

When Table 3 is examined, it is seen that there is a statistically significant difference in terms of shooting score averages according to the gender variable (p<0.05). The mean score of female participants (632,01) is significantly lower than the average score of male participants (644,74). When the findings were examined, it was observed that the shooting score levels of male archers were higher. There is a statistically significant difference in the mean scores of motivational function, cognitive function, and self-talk function according to the gender variable (p<0.01). Accordingly, it is seen that the average scores of the female participants are significantly higher than the average scores of the male participants.

Açıklama [t1]: Numeric data should be separated by commas
Valid for all tables.

Table 4. Kruskal-Wallis Test Results Regarding the Comparison of Self-Talk Function and Shooting Scores According to Age Group Variable

Age Group		n	Mean	ss.	Min	Max	Z	p
Shooting Points	Male	129	644,74	50,15	423	715	**-2,515**	**0,012***
	Female	113	632,01	49,52	450	710		
Motivational Function	Male	129	23,50	6,67	7	35	**-4,51**	**0,001***
	Female	113	27,27	5,69	10	35		
Cognitive Function	Male	129	13,91	4,04	4	20	**-4,134**	**0,001***
	Female	113	16,04	3,22	7	20		
Self-Talk Function	Male	129	37,41	10,28	11	55	**-4,569**	**0,001***
	Female	113	43,32	8,49	21	55		

Table 4 shows the findings regarding whether the archers' shooting score levels, self-talk function usage levels, motivational function sub-dimension, and cognitive function sub-dimension usage levels differ according to the age variable. There was no statistically significant difference in terms of shooting score averages and other sub-dimensions according to the age group variable (p>0.05).

Table 5. Mann Whitney U Test Results Regarding the Comparison of Self-Talk Function and Shooting Scores According to The Spring Category Variable

Category of Bow		n	Mean	ss.	Min	Max	Z	p
Shooting Points	Compound	100	662,45	47,80	423	715	**-8,122**	**0,001***
	Recurve	142	622,14	44,94	450	710		
Motivational Function	Compound	100	25,16	7,07	7	35	-0,104	0,917
	Recurve	142	25,33	6,08	9	35		
Cognitive Function	Compound	100	14,19	4,37	4	20	-1,916	0,055
	Recurve	142	15,42	3,31	6	20		
Self-Talk Function	Compound	100	39,35	11,07	11	55	-0,745	0,456
	Recurve	142	40,75	9,01	15	55		

***** p<0,05 significance level

Table 5 shows the findings regarding whether the archers' shooting point levels, self-talk function usage levels, motivational function sub-dimension, and cognitive function sub-dimension usage levels differ according to the bow category variable.

There is a statistically significant difference in terms of shooting score averages according to the bow category variable (p<0.01). The average score (622,14) of the participants in the recurve bow category is significantly lower than the average score (662,45) of the participants in the compound bow category. When the findings were examined, it was observed that the shooting score levels of the archers competing in the compound bow category were higher. According to the bow category variable, there was no statistically significant difference in the mean scores of the other sub-dimensions (p>0.05).

Table 6. Mann Whitney U Test Results Regarding the Comparison of Self-Talk Function and Shooting Scores According to Sports Age Variable

Sports Age		n	Mean	ss.	Min	Max	Z	p
Shooting Points	2-4 Age	68	616,90	56,05	423	700	**-4,273**	**0,001***
	5 Age and Over	174	647,36	45,01	450	715		
Motivational Function	2-4 Age	68	23,75	6,45	9	35	**-2,381**	**0,017***
	5 Age and Over	174	25,85	6,44	7	35		
Cognitive Function	2-4 Age	68	14,43	3,27	6	20	-1,717	0,086
	5 Age and Over	174	15,10	4,01	4	20		
Self-Talk Function	2-4 Age	68	38,18	9,39	15	55	**-2,205**	**0,027***
	5 Age and Over	174	40,95	10,03	11	55		

***** p<0,05 significance level

In Table 6, there is a statistically significant difference in terms of shooting score averages according to the sport age variable (p<0.01). The average score (616,90) for the participants aged 2-4 in sports is significantly lower than the mean score (647,36) of the participants whose sports age is 5 and above. When the sports age variable is examined according to the sub-dimensions, there is a statistically significant difference in terms of the mean scores in the motivational function, cognitive function, and speech function sub-dimensions (p<0.05). Accordingly, in all sub-dimensions, the average scores of the participants whose sports age is between 2 and 4 are significantly lower than the average scores of the participants whose sports age is 5 and above.

Table 7. Mann Whitney U Test Results Regarding the Comparison of Self-Talk Function and Shooting Scores According to the Variable of Being a National Athlete

National Athlete		n	Mean	ss.	Min	Max	Z	p
Shooting Points	Yes	102	662,76	32,02	576	715	-6,592	0,001*
	No	140	621,34	53,75	423	700		
Motivational Function	Yes	102	26,29	6,26	7	35	-2,115	0,034*
	No	140	24,51	6,59	9	35		
Cognitive Function	Yes	102	15,17	3,90	4	20	-0,934	0,348
	No	140	14,72	3,77	4	20		
Self-Talk Function	Yes	102	41,46	9,80	11	55	-1,737	0,082
	No	140	39,23	9,92	14	55		

***** p<0,05 significance level

When Table 7 is examined, it is seen that there is a statistically significant difference in terms of shooting score averages according to the variable of being a national athlete (p<0.01). The average score of the participants who are national athletes (662,76) is significantly higher than the average score of participants who are not national team athletes (621,34). According to the variable of being a national athlete, there is a statistically significant difference in terms of mean scores in the motivational function sub-dimension (p<0.05). The average score of the participants who are national athletes (26,29) is significantly higher than the average score of participants who are not national athletes (24,51). According to the variable of being a national athlete, there was no statistically significant difference in the mean scores of cognitive function and self-talk function (p>0.05).

Discussion and Conclusion

As a result of the analyzes made to determine the differences between the groups, significant differences were determined in terms of the archers' shooting score, motivational function, cognitive function, and self-talk function score averages according to the gender variable. It was observed that the average shooting points of female archers were significantly lower than the average shooting points of male archers. Similar to our findings, Tekin (2018), in his research to examine the relationship between the imagery levels of the archers and their attention and performance levels, observed a difference between the shooting performances of the archers according to the gender variable and stated that the shooting performance of the male archers was higher.

In our other findings, it was observed that the scores of female archers in motivational function, cognitive function, and self-talk function were significantly higher. It was concluded that female archers use the self-talk function and both sub-dimensions of this function more than men.

In the study of Hocaoğlu (2019), in which a total of 346 athletes aged 18-30 participated, he examined the role of the perceived sportive competence and goal orientations of the athletes in determining the inner speech and imagery styles, and Keskin et., al. (2020) examined the effects of self-talk of table tennis players. Eryücel (2019) analyzed the self-talk and flow status of 242 team and individual sports athletes, Akman (2019) examined the relationship between imagination, self-talk, and stress coping styles of adult athletes and mental endurance. In the study conducted by Şahin (2017) to determine the self-talk levels of a total of 441 Grecomen and freestyle wrestlers, no difference was observed in the scores of the athletes according to the gender variable in the motivational function, cognitive function, and self-talk function. n the other hand, in the study conducted by Engür (2011) to adapt and apply the Self-talk Questionnaire to the Turkish athlete population, a significant difference was found in both motivational function and cognitive function sub-dimensions according to the gender variable of the athletes. However, unlike our findings, it was stated that the mean scores of male participants in the motivational function sub-dimension and female participants in the cognitive function sub-dimension were higher. Gülşen et., al. (2018) conducted a study to examine the self-talk levels of sports science students, who are individual and team athletes from 9 different branches, according to various variables. When their scores were examined, a statistically significant difference was found and it was observed that male athletes used the self-talk function and its sub-dimensions at a higher level.

Bayköse (2014), who obtained findings in line with the findings we obtained, in his research examining the role of self-talk and imagery level in determining the optimal performance mood with undergraduate students from various branches, stated that the scores of female participants in the cognitive function sub-dimension according to the gender variable were significantly higher. Güvendi and Pehlivan (2020) examined the self-talk and aggression and anger behaviors of athletes from 6 different martial arts. When the findings were obtained as a result of the study in which he examined the motivational self-talk and mental endurance levels of different individual sports branch athletes who do active sports, it was observed that female athletes had a high level of use of the motivational function sub-dimension. When Nergiz et., al. (2015) examined the results of their studies to examine the self-talk of modern and folk dance dancers, it was found that female dancers' motivational self-talk levels were higher than male dancers.

As a result of the analyzes made to determine the differences between the groups, no statistically significant difference was observed in terms of the archers' shooting score and the mean scores of motivational function, cognitive function, and self-talk function according to the age variable ($p>0.05$). It can be said that archers aged 18-20, 21-25, or 26 years and older do not use the self-talk function, and the sub-dimensions of this function significantly differ from any age group. Guvendi and Pehlivan (2020), who have findings that are in line with our findings, observed that the self-talk function according to the age variable and the athletes did not get significantly different scores in the sub-dimensions of this function in their research with the athletes who belong to the individual sports martial arts.

Unlike our results, Akikveren (2017) found a difference in the level of use of the motivational function sub-dimension according to the age variable of 353 individual branch athletes in his study and stated that he obtained results in favor of the younger ones.

As a result of the analyzes made to determine the differences between the groups, no statistically significant difference was observed in terms of the archers' motivational function, cognitive function, and self-talk function mean scores according to the bow category variable ($p>0.05$). When the study conducted by Şahin (2017) was examined, it was observed that the scores of the athletes who wrestled in freestyle and Greco-Roman style according to the style variable, which are the sub-dimensions of the self-talk function, motivational and cognitive function sub-dimensions, did not differ statistically, and it coincides with our research findings. Nargiz et al. (2015), when both motivational and cognitive function sub-dimensions were examined according to the dance type variable, no significant difference was observed between the scores of the dancers ($p>0.05$).

A significant difference was observed in the average shooting points of the archers according to the bow category variable. When the findings were examined, it was observed that the average shooting points of the roller bow category archers were higher than the average shooting points of the classical bow category archers. In the research conducted by Öner and Cankurtaran (2020) with archers, similar to our findings, it was observed that the shooting scores of roller bow archers were higher. Tekin (2018) also observed that the performance of roller bow archers is higher in his study with archers.

As a result of the analyzes carried out to determine the differences between the groups, a significant difference was observed in terms of the shooting score, motivational function and self-talk function (total) score averages of the archers according to the sport age variable, and no difference was found in terms of the cognitive function score averages. Archers with a sports age of 5 and above have higher shooting scores, motivational function, and self-talk function (total) scores than archers with a sports age of 2-4 years. Similar to the significant difference in the shooting scores of more experienced archers, Tekin (2018) observed that performance increased as sports experience increased. In parallel with our findings, Engür (2011) observed a significant difference in the motivational function scores of the athletes according to the sports age variable in his study. Hocaoğlu (2019) and Akman (2019) observed that in the sports experience variable in the self-talk function sub-dimensions, Hocaoğlu observed that the average values of the motivational and cognitive function sub-dimensions of the athletes with 8 years or more experience were higher than those with 3-7 years of experience. Different according to our findings, in the study of Güvendi and Pehlivan (2020), no significant difference was found in the sub-dimensions of self-talk according to the sports age of martial athletes ($p>0.05$). Akınveren (2017), in his study, did not observe a significant difference in the motivational function scores of the self-talk function sub-dimension of the athletes according to the sports age variable.

As a result of the analyzes made to determine the differences between the groups, a significant difference was observed in terms of the shooting score and motivational function score averages of the archers according to the variable of being a national athlete before, and no difference was found in terms of "talk to yourself function and cognitive function score averages. Shooting points and motivational function averages of archers who were national athletes before were higher than archers who were not national athletes. Tekin (2018), who obtained findings similar to our findings, stated that the performance of national athletes was higher in his research with archers. Keskin et., al. (2020) found a significant difference in the motivational function sub-dimension of the self-talk function according to the nationality status of the athletes and observed that the national athletes use the motivational function more. On the other hand, contrary to our findings, Akınveren (2017) did not observe a difference in the level of use of the motivational function, which is the sub-dimension of the self-talk function, according to the variable of whether the athletes were in the national team or not. As a result of the research conducted by Güvendi and Pehlivan (2020), no significant difference was found in the sub-dimensions of the self-talk function according to the nationality of the athletes. In the study conducted by Şahin (2017), no statistical difference was observed in the motivational and cognitive function sub-dimensions of the self-talk function according to the variable of being a national athlete of the athletes who wrestle in freestyle and Greco-Roman style.

In the literature review, no study was found that examined the relationship between the performance of archers according to their demographic characteristics and the use of the self-talk function, and experimental studies were found to examine the effect of the self-talk function on their performance. Wickramanayake et., al. (2016), in their study to examine the effect of relaxation and concentration on the performance of archers in the army, an 8-week training was planned, and pre-test and the post-test study were applied to the experimental and control groups. The training was carried out with the help of eight different techniques, including the self-talk technique, aimed at concentration and relaxation. There was a significant difference between the pre-test and post-test results of the experimental group's performance results. Wu et., al. (2017) conducted a study to develop self-talk strategies to guide and facilitate performance based on the assumption that archers' thoughts affect their movements. He stated that they determined different self-talk strategies to benefit from sports science education, since performance is affected by stress, anxiety, and other negative emotional factors, and active and positive self-talk improves performance effectively. He explained that for Chinese archery to become a leader in world archery, self-talk training should be used to increase performance. These positive effects of the Talk to Yourself Function on archers explain the accuracy of our research findings.

In another study, Van Raalte et., al. (1995) participated darts athletes who have the task of hitting a specific target as in archery and investigated the effect of using some self-talk instructions on performance in their study with darts athletes. They observed that positive self-talk instructions increased the performance of the experimental group of athletes (Hatzigeorgiadis et al., 2011).

Theodorakis et al., (2001) also gave basketball players a shooting task and were asked to use two types of self-talk instruction and measured its effect on their performance. They concluded that a self-talk strategy determined by the desired performance technique will increase performance (Hatzigeorgiadis et., al. 2011). It is expressed as a fine motor skill that small muscle groups should be used to perform the archery skill successfully or to release the beam during the release (Karanfilci et., al. 2014). Theodorakis et al. (2000) conducted a study in which performance evaluation was carried out by applying different motor learning tasks. They concluded that the self-talk strategy determined in fine motor learning had a positive effect (Hatzigeorgiadis et., al. 2011).

Conclusions and Recommendations

In this study, in which the relationship between the level of speaking to themselves and the shooting performance of the elite archers was examined according to some variables, the shooting performance of the archers aged 18 and over who have the athlete license of the Turkish Archery Federation was determined, and the relationship of this performance with the level of self-talk of the archers according to some demographic variables and with yourself according to the variables. The differences between speech levels were tried to be explained.

According to the research findings, it was concluded that female archers use the self-talk function and its sub-dimensions at a higher level, and the level of use of the motivational function sub-dimension positively affects the shooting scores of female archers. However, it was observed that the shooting averages of the female archers were significantly lower than the average shooting points of the male archers. It is estimated that female archers use bows of lower hardness, considering that women's physical strength is generally lower than men's. The low stiffness of the bow slows down the flight speed of the arrow. The slow-flying of the arrows causes them to be more affected by the weather conditions and deviates from the aiming point, thus reducing the total shot score. Although the motivational function, which is the sub-dimension of talking to yourself, is effective in increasing the performance of female archers, it can be said that women score lower than men due to their low physical strength.

According to the research findings, the shooting averages of the archers competing in the roller bow category were higher than the shooting averages of the archers competing in the classical bow category, there was no significant difference in the level of use of the self-talk function and sub-dimensions of this function of the roller bow archers. It was concluded that it did not affect the scores significantly. Although the roller and classic bow shooting distances are different, the target papers used by the archers in the competition also differ. Classic bow archers shoot from 70 meters to 122 cm target face (center ring inner diameter 6.1 cm), and roller bow archers shoot from 50 meters to 80 cm target face (center ring inner diameter 4 cm). It should not be ignored that roller bow archers shoot arrows at smaller target paper from a shorter distance than classical bow archers.

The performance of the spring and the athlete can be carried to a higher level by the fact that the adjustable spring stiffness range of the roller spring is greater than that of the classical spring. It can be said that this hardness and performance advantage in the roller bow explains that the average shooting points of the roller bow archers participating in our research are higher than the shooting averages of the classical bow archers.

According to the research findings, it was concluded that the shooting score, motivational function, and self-talk function scores of archers aged 5 and above were significantly higher, but the level of using the self-talk function and its sub-dimensions of this function did not significantly affect the shooting scores according to the sports age variable. Although archers with 5 years or more experience use self-talk and motivational functions at a significantly higher level, their success in shooting points; It can be said that they have become professional in shooting technique, the increase in spring stiffness depending on their age, and they may have learned to manage their mind with skills different from the ability to talk to yourself.

According to another finding of our research, it was concluded that the shooting scores and motivational function usage levels of the archers who had been national athletes before, were higher, but the levels of self-talk, motivational and cognitive function use did not significantly affect the shooting scores. The success of the archers who became national athletes in shooting points; it can be said that they benefit from regular and correct training methods, professionalized shooting techniques, use of hard blows, and psychological skills other than the ability to talk to yourself in managing their minds.

According to these results we have obtained;

- Considering that the shooting performance of female archers will increase, experimental research is carried out by using self-talk and other psychological skill trainings that will increase their physical strength through the shooting technique,
- Examining the relationship between the levels of using the self-talk function and shooting performance of Turkish and foreign archers according to different demographic variables.
- Determination of psychological skill techniques related to shooting performance for male archers,
- Considering that the current high performance of the roller bow archers can be increased by including the self-talk skills in their training programs, an experimental study will examine the effect of the self-talk training that they will systematically apply to the roller bow athletes on their performance,
- For female archers, it can be suggested to plan and implement self-talk trainings systematically with an experimental study and to determine the change in their performance.

**This study was produced from a thesis*

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