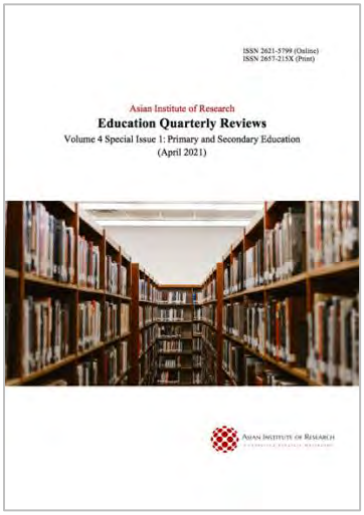

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An Investigation of High School Students' Continuous Anxiety Towards Physical Education and Sports Course

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Abstract
The main purpose of this study is to evaluate the continuous anxiety of high school students towards physical education and sports course and to examine these data in terms of demographic variables. The study group consists of 322 students. "Physical Education Continuous Anxiety Scale" has been used for data collection. In addition to percentage and frequency distributions, one-way ANOVA, t-test, scheffe Test and two-way variance analysis tests have been applied in the analysis of the data. According to the results of the study, while a significant difference has been reached between the gender and doing sports status variable and all sub-dimensions of the Physical Education Continuous Anxiety Scale, a significant difference has been reached in the "Cognitive Processes" and "Anxiety" sub-dimensions with the class variable. In addition, the interaction effect (gender * doing sports status) has not been statistically significant. In the light of the findings, it is thought that the gender variable is a determining factor in determining the continuous anxiety of high school students towards physical education and sports course and this is due to the differences in motoric characteristics between male students and female students and it is also due to the higher participation of male students in physical activities.

Keywords: Physical Education And Sports Course, High School, Student, Anxiety

1. Introduction

Physical education and sports is an enjoyable course that plays an effective role in educational and training processes (Ozturk, 1998). For this reason, its place and importance in educational and training curriculum have been recognized in terms of both being enjoyable and providing benefits (Eurydice Report, 2013). In this direction, it has also formed an integral part of the educational programs of all developed countries (Inan et al., 2019). It is of great importance that the teachers make their students love and actively participate in this course

in order to ensure that students benefit from the outcomes of the physical education and sports course at a high level and achieve the aim of the course. Although physical education and sports course seems interesting and entertaining at first sight (Barr-Anderson et al., 2008), the results of the researches (Ntoumanis, Barkoukis and Thogersen-Ntoumani, 2009; Sallis, Prochaska and Taylor, 2000) show that the participation of adolescent students in physical education and sports course, exercises and physical activities is negatively affected. This situation is thought to be caused by the attitudes of the students during their adolescence. Because while attitudes form the behaviors in individuals, they also determine the participation of individuals in activities (Rikard and Banville, 2006). In addition, it can be deduced that student attitudes affect cognitive, psychological, emotional and physical processes such as participation in the course, positive or negative thoughts about the course, interest or lack of interest in the course, even in-class homework, etc. (Bloom, 1995). Accordingly, it can be said that positive student attitude positively affects participation in physical education and sports course (Silverman and Scrabis, 2004).

One of the factors affecting the learning process is the concept of anxiety (Phillips, 1984). According to Boz (2019), "Anxiety is defined as a negative emotional state associated with the level of arousal of the tense, angry and worried body in line with the circumstances" (as cited. Boz, 2019). Anxiety in sports is defined as the psychological reaction to the tension arising from the task and performance situation, which is desired to be performed under pressure (Cheng, Hardy et al. 2009). In terms of students, depending on the level of anxiety, desired behaviors and performances in physical education and sports course may be disrupted, misperception of movements and attention disorders may occur (Kaya and Varol, 2004). This resulting condition is thought to be especially due to the continuous anxiety (Kyosti, 1992; Kapıkıran, 2006).

According to Kazelskis (1999), while the mental dimension of anxiety stems from the individual finding his / her own achievements insufficient, the emotional dimension consists of the reactions people give to the situations they encounter, tension experienced, and nervous emotions (as cited. Tekindal et al., 2010). When physical education and sports course is examined from an affective perspective, it should be done carefully by the teacher who teaches the course (Bauman, 1994).

It is of great importance to identify high school students' continuous anxiety about physical education and sports course according to different variables and to make suggestions in terms of factors such as the quality of physical education and sports education. In this context, the aim of the study is to investigate the continuous anxiety levels of high school students in Bartın province towards physical education and sports course and to analyze these data in terms of demographic changes.

2. Method

In this section, explanations about the model used in the research, the research group and the analysis processes have been given.

Research Model: The scanning model, which is one of the descriptive methods, has been used in the research. The purpose of the scanning model is to determine the current situation depending on the selected sample as it is (Karasar, 2013).

Population-Sample: The population of the study consists of high school students who received physical education and sports education in Bartın province in the 2018-2019 academic year and also the sample of the study consists of 322 randomly selected students from “Sehit Sinan Oruc Multi-Program Anatolian High School,” “Davut Fırıncıoglu Anatolian High School” and “Koksal Toptan Anatolian High School.”

Data Collection Tools: Within the scope of the research, "Demographic Information Form" and "Physical Education Continuous Anxiety Scale" have been used as data collection tools. The demographic information form has been used to obtain demographic information of the participants. This form, which contains a total of 4 items (gender, class, state of sports, branch of sports if doing sports), has been created by the researchers. Necessary permissions have been obtained for the use of the scale. Physical Education Continuous Anxiety

Scale (PECAS) was developed by Varol in 2014. The scale is a 5-point Likert type and consists of 18 items and 3 sub-dimensions (Cognitive Processes (.865), Somatic Anxiety (.872) and Anxiety (.834)). The total reliability coefficient of the scale has been found to be 0.916.

Data Analysis: In this study, Shapiro-Wilk and Kolmogorov-Smirnov normality tests have been used. In these tests, even if sig.000, the skewness and kurtosis values of the data were examined and according to Tabachnick and Fidell (2013), it was stated that the distribution would be accepted as normal distribution when the skewness and kurtosis values were between +1,500 and -1,500 values. Since the skewness and kurtosis values of these scale expressions are between +1.50 and -1.50; In our study, assuming that the distribution is a normal distribution, analysis tests that can be done with a normal distribution have been performed.

In this study, the KMO value has been found to be 0.908 and the Barlett test has been found to be significant ($p < .001$) as a result of the KMO and Bartlett test, which is the value and test that explains whether the sample is sufficient for analysis. Within the scope of the research, the arithmetic means and standard deviations of the answers obtained have been determined. Demographic information and physical education and sports course continuous anxiety level have been tested using One-way ANOVA from parametric tests, t-test, Scheffe Test and two-way variance analysis tests.

3. Results

The results section of the study includes the presentation and interpretation of the results obtained as a result of data analysis through a table.

Table 1: Frequency and Percentage Distributions by Gender and Class Variable

Property	N	%
Female	127	39,4
Male	195	60,6
Total	322	100,0
9th Grade	108	33,5
10th Grade	96	29,8
11th Grade	61	18,9
12th Grade	57	17,7
Total	322	100,0

Table 1 shows the frequency and percentage distribution of the students participating in the study according to gender and class variables. 127 of the 322 students that make up the participants are girls and 195 are boys. 33.5% of the students are from the 9th grade, 29.8% are from the 10th grade, 18.9% are from the 11th grade and 17.7% are from the 12th grade.

Table 2: Frequency and Percentage Distributions by the Variable of Doing Sports

Doing Sports Status	N	%
Yes	168	52,2
No	154	47,8
Total	322	100,0

Table 2 shows the frequency and percentage distributions of the students participating in the research related to the variable of doing sports. Accordingly, when the distribution of students doing sports is examined, it is seen that 168 students (52.2%) answered yes and 154 students (47.8%) answered no.

Table 3: Frequency and Percentage Distributions According to The Sports Branch Variable Indicated by Those who Do Sports.

Specified Branch	N	%
Athletics	12	3,7
Badminton	6	1,9
Basketball	9	2,8
Billiards	1	,3
Bike	1	,3
Bocce	4	1,2
Boxing	3	,9
Dart	1	,3
Fitness	4	1,2
Football	55	17,1
Futsal	3	,9
Traditional Archery	1	,3
Wrestling	11	3,4
Folk Dances	1	,3
Weightlifting	7	2,2
Handball	2	,6
Karate	2	,6
Kick Boxing	3	,9
Table Tennis	4	1,2
Archery	1	,3
Orienteering	3	,9
Pilates	2	,6
Chess	3	,9
Taekwondo	1	,3
Tennis	2	,6
Volleyball	24	7,5
Swimming	2	,6
Total	168	52,2

Table 3 contains the frequency and percentage distributions of the sports branches indicated by the students. In the branches, the highest share was stated as "Football" with 17.1%, followed by "Volleyball" with 7.5% and "Athletics" with 3.7%, respectively. As can be seen, the sports branches indicated by the students participating in the study vary with 27 different branches.

Table 4: Arithmetic Average and Standard Deviation Values of the Scale Sub-Dimensions

Sub Dimension No	Sub Dimension Name	N	$\bar{X}$	SS
1	Cognitive Processes	322	2,09	,867
2	Somatic Anxiety	322	2,06	,957
3	Anxiety	322	2,27	,966

In Table 4; When the arithmetic mean of the scores obtained by the participants from the sub-dimensions of the scale is examined, it is seen that the highest score is in the "Anxiety" sub-dimension. The average score of the students participating in the study on the physical education continuous anxiety scale is 38.65. It is seen that the physical education continuous anxiety levels of the students are "moderate."

Table 5: T Test for The Physical Education Continuous Anxiety Scale by Students' Gender Variable

Dimensions	**Gender**	**N**	$\bar{X}$	**SS**	**t**	**p**
Cognitive Processes	Female	127	2,24	,891	-2,637	,009*
	Male	195	1,98	,837		
Somatic Anxiety	Female	127	2,32	,961	-3,933	,000*
	Male	195	1,90	,919		
Anxiety	Female	127	2,46	,973	-2,795	,006*
	Male	195	2,15	,944		

*p<0.05

When the results in Table 5 are examined, as the results of the independent groups t-test conducted to indicate whether the sub-dimensions of the students' physical education continuous anxiety scale show a statistically significant difference according to the gender variable, there are statistically significant differences in all sub-dimensions of the scale (p<0.05). When the arithmetic averages are examined, it is seen that this difference is generally in favor of female students.

Table 6: ANOVA Test for The Physical Education Continuous Anxiety Scale by the Class Variable of the Students

Dimensions	Class	N	$\bar{X}$	SS	F	p	Scheffe Test
Cognitive Processes	9th Grade	108	2,10	,841	2,490	,060*	3-4
	10th Grade	96	2,04	,932			
	11th Grade	61	1,91	,855			
	12th Grade	57	2,31	,771			
Somatic Anxiety	9th Grade	108	2,03	, 879	1,515	,211	-
	10th Grade	96	1,95	,949			
	11th Grade	61	2,10	1,047			
	12th Grade	57	2,28	,997			
Anxiety	9th Grade	108	2,35	,924	2,841	,038*	3-4
	10th Grade	96	2,18	,975			
	11th grade	61	2,05	,886			
	12th Grade	57	2,51	1,060			

As seen in Table 6, a statistically significant difference has been found in the “cognitive processes” and “anxiety” sub-dimensions as a result of the one-way analysis of variance (ANOVA) between the sub-dimensions of the scale and the class variable of the students (p<0.05). The Scheffe test from multiple comparisons was used to determine which group caused the difference for the sub-dimensions where the difference occurred. When the Scheffe test results are examined at the level of sub-dimensions:

• In the "Cognitive Processes" sub-dimension, it has been in favor of the 12th grade between 11th and 12th grade (x= 1.91- x= 2.31).

• In the "Anxiety" sub-dimension, it has been in favor of the 12th grade between 11th and 12th grade (x= 2.05 - x= 2.51).

Table 7: T Test for Physical Education Continuous Anxiety Scale by Students' Doing Sports Variable

Dimensions	**Doing sports**	**N**	$\bar{X}$	**SS**	**t**	**p**
Cognitive Processes	Yes	168	1,93	,852	-3,476	,001*
	No	154	2,26	,857		
Somatic Anxiety	Yes	168	1,88	,899	-3,692	,000*
	No	154	2,27	,980		
Anxiety	Yes	168	2,11	,965	-3,295	,001*
	No	154	2,46	,936		

*p<0.05

When the results in Table 7 are examined, as the results of the independent groups t-test conducted to indicate whether the sub-dimensions of the students' physical education continuous anxiety scale show a statistically significant difference according to the doing sports variable, there are statistically significant differences in all sub-dimensions of the scale ($p<0.05$). When interpreted with arithmetic averages, it is seen that this difference arises from those who answer "No."

Table 8: F Values Regarding the Physical Education Continuous Anxiety Scale Scores According to Gender and Doing Sports Status

Source	Sum of Squares	Average of Squares	Sd	F	p
Gender	1711,529	1711,529	1	9,292	,002*
Doing Sports Status	2643,013	2643,013	1	14,349	,000*
Gender Doing Sports	307,528	307,528	1	1,670	,197
Total	63940,758	-	-	-	-

When looking at the two-way variance analysis table in Table 8, it has been found that the variables have been statistically significant at the 0.05 significance level according to gender and doing sports status. In addition, the interaction effect (gender * doing sports) was not statistically significant. This situation has revealed that there has been no difference in physical education continuous anxiety scores depending on the doing sport status of male and female students.

4. Discussion

As anxiety is an inevitable factor in many sports fields, it is known that it exists in high school students, although its level varies (Alp, 2018; Inan et al., 2018; Varol, 2014; Inan et al., 2019).

As the results of the independent groups t-test conducted to indicate whether the sub-dimensions of the students' physical education continuous anxiety scale show a statistically significant difference according to the gender variable, there are statistically significant differences in all sub-dimensions of the scale ($p<0.05$). When the arithmetic averages are examined, it is seen that this difference is generally in favor of female students. Ozturk (2019) has reached a significant difference between the gender variable and continuous anxiety according to the results of the study, which the sample group formed by darts athletes and similar to the results of our study, it is seen that this difference is in favor of female athletes. According to the results of the study conducted by Boz (2019), Oktem and his/her friends (2020), no significant difference has been found between the continuous anxiety levels of elite athletes and the gender variable. It is thought that this difference is due to the fact that elite athletes share the same environment regardless of gender, and therefore the gender variable is not a determining factor in measuring anxiety levels. It is thought that the gender variable is a determining factor in determining the continuous anxiety of high school students towards physical education and sports course and this is due to the differences in motoric characteristics between male students and female students and it is also due to the higher participation of male students in physical activities.

A statistically significant difference has been found in the “cognitive processes” and “anxiety” sub-dimensions as a result of the one-way analysis of variance (ANOVA) between the sub-dimensions of the scale and the class variable of the students ($p<0.05$). The Scheffe test from multiple comparisons was used to determine which group caused the difference for the sub-dimensions where the difference occurred. When the Scheffe test results are examined at the level of sub-dimensions, in the "Cognitive Processes" sub-dimension, it has been in favor of the 12th grade between 11th and 12th grade ($x= 1.91$ - $x= 2.31$) and in the "Anxiety" sub-dimension, it has been in favor of the 12th grade between 11th and 12th grade ($x= 2.05$ -$x= 2.51$). In line with these results, it is thought that the 12th grade students have high continuous anxiety due to the fact that they are at the turning point in their educational life such as exam and university preferences, and also because there are no questions about physical education and sports course in these exams.

As the results of the independent groups t-test conducted to indicate whether the sub-dimensions of the students' physical education continuous anxiety scale show a statistically significant difference according to the doing sports variable, there are statistically significant differences in all sub-dimensions of the scale ($p<0.05$). When interpreted with arithmetic averages, it is seen that this difference arises from those who answer "No" to the status of doing sports. Physical education and sports are known to have multiple benefits. These benefits positively affect the psychomotor, physical, mental and emotional development of the individual. Because of this, various developments are expected in individuals who do sports. Therefore, it can be said that it is expected that individuals who do sports have low anxiety towards physical education and sports course. It can be said that the reason for this difference is the positive effect of psychological and emotional development caused by the experience of the sports environment.

According to the scale total score and gender and doing sports status, it has been found that the variables have been statistically significant at the 0.05 significance level. In addition, the interaction effect (gender doing sports) was not statistically significant. This situation has revealed that there has been no difference in physical education continuous anxiety scores depending on the doing sport status of male and female students. In this respect, it can be said that doing sports regardless of gender reduces the continuous anxiety towards physical education and sports course.

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