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INVESTIGATION OF ATTENTION AND DECISION-MAKING PROPERTIES IN 11-16 YEARS OLD CHILDREN PLAYING BADMINTON SPORT AS A SPORTIVE RECREATION ACTIVITY*

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Abstract: The aim of this study is to investigate the attention and decision-making characteristics of 11-16 years old children who play Badminton as a sportive recreation activity. In the 2018-2019 academic year, 201 secondary school and high school students with a mean age of 13.18 ± 1.76 studying in different schools in the province of Muğla and engaged in Badminton sport as a recreational recreation activity joined to this survey voluntarily. In addition to the personal information form prepared by the researcher, Bourdon Attention Test (1955) was used to determine attention levels, and Adolescent Decision-Making Scale (EIBS) developed by Mann, Harmoni and Power (1989) was used to determine decision-making skills. Frequency analysis, Kruskal Wallis Test, t test, ANOVA and pearson correlation and regression analysis were used to evaluate the data. As a result, it was found that the level of attention and self-esteem of the students differed significantly according to family income. It is a remarkable finding that students, whose monthly income is low, have high levels of self-esteem. Significant relationship was found between students' sleep time and indifference dimension of decision making. We can say that students who have a short sleep time act unconcerned when they need to decide. We can say that the age, sports age and income level of the students affect the attention level of students. It has been found that attention quality decreases as the indifference and avoidance of responsibility, which are sub-dimensions of decision-making skills, increase.

Anahtar Kelimeler: Rekreasyon, Badminton, Dikkat, Karar Verme.

SPORTİF REKREASYON FAALİYETİ OLARAK BADMİNTON SPORUNU YAPAN 11-16 YAŞ ÇOCUKLARDA, DİKKAT VE KARAR VERME ÖZELLİĞİNİN İNCELENMESİ

Öz: Bu araştırmanın amacı, sportif rekreasyon faaliyeti olarak badminton sporunu yapan 11-16 yaş çocuklarda, dikkat ve karar verme özelliğinin incelenmesidir. Araştırmaya, 2018-2019 eğitim öğretim yılında, Muğla ilinde farklı okullarda öğrenim gören, sportif rekreasyon faaliyeti olarak badminton sporu ile uğraşan yaş ortalaması 13.18 ± 1.76 olan, 201 ortaöğretim ve lise öğrencisi gönüllü katılmıştır. Öğrencilere araştırmacı tarafından hazırlanan kişisel bilgi formu yanında, dikkat düzeylerini belirlemek için Bourdon Dikkat testi (1955), karar verme becerilerini belirlemek için Mann, Harmoni ve Power (1989) tarafından geliştirilen Ergenlerde Karar Verme Ölçeği (EKVÖ) kullanılmıştır. Verilerin değerlendirilmesinde, frekans analizi, Kruskal Wallis Testi, t testi, ANOVA ve pearson korelasyon ve regresyon analizi kullanılmıştır. Sonuç olarak, öğrencilerin dikkat düzeyi ve özsaygı düzeyinin aile gelir durumuna göre anlamlı farklılık gösterdiği bulunmuştur. Aylık geliri düşük olan öğrencilerin özsaygı düzeylerinin yüksek olması dikkat çekici bir bulgudur. Öğrencilerin uyku süreleri ile karar verme becerisi umursamazlık boyutu arasında anlamlı ilişki tespit edilmiştir. Uyku süresi kısa olan öğrencilerin karar vermesi gereken durumlarda umursamaz davrandığını söyleyebiliriz. Öğrencilerin yaşı, spor yaşı ve gelir durumunun dikkat düzeyini etkilendiğini söyleyebiliriz. Karar verme becerisi alt boyutları umursamazlık ve sorumluluktan kaçma özelliği arttıkça dikkat düzeyinin de azaldığı tespit edilmiştir.

Key Words: Recreation, badminton, attention, decision making

** Bu çalışma 2018 yılında, Muğla Sıtkı Koçman Üniversitesi, Sosyal Bilimler Enstitüsü, Rekreasyon Anabilim Dalı'nda kabul edilen "Sportif Rekreasyon Faaliyeti Olarak Badminton Sporunu Yapan 11-16 Yaş Çocuklarda, Dikkat ve Karar Verme Özelliğinin İncelenmesi" başlıklı Yüksek Lisans tezinden yapılmıştır.*

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INTRODUCTION

We can define the psychological functions that consist of attention, thinking, perception and dream in sports as "conscious attention". Attention intensity manifests itself as the ability to provide this conscious movement. Thus, the limited part of perception is directed to our consciousness. Other stimulants are eliminated, which means that they remain unconscious (Göktepe et al., 2016). Attention is a process of conscious focusing on stimulants (Dereceli, 2011). Most of the stimuli in the external world are captured by sensory organs, but some are selected and perceived. The individual cannot deal with all stimulants at the same time because he has limited capacity (Bozan and Akay, 2012).Two important points in maintaining attention; stimulant-related features and features related to the individual (Öztürk, 1995).The lack of concentration and lack of good performance due to the distraction of the athlete's confusion reveals the importance of the attention factor in performance (Çağlar and Koruç, 2006).The distribution of attention to more than one focal point during activity emerges as one of the important factors affecting performance (Maggil, 2004).Physical activity in children is effective on psychosocial development, supports the development of personality (self-confidence, self-confidence, assertiveness, etc.) and increases attention and concentration (Philipp, 2017).Decision making means choosing one of the different possible actions (Sanchez, et al., 2009).The reaction pattern that the individual exhibits when he / she encounters with a decision-making situation is learned and has become a habit is called decision-making way (Ün, 2010).According to Deniz (2004), individuals use careful, avoidant, delayed and panic decision-making ways in the decision-making process. They will learn the importance of decision making in adolescence and the effective decision making ways of adolescents in this period (Mincemoyer and Perkins, 2003).Reaction time in badminton is an important factor in advanced badminton players where the ball moves rapidly (average speed of 320km / h for elite athletes) (Memedov and Kale, 1994).As with other racquet sports, badminton has short-term maximal or submaximal loads and short-term rest periods.High aerobic capacity is needed in such sports especially for speed, endurance, strength, coordination, reaction, sensing, playing skills and technique (Baron et al., 1992) in order to carry out the movement continuously and rapidly (Faude et al., 2007).). Physical activity and sport are important for children's cognitive, mental and spiritual development (Orhan, 2019), and children need to move at least one and a half to two hours each day and young people to move at least one hour (Graf and Klein, 2011; Zahner, 2013).The reasons for participating in the exercise of the students in their free time were investigated and it was stated that the female students who exercised regularly felt better, the male students liked the exercise and they participated in different activities by forming a social environment and developed their level of knowledge and they felt freer while exercising (Popham and Mitchell, 2006).In the study examining the well-being of students, it was found that physical activity performed in free time and positive well-being caused changes (Doğan and Yıldırım, 2006). In the sports environment, being careful, maintaining attention together with appropriate and appropriate decisions are important in terms of positively affecting the game. Careless and wrong decisions or decisions made at the wrong time not only negatively affect the athlete in the game, but also affect the outcome of the game. In the light of this information, the aim of the study is to investigate the attention and decision-making characteristics of 11-16 years old children who play Badminton as a sportive recreation activity.

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METHOD

Research Model

The research is a descriptive study in screening model. Screening models are suitable for research aimed at describing a past or present situation as it exists (Karasar, 2004). The research was carried out within the scope of descriptive research methods.

Population-Sample (Research Group)

In the 2018-2019 academic year, 201 middle school and high school students who participated in different schools in Mugla province, who were engaged in Badminton as a sportive recreation activity, had a mean age of 13.18 ± 1.76.

Data Collection Tools

In addition to the personal information form prepared by the researcher, Bourdon Attention Test (1955) was used to determine attention levels, and Adolescent Decision-Making Scale (EIBS) developed by Mann, Harmoni and Power (1989) was used to determine decision-making skills. In the city center of Muğla, students from different schools of Badminton were selected and a research group was formed.

Bourdon Attention Test: The purpose of this test is to measure the level of attention of individuals. Before applying the test, individuals were given the necessary information about the test. Children are given letters arranged in three paragraphs on a page. Each paragraph contains 22 columns, 46210 rows. There are 31 (a), 28 (g), 30 (b) and 28 (d) letters on the leaf prepared for the experiment. A total of 5 minutes is given for the three paragraphs and the individuals will say: "You will underline all the letters a, b, d and g with a pencil. They were said that "When reviewing a line, you will not mark a single letter. You will underline all the letters a, b, d, and g in the line." At the end of the test, the lines were counted and the test was evaluated. The correct answers given by the children were taken into consideration in the evaluation of the test. Each correct answer was considered a score. The highest score from the test was determined as 117 (Wagner, 1990).

Adolescent Decision-Making Scale: Adolescent Decision-Making Scale was developed by Mann, Harmoni and Power (1989) to determine self-esteem and decision-making ways in decision-making. The scale has 30 items and consists of two parts and 5 sub-scales. These two sections are Self-esteem in Decision Making and Coping Ways in Decision Making. Subscales are "Self-Respect in Decision Making" and "Attention selectivity", "Panic", "Avoidance of responsibility" and "Indifference" which measure coping ways used in decision making. Items are graded by marking one of four categories: 3 (Always true to me), 2 (Frequently true to me), 1 (Sometimes true to me) and 0 (Never true to me). In order to test the validity of the Decision-Making Scale in Adolescents adapted to Turkish by Çolakkadıoğlu (2003), validity studies based on construct validity and criteria were conducted. As a result of the factor analysis, the Turkish form was found to be in accordance with the original form (Çolakkadıoğlu and Güçray, 2007).

Data Analysis

Frequency analysis, Kruskal Wallis Test, t test, ANOVA and pearson correlation and regression analysis were used to evaluate the data.

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RESULTS

Table 1. Demographic information table of the students participating in the research

Variable	Group	n	%
Gender	Female	117	58.2
	Male	84	41.8
	11-12	100	49.7
	13-14	28	14
Age	15-16	73	36.9
	Less than 2000 tl	25	12.4
Level of income	3000 tl-5000 tl	139	69.2
	Above5000 tl	37	18.4
	6-7 hours	76	37.8
Sleep duration	8 hours	73	36.3
	Over 9 hours	52	25.9
	Games or other activities	108	53.7
Leisure time activity	Smartphone / Internet	27	13.4
	Book	50	24.9
	Music	16	8.0
Total		201	100

As can be seen in Table 1, 58.2% of the students were female and 41.8% were male. The distribution of age group was 49.7% for 11-12 years, 14% for 13-14 years and 36.9% for 15-16 years. The income level is 12.4% at 2000 TL and below (low income), 69.2% at 3000 tl-5000tl (middle income), and 18.4% at 5000tl and above (high income). Sleep duration distribution: 6-7 hours 37.8%, 8 hours 36.3%, 9 hours 25.9% and leisure time activity distribution: 53.7% of games or other activities, 13.4% of smartphone / internet, 24.9% of reading books, 8% of listening to music.

Table 2. Examining the attention and decision-making sub-dimensions of students engaged in badminton sports according to the age variable

ANOVA

		Sum of squares	df	Average of squares	F	Sig.	
Attention	Inter-group	6996,138	6	1166,023	4,038	,001	12-15
	Intra-group	56019,782	194	288,762			
	Total	63015,920	200				
Self-esteem sum	Inter-group	67,467	6	11,244	1,130	,346	
	Intra-group	1930,543	194	9,951			
	Total	1998,010	200				
Indifference sum	Inter-group	95,073	6	15,846	1,096	,366	
	Intra-group	2803,594	194	14,452			
	Total	2898,667	200				
Avoidance of responsibility sum	Inter-group	238,377	6	39,729	2,876	,010	12-16
	Intra-group	2679,832	194	13,814			
	Total	2918,209	200				
Attention selectivity sum	Inter-group	174,975	6	29,163	2,112	,054	
	Intra-group	2678,497	194	13,807			
	Total	2853,473	200				
Panic sum	Inter-group	95,670	6	15,945	1,127	,348	
	Intra-group	2745,594	194	14,153			
	Total	2841,264	200				

As it is seen in Table 2, there was a significant difference between attention level and decision-making skill responsibility subscale and age variable of students engaged in Badminton sport

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(p <0.05). The mean attention level of children aged 12 is higher than children aged 15 years. When we look at the total score of responsibility, the mean scores of the 12-year-old participants is lower than the 16-year-old participants. We can say that the sense of responsibility increases while the age increases.

Table 3. Examining the attention and decision-making sub-dimensions of students engaged in Badminton sports according to the gender variable

		Gender	n	X	s	t	p
Attention Level		Female	117	69,85	17,19	1,768	,079
		Male	84	65,38	18,28		
Decision making skills sub-dimensions							
Self-esteem in decision making		Female	117	11,51	3,11	-1,344	,181
		Male	84	12,11	3,20		
Coping Ways in Decision Making	**Indifference**	Female	117	5,43	3,65	-1,014	,312
		Male	84	5,98	4,00		
	Avoidance of responsibility	Female	117	5,03	3,69	-,999	,156
		Male	84	5,80	3,96		
	Attention selectivity	Female	117	11,39	3,84	-1,407	,455
		Male	84	11,79	3,69		
	Panic	Female	117	7,52	3,66	-,753	,657
		Male	84	7,76	3,92		

As it is seen in Table 3, there was no significant difference between attention level and decision-making skill sub-dimensions and gender variable of students engaged in Badminton sport (p> 0.05). According to the mean values, the attention level of female students was found to be higher than the attention level of male students. It was determined that male students engaged in badminton sport had higher mean in decision-making than self-esteem, indifference from decision-making ways, avoidance of responsibility, attention selectivity and panic.

Table 4. Examining the attention and decision-making sub-dimensions of students engaged in Badminton sports according to the family income level variable

		Sum of squares	Df	Average of squares	F	Sig.	Source of Diversity
Attention	Inter-group	2855,178	2	1427,589	4,698	,010	2-3
	Intra-group	60160,743	198	303,842			
	Total	63015,920	200				
Decision making skills sub-dimensions							
Self-esteem	Inter-group	66,521	2	33,260	3,410	,035	1-3
	Intra-group	1931,489	198	9,755			
	Total	1998,010	200				
Indifference	Inter-group	,540	2	,270	,018	,982	
	Intra-group	2898,127	198	14,637			
	Total	2898,667	200				
Avoidance of responsibility	Inter-group	5,568	2	2,784	,189	,828	
	Intra-group	2912,641	198	14,710			
	Total	2918,209	200				
Vigilance	Inter-group	29,511	2	14,755	1,035	,357	
	Intra-group	2823,962	198	14,262			
	Total	2853,473	200				
Panic	Inter-group	10,359	2	5,180	,362	,697	
	Intra-group	2830,905	198	14,297			
	Total	2841,264	200				

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As seen in Table 4, a significant difference was found between family income level and attention level ($p < 0.05$). The mean scores of the students whose family income level is 3000 tl-5000 tl is found to be higher than the students with income level above 5000 tl. There was a significant difference between family income level and self-esteem of decision-making sub-dimension ($p < 0.05$). Self-esteem levels of students whose family income level is 2000 tl or less are higher than those whose income level is 5000 tl and above. It is a remarkable finding that the self-esteem levels of the students whose families have low monthly income are high. No significant difference was found between the coping ways of decision making, indifference, avoidance of responsibility, vigilance and panic subscales and monthly income of the family ($p > 0.05$).

Table 5. Examining the attention and decision-making sub-dimensions of students engaged in Badminton sports according to the sleep duration variable

		Sum of squares	df	Average of squares	F	P	Source of Diversity
Attention level	Inter-group	1207,139	3	402,380	1,282	,282	
	Intra-group	61808,781	197	313,750			
	Total	63015,920	200				
Decision making skills sub-dimensions							
Self-esteem	Inter-group	17,722	3	5,907	,588	,624	
	Intra-group	1980,288	197	10,052			
	Total	1998,010	200				
Indifference	Inter-group	180,949	3	60,316	4,372	,005	1-2, 1-3, 1-4
	Intra-group	2717,717	197	13,796			
	Total	2898,667	200				
Avoidance of responsibility	Inter-group	104,508	3	34,836	2,439	,066	
	Intra-group	2813,701	197	14,283			
	Total	2918,209	200				
Vigilance	Inter-group	85,067	3	28,356	2,018	,113	
	Intra-group	2768,405	197	14,053			
	Total	2853,473	200				
Panic	Inter-group	32,650	3	10,883	,763	,516	
	Intra-group	2808,613	197	14,257			
	Total	2841,264	200				

As shown in Table 5, no significant difference was found between the duration of sleep and attention level of the students engaged in Badminton sports ($p > 0.05$). Significant differences were found between students' sleep duration time and indifference from decision-making sub-dimensions ($p < 0.05$). It was found that the mean indifference scores of the students who sleep daily 6 hours were higher than those who sleep daily 7,8 or 9 hours. We can say that students who have a short sleep duration act as if there is no decision to make.

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Table 6. Examining the relationship between attention and decision-making skills sub-dimensions and variables of students engaged in Badminton sports

		Age	Sport age	Income	Sleep	Slef-esteem	Indifference	Avoidance of responsibility	Vigilance
	R	-,212**	-,211**	-,155*	,089				
Attention level	P	,002	,003	,028	,207				
	N	201	201	201	201				
	R	-,169*	-,026	-,178*	,059				
Self-esteem	P	,017	,712	,012	,403				
	N	201	201	201	201				
	R	,134	,124	-,012	-,120	-,355**			
Indifference	P	,057	,079	,867	,090	,000			
	N	201	201	201	201	201			
	R	,256**	,099	,030	-,114	-,381**	,646**		
Avoidance of responsibility	P	,000	,163	,672	,108	,000	,000		
	N	201	201	201	201	201	201		
	R	-,235**	-,013	-,085	,141*	,485**	-,268**	-,383**	
Vigilance	P	,001	,852	,228	,046	,000	,000	,000	
	N	201	201	201	201	201	201	201	
	R	,064	,079	-,020	-,075	-,313**	,498**	,411**	-,076
Panic	P	,369	,267	,775	,287	,000	,000	,000	,282
	N	201	201	201	201	201	201	201	201

As can be seen in Table 6, a significant negative correlation was found between the attention level and age, sports age, income, indifference and avoidance of responsibility of the students engaged in Badminton sports. We can say that as the age, sports age and family income level of the students increase, the level of indifference and avoidance of responsibility increases but attention level decreases. A negative correlation was found between the age variable and self-esteem and vigilance levels of the students. There is a significant positive relationship between age variable and avoidance of responsibility variable. Self-esteem and vigilance of the participants have decreased while age increased. We can say that as students' age increase, their level of avoidance of responsibility increases. A significant positive correlation was found between the students' sleep duration variable and attention levels.As the duration of sleep increases, it is seen that vigilance scores increase.We can say that students with sufficient sleep should carefully investigate a range of alternatives and evaluate the positive and negative aspects of the alternatives.

DISCUSSION AND CONCLUSION

In the study where the attention and decision-making characteristics of 10-17 years old children engaged in Badminton as a recreation activity were examined;

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There was a significant difference between attention level and decision-making skill responsibility subscale and age variable of students engaged in Badminton sport. The mean attention level of children aged 12 is higher than children aged 15 years. When we look at the total score of responsibility, the mean scores of the 12-year-old participants is lower than the 16-year-old participants. We can say that the sense of responsibility increases while the age increases (Table 2). In the study, whether the fencing sport affects attention levels in children between 10-12 years of age, it was found that 10-12 age group children doing fencing sport had better attention levels than those who did not (Kartal et al., 2016). A relationship was found between golf exercises and attention in children aged 14-15 and it was found that attention level improved in the children play golf (Tunç et al., 2014). In the study where the relationship between imagination and attention was examined in elite Badminton athletes in the 16-18 age group, a significant relationship was found between attention level and imagery in Badminton athletes, and it was found that regular badminton trainings improved attention and imagery (Bastug et al., 2017). Soccer exercise and mental training were applied to 10-12-year-old children for 12 weeks, and It was found that attention was developed in children (Bastug et al., 2015). There was no significant difference between attention level and decision-making skill sub-dimensions and gender variable of students who are engaged in Badminton. It was determined that male students engaged in Badminton sport had a higher average in self-esteem in decision-making and indifference, avoidance of responsibility, vigilance and panic dimensions from decision-making way than female students (Table 3). In a study in which adolescents' decision-making styles were examined according to gender, grade level and school type, it was found that male participants used self-esteem, indifference and avoidance of responsibility styles more often than girls in decision-making (Mercan, 2019).In the study which examined the effect of playing education on the attention and concentration levels of sedentary children, it was found that the attention level of male and female students to be very close to each other (Orhan and Ayan, 2018).Similarly, there are studies that found that gender factor had no effect on attention(Gordon et al., 1997; Karaduman, 2004; Göktepe et al., 2016). In the study conducted to determine the decision-making ways of the athletes, no statistically significant difference was found in the decision-making ways in terms of gender and sports experience (Kelecek et al., 2013). According to the results of the study, self-esteem and decision-making ways of university students were examined, it was found that there was no significant difference between the gender and mean scores of self-esteem in decision making and sub-dimensions of decision making ways (careful decision making, avoiding decision making, delaying decision making and panic decision making) (Avsaroglu and Üre, 2007). There are studies where there is no difference between the decision-making ways of women and men (Cetin, 2009; Schuller, 2010; Salo and Allwood, 2011). A significant difference was found between family income level and attention level. The mean scores of the students whose family income level is 3000 tl-5000 tl is found to be higher than the students with income level above 5000 tl. There was a significant difference between family income level and self-esteem of decision-making sub-dimension. Self-esteem levels of students whose family income level is 2000 tl or less are higher than those whose income level is 5000 tl and above. It is a remarkable finding that the self-esteem levels of the students whose families have low monthly income are high. No significant difference was found between the coping ways of decision making, indifference, avoidance of responsibility, vigilance and panic subscales and monthly income of the family (Table 5). In this study where the decision-making ways of university students were examined, students have high levels of self-esteem in decision-making as well as the score of careful decision-making ways is higher than other decision-making ways. Gender, class, income level of the family, the place where family lives, family structure, the educational status of the parents and the status of the parents did not differ significantly in terms of level of significance. was concluded that the monthly personal expenditure variable had a significant

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difference in self-esteem levels in decision making (Ulaş et al., 2015). When the income level was compared, a significant difference was found in the values of the subjects in the experimental group (Tunç, 2013). It was seen that those with income level of 1000-2000 TL / month had 30% less attention than those with income less than 1000 TL (Adsız, 2010). These findings verify our study. A negative correlation was found between the attention level of the students engaged in Badminton sport and age, sport age, income, indifference and avoidance of responsibility. We can say that as the age, sports age and family income level of the student's increase, the level of indifference and avoidance of responsibility increases but attention level decreases. A negative correlation was found between the age variable and self-esteem and vigilance levels of the students. There is a significant positive relationship between age variable and avoidance of responsibility variable. Self-esteem and vigilance of the participants decreased while the age increased. We can say that as students' age increases, their level of avoidance of responsibility increases. A significant positive correlation was found between the students' sleep duration variable and vigilance levels. As the duration of sleep increases, it is seen that vigilance scores increase. We can say that students with sufficient sleep should carefully investigate a range of alternatives and evaluate the positive and negative aspects of the alternatives. According to the results of the analysis made to compare the decision-making ways according to the sport year, it was seen that the decision-making ways did not differ according to the sport year (Kelecek et al., 2015). There are many studies on attention development and decision-making skills related to physical activity in children. It has been determined that the training and practices carried out about attention will increase the concentration performance value (Culbertson and Sari, 1997; Yaycı, 2007). In the study, which examined the effect of sports on attention with primary school students, significant increases in the attention level of the students were found (Adsız, 2010). In the study conducted to investigate the attention levels of children doing table tennis exercises, it was found that table tennis exercises had a positive effect on attention characteristics in children aged 9-13 years (Aşan, 2011). In the study, whether the fencing sport affects attention levels in children between 10-12 years of age, it was found that 10-12 age group children doing fencing sport had better attention levels than those who did not (Akandere et al., 2010; Kartal et al., 2016). It was found out that 8-week educational games increased the attention level of children positively. In the study conducted on children between the ages of 8-12 and the effect of folklore on attention, the level was examined, They found that physical activity had a positive effect on reducing attention deficit after 15 weeks (Topcu et al., 2007).Sanchez et al., (2009) 's basketball players and Craig and Watson (2011)' s rugby players in the study of decision-making ways, It was determined that athletes generally use careful decision-making way and they prefer delaying decision-making way lesser. In the study named "Investigation of the effect of regular sports on attention in primary school students", according to the findings of primary school students, 83% of the students who do sports are more careful than those who do not do sports (Adsız, 2010). In the study conducted with the aim of examining the attention levels of the students engaged in golf sport, it has been observed that golf exercises positively affect attention characteristics in children aged 14-15 years (Tunç, 2013). In the study on the construct validity of d2 attention test by Çağlar and Koruç (2006), It was found that TM, TM-H (total processed substance-errors) concentration and attention scores changed according to age variable and attention scores increased while the age increased. It was found that students' perceptions about decision making ways showed statistically significant difference according to age (Akcay, 2018). In the study where attention, mental endurance and concentration levels of tennis, table tennis and Badminton athletes were examined, it was determined that the attention level of Badminton athletes was higher than tennis and table tennis athletes (Bastug, 2018). Bastug and Dikici (2019) found that, significant difference was found in leisure satisfaction level, balance and attention levels of the students who spent active time by participating in free time games and activities (experimental group).

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It is thought that the games and activities on campus contribute positively to the psychological and physical health of the students. The results of this research verify our study. As a result, it was found that attention and decision-making skills did not show significant differences in gender variable in the children participating in the research. It was found that attention and decision-making skills showed significant differences depending on age and family income level variables. It is seen that the students whose families have medium income level have a high level of attention. Significant differences were found between family income level and self-esteem of decision-making sub-dimension. The level of self-esteem of the students with low family income was found to be high. There was a negative correlation between attention level of children and age, sports age, income, indifference and avoidance of responsibility. We can say that as the age, sports age and family income level of the student's increase, the level of indifference and avoidance of responsibility increases but attention level decreases. A negative correlation was found between the age variable and self-esteem and vigilance levels of the students. There is a significant positive relationship between the age variable and the avoidance of responsibility variable. Self-esteem and vigilance of the participants decreased while the age increased. It is recommended to promote badmainton in schools. Sportive recreation activities should ensure that students spend active time.

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