

Investigation of State and Trait Anxiety of 13-16 Age Badminton Players

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Abstract

This study was conducted to investigate the state and trait anxiety of 13-16 years old badminton players. 72 female and 73 male players with a mean age of 14.44 ± 1.12 constitute the sample of this study participated in the U-17 badminton championships organized by the Badminton Federation of Turkey. State and Trait anxiety inventory developed by Spielberg in 1976 and adapted to Turkish by Öner and Le Compte were used as data collection tools. The data obtained were analyzed using IBM SPSS Statistics for Windows package software. While independent sample t-test and One-Way ANOVA tests are used in the analysis of the data; Pearson correlation coefficient was examined to look at the relationship between the data. As a result, while the participants' state and trait anxiety levels and age, sports year, mother education level, father education level and monthly income level variables could not be determined; there was a significant relationship between state anxiety levels and gender. It was found that anxiety levels of male participants were higher than those of females.

Keywords: State anxiety, Trait anxiety, Badminton

Introduction

Although sport is seen as a physical activity in general, when we look at the effects of some factors such as sense of competition (ambition), spectator pressure, fear of losing in sports, the effects of these factors show us that the sport is not just a physical aspect. Some of these factors are evaluated under the name of “environmental factors”, while others are evaluated under the name of “intrinsic (psychological) factor” (Karabulut & Mavi-Var, 2019). Only being in good condition in terms of physical capacity may be inadequate to lead an athlete to success. In addition, the psychological situation that will be needed during the competition is must be at a good level, it is at a level that can eliminate the negative factors brought

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by the environment, and it can contribute to the success of the athlete by completing the physical capacity. In particular, the fact that the athlete is in a psychological state that can reduce or eliminate the level of anxiety he / she will feel before or during the competition can seriously affect the athlete positively. The results of the research showed that the performance of athletes in motor skills was significantly impaired in cases of excessive anxiety. In particular, impairments in hand coordination skills attract attention (Bull; as cited in, Aktaş et al, 2004). People in a state of high anxiety they're in a state of alarm, and it's like something. They feel like it's going to happen, they feel nervous (Nar, 2003). The high level of anxiety in athletes can limit the athlete and cause him/her to fail to fully demonstrate the level of performance he/she can perform (Alisinanoğlu and Ulutaş, 2003). The concept of anxiety has different subclassifications and associated measurement tools. A classification of anxiety is the concepts of state and trait anxiety. State anxiety is described as the sensational responses seen depending on a particular situation, while trait anxiety is expressed as a tendency to feel a certain pressure throughout the life of the person (Aras & Gündüz, 2016; Öner & Le Compte, 1998). According to Spielberger, the concept of anxiety is classified as follows; state anxiety, it is a temporary emotional state characterized by subjective tension, feelings of evil (delusion), and stimulation of the autonomic nervous system at a certain time. Therefore, the state anxiety, which is accepted as temporary and short-term, is in question when dealing with dangerous or threatening situations under a certain condition. On the other hand, Trait anxiety is relatively constant individual differences and a permanent personality trait in the anxiety tendency reflected as anxiety states manifested in time and the possibility of future anxiety (as cited in, Aydın, 2017).

In the direction of the definitions and explanations, state anxiety is in question for any temporary situation, while trait anxiety is a general anxiety rather than a situation.

It can be said that the state of being anxious at a high level is generally suppressive and limiting for athletes (Karabulut et al, 2013). It is very important for athletes to be able to get rid of this high level of anxiety during competition, to make a healthy decision, and to display the current level of performance fully. In order to realize these situations, an athlete must be physically ready as well as physically ready. Being psychologically prepared may differ according to team and individual sports. In team sports, athletes have the possibility to reduce anxiety by getting

support from each other during competition, but this is not the case in individual sports. From this point of view, team sports have a different nature than individual sports. Anxiety intensity is thought to be higher in individuals who do individual sports than those who do team sports (Konter, 1998). In a study, it was determined that participants who do team sports (football, basketball and handball) have low state anxiety and trait anxiety compared to the participants who do individual and racket sports (Civan et al, 2010). From this perspective, badminton can be evaluated both individually (singles match) and as a team (doubles match). Therefore, this study was conducted to investigate the state and trait anxiety of 13-16 years old badminton players.

Method

This study is a study conducted in the descriptive relational-survey model, one of the quantitative research designs. Descriptive-relational survey type studies are studies that describe any event or phenomenon as it is, and also aim to reveal the effect or relationship level of the variables that are thought to affect the event or phenomenon in question (Kaya, Balay & Göçen, 2012).

Population and Sample

The population of this study consists of 835 badminton players who participated in the badminton competition organized by the Badminton Federation of Turkey. The sample of this study consisted of 72 female and 73 male players who participated in badminton Under-17 competition with an average age of 14.44 ± 1.12 .

Data Collection

State and trait anxiety inventory developed by Spielberg in 1976 and adapted to Turkish by Öner and Le Compte (1998) were used as data collection tools. The scale consists of two 20-item "state anxiety form" developed to determine the current level of anxiety of people and a 20-item "trait anxiety form" to reveal a continuing anxiety state. It is reported that Alpha reliability of the 4-point likert type scale ranges between 0.83 and 0.87, test-retest reliability ranges between 0.71 and 0.86, and item reliability is between 0.34 and 0.72 (Öner & Le Compte, 1998). In addition, a personal information form was used, which included questions such as gender, age, sports age, education level of the parents, and monthly income,

developed by the researcher in order to collect personal information about the players. The research data was collected before the competition.

Data Analysis

The data obtained during the data analysis phase were analyzed using IBM SPSS Statistics for Windows (Version 22.0. Armonk, NY: IBM Corp.) software. While independent sample t-test and One-Way ANOVA tests are used in the analysis of the data, Pearson correlation coefficient was examined to investigate the relationship between the data. In this study, the significance level was accepted as $p < .05$.

Findings

Table 1. Descriptive Statistics of Participants

		n	%
Gender	Female	73	50.3
	Male	72	49.7
	Total	145	100.0
Age	13	27	18.6
	14	32	22.1
	15	26	17.9
	16	24	16.6
	Total	145	100.0
Sport Age	1 year	11	7.6
	2 year	13	9.0
	3 year	33	22.8
	4 year	38	26.2
	5 year	18	12.4
	6 year	15	10.3
	7 year	7	4.8
	8 year	10	6.9
	Total	145	100.0
Mother Education	Non-Literate	19	13.1
	Literate	12	8.3
	Primary School	33	22.8
	Middle School	23	15.9
	High School	47	32.4
	University	11	7.6
	Total	145	100.0
Father Education	Non-Literate	7	4.8
	Literate	12	8.3
	Primary School	34	23.4
	Middle School	21	14.5
	High School	53	36.6
	University	18	12.4
Monthly Income (TL)	Total	145	100.0
	<1500 TL	20	13.8
	1501-2000 TL	29	20.0
	2001-2500 TL	30	20.7
	2501-3000 TL	30	20.7
	>3001 TL	36	24.8
Total	145	100.0	

50.3% of the participants were women, 18.6% were 13 years old, 22.1% were 14 years old, 17.9% were 15 years old, 16.6% were 16 years old, 26.2% had a 4-year sports age, 32.8% it was observed that the education level of the mother was high school, 36.6% of them had high school education level of the father, and the monthly income level of 24.8% was between 3001 TL and above.

Table 2. Comparison of State and Trait Anxiety Levels According to Gender of 13-16 Age Badminton Players

Anxiety Type	Gender	n	$\bar{x} \pm ss$	t	p
State Anxiety	Male	72	46.56±6.41	2.241	.027*
	Woman	73	44.32±5.60		
	Total	145	45.44±6.10		
Trait Anxiety	Male	72	46.72±5.20	1.064	.289
	Woman	73	45.83±4.81		
	Total	145	46.28±5.02		

*p<.05

There was no statistically significant difference between the participants' trait anxiety scores and their gender (p>.05). However, a significant difference was found between the state anxiety scores of the male and female subjects participating in the study (p<.05). In this comparison, the state anxiety scores of men are higher than the state anxiety points of women.

Table 3. Comparison of State and Trait Anxiety Levels of 13-16 Age Badminton Players According to Their Age

Anxiety Type	Age (year)	n	$\bar{x} \pm ss$	F	p
State Anxiety	13	27	45.73±6.15	1.768	.156
	14	32	43.64±5.86		
	15	26	45.84±6.48		
	16	24	46.74±5.71		
	Total	145			
Trait Anxiety	13	27	46.23±4.80	.439	.876
	14	32	44.76±4.86		
	15	26	47.42±5.40		
	16	24	46.91±4.82		
	Total	145			

p<.05

Table 3 shows that there is no statistically significant difference between the ages of the participants and their state and trait anxiety (p> .05).

Table 4. Comparison of State and Trait Anxiety Levels of 13-16 Age Badminton Players According to Their Sports Year

Anxiety Type	Sports Year (year)	n	$\bar{x} \pm ss$	F	p
State Anxiety	1	11	47.36±5.97	1.065	.389
	2	13	46.61±7.95		
	3	33	43.63±5.77		
	4	38	45.26±6.22		
	5	18	46.22±5.58		
	6	15	44.40±4.23		
	7	7	48.71±7.20		
	8	10	46.30±6.46		
	Total	145			
Trait Anxiety	1	11	46.54±3.44	.439	.876
	2	13	47.00±6.08		
	3	33	46.63±5.92		
	4	38	45.44±4.51		
	5	18	46.94±4.38		
	6	15	46.33±5.27		
	7	7	47.57±6.07		
	8	10	44.80±4.31		
	Total	145			

*p<.05

No statistically significant difference was found between the participants' sports year, their state anxiety and trait anxiety (p>.05).

Table 5. Comparison of State and Trait Anxiety Levels of 13-16 Age Badminton Players According to Their Mother's Education Status

Anxiety Type	Education Status	n	$\bar{x} \pm ss$	F	p
State Anxiety	Non Literate	19	43.57±5.92	1.776	.122
	Literate	12	48.58±5.38		
	Primary School	33	45.24±6.94		
	Middle School	23	43.52±4.75		
	High School	47	46.48±6.00		
	University	11	45.36±6.24		
Trait Anxiety	Non Literate	19	45.84±5.27	.690	.632
	Literate	12	46.16±6.73		
	Primary School	33	45.27±3.71		
	Middle School	23	47.69±4.38		
	High School	47	46.55±5.41		
	University	11	46.00±5.67		

p<.05

Table 5 shows that no statistically significant difference was found between the education levels of the participants' mothers and their state anxiety and trait anxiety (p>.05).

Table 6. Comparison of State and Trait Anxiety Levels of 13-16 Age Badminton Players According to Their Father's Education Status

Anxiety Type	Education Status	n	$\bar{x} \pm ss$	F	p
State Anxiety	Non Literate	7	44.00±6.35	.200	.962
	Literate	12	45.25±3.25		
	Primary School	34	44.88±7.18		
	Middle School	21	45.80±5.81		
	High School	53	45.67±5.67		
	University	18	46.05±7.30		
Trait Anxiety	Non Literate	7	46.00±8.16	.788	.560
	Literate	12	45.91±3.94		
	Primary School	34	44.94±4.77		
	Middle School	21	47.33±3.69		
	High School	53	46.60±5.46		
	University	18	46.94±4.70		

p<.05

There was no statistically significant difference between the education levels of the fathers of the participants and their state anxiety and trait anxiety (p> .05).

Table 7. Comparison of State and Trait Anxiety Levels of 13-16 Years Old Badminton Players According to Monthly Income

Anxiety Type	Monthly Income	n	$\bar{x} \pm ss$	F	p
State Anxiety	<1500 TL	20	44.70±8.04	.456	.768
	1501-2000 TL	29	46.27±5.56		
	2001-2500 TL	30	44.43±4.81		
	2501-3000 TL	30	45.86±6.33		
	>3001 TL	36	45.66±6.24		
Trait Anxiety	<1500 TL	20	47.50±6.39	.736	.569
	1501-2000 TL	29	45.48±4.37		
	2001-2500 TL	30	46.66±3.77		
	2501-3000 TL	30	46.66±5.80		
	>3001 TL	36	45.58±4.92		

p<.05

No statistically significant difference was found between the monthly income levels of the participants and their state anxiety and trait anxiety (p>.05).

Table 8. The Relationship Between Trait Anxiety and State Anxiety

		State Anxiety	Trait Anxiety
State Anxiety	Pearson Cor.	1	.270**
	P		.001
	n	145	145
Trait Anxiety	Pearson Cor.	.270**	1
	P	.001	
	n	145	145

** . Correlation is significant at the 0.01 level (2-tailed).

A statistically significant relationship was found between the state anxiety and trait anxiety of the participants ($p < .05$).

Discussion and Conclusion

In the study where we examined the state-trait anxiety status of badminton players under the age of 17, while no statistically significant difference was detected between the trait anxiety scores of the male and female subjects participating in the study; there was a statistically significant difference between the state anxiety scores. The state anxiety levels of male participants were determined to be higher. Similarly, in the studies conducted by Öztürk (2008), Başaran (2008) no statistically significant difference was detected between the trait anxiety scores of male and female participants; however, there was a statistically significant difference between the state anxiety scores. Unlike our study, in the study conducted by Dönmez (2013), statistically a significant difference was found in the state anxiety levels of the participants in terms of their gender. Female players' state anxiety levels were found to be higher. In contrast to the study we did in the study conducted by Akçınar and Eroğlu (2019), state anxiety does not constitute a statistically significant difference according to gender; trait anxiety values of female participants were higher than men. In the study conducted by Aksoy (2019), no statistically significant relationship was found between the participants' state and trait anxiety levels and their gender. The reason for these differences between our study and the studies in the literature is thought to be it is caused by the difference in branch and age.

There was no statistically significant relationship between the participants' state and trait anxiety levels and their age. Similarly, in the studies conducted by Yücel (2003), Pular et al, (2012), Karabulut and Mavi-Var (2019), Civan et al. (2010) and Yıldız (2019) a statistically significant relation wasn't found with the state and trait anxiety levels of the participants and their age. Based on the findings of our study and other studies that found similar results, it can be said that the age factor for the age groups of participants in the studies is not a link between their age and state and trait anxiety.

In our study, there was no statistically significant relationship between participants' state and trait anxiety levels and sport age. Similar results were found in the studies conducted by Yücel (2003), Pular et al. (2012), Karabulut and Mavi-Var (2019), Yıldız (2019), a statistically significant relation wasn't found with the state and

trait anxiety levels of the participants and their sport age. According to the findings of our study and other studies that reached similar results, it can be said that there is no connection between the duration of sports and the state and trait anxiety.

No statistically significant relationship was found between the state and trait anxiety levels of the participants and their mothers' and father's education levels. Similarly, in the study conducted by Yücel (2003), no statistically significant relation was found with the state and trait anxiety levels of the participants and their mother's and father's education levels. In contrast to the study we did in the study conducted by Pular et al. (2012) a statistically significant relationship was found between the participants' state and trait anxiety levels and their mother's and father's education levels. The reason for this difference is thought to be due to the fact that the participants in the study are players from a different sport branch and only male participants.

There was no statistically significant relationship between the participants' state and trait anxiety levels and their monthly income. Similar results were found in the studies conducted by Yücel (2003), Yıldız (2019), Karabulut (2010), Öztürk (2008), no statistically significant relation was found with the state and trait anxiety levels of the participants and their monthly income. Based on the findings of our study and other studies that found similar results, it can be said that the monthly income factor for the monthly income level of participants participating in the studies is not a link between the participants' state and trait anxiety levels and their monthly income.

A statistically significant relationship was found between the state anxiety and trait anxiety of the participants. In the study conducted by Yıldız (2019), also a statistically significant relationship was found between the state anxiety and trait anxiety of the participants.

As a result, it was found that male badminton players had higher status anxiety levels pre-game than female players. Psychological support for male badminton players to reduce prior to competition status anxiety levels can help in reducing this anxiety.

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