

# The Predictive Power of Adolescents' Trait Anxiety Level in Physical Education Lessons on Their Attitudes towards the Lessons

Yaprak Kalemoglu Varol

*School of Physical Education and Sport, Aksaray University*

## **Abstract**

*The aim of this study is to determine the predictive power of adolescents' trait anxiety level in Physical Education (PE) lesson on their attitudes towards the lesson. The study group consisted of 708 secondary school students ( $M_{age}=16.00$  years,  $SD=1.17$ ) who were attending different secondary schools. In addition to the descriptive statistics, inferential statistics, such as correlation and regression analysis were used in this research. The study illustrated that PE lesson trait anxiety level was an important predictor of the attitude levels towards PE lesson. It was found that the students' attitudes towards PE lessons were positive, and their PE trait anxiety levels were moderate.*

**Key words:** *adolescent; anxiety; attitudes; PE lesson; trait anxiety.*

## **Introduction**

PE is identified as a component of an active lifestyle which is performed with the aim of ensuring enjoyable participation of students to encourage their development, knowledge, attitudes, motor and behaviour skills with regard to physical activities, and which includes physical continuity (Pate, Corbin, & Pangrazi, 1998). PE lesson is one of the tools that are used in order to achieve educational goals, and it may be the most entertaining and the most efficient one if it is used in the correct manner. But the studies (Ntoumanis, Barkoukis, & Thogersen-Ntoumani, 2009; Sallis, Prochaska, & Taylor, 2000) have illustrated that students' participation in physical activities and PE lessons decreases during adolescence. Adolescence is particularly known as a

stage when the individual undergoes many physical, psychological and social changes and transformations. Despite the fact that adolescence is a period when individuals usually have good physical health, it is also a period when individuals develop habits with long-term risks and some habits that may protect their health, such as exercise and diet, and prevent them from smoking and from substance abuse (Derman, 2008). Because of this reason, especially in adolescence, providing participation in physical activities and Physical Education lessons is very important.

Despite being perceived as fun lessons by some students, learning and practice in PE lessons can generally be perceived as a difficult subject by many of the students. Despite the fact that research generally analyses positive emotional experiences such as pleasure derived from PE lessons (Barr-Anderson, Neumark-Sztainer, Schmitz, Ward, Conway, Pratt, Baggett, Lytle, & Pate, 2008), anxiety experienced during PE lessons is an important predictor of performance and cognitions related to the performance, such as success, goals, efforts and learning strategies (Cury, Da Fonséca, Rufo, Peres, & Sarrazin, 2003). Spielberger (1972) described anxiety as an emotional reaction evoked by a stimulus that is perceived as threatening, in two ways - as trait anxiety and state anxiety. State anxiety is a transitory emotional state characterised by feelings of tension and apprehension. Trait anxiety is described as a tendency to perceive environmental stimuli as threatening and to respond with state anxiety (Barkoukis et al., 2012). In a study conducted by Rickwood and Temple (2010) students reported that the most significant feelings associated with Physical Education were fear, depression, nervousness, embarrassment and loss of self-esteem, and all of them were related to anxiety. Daalen (2005) also stated that PE posed challenges to anxious students. When ten fifth grade girls were asked why they would decide to drop PE after ninth grade, they indicated that PE caused some negative emotions and feelings and these were the major reasons for their dropping PE (Daalen, 2005).

Physical Education lessons are different from other fields of education in terms of their content and education methods. Physical skills are used mostly in these lessons and students are assessed in front of their peers. So, due to these reasons students feel anxiety towards the lesson. These kinds of negative emotions and anxieties that can be observed among students may trigger reluctance, timidity and negative attitude towards PE lessons in them. Bekdemir (2007) stated that one of the factors in the formation of negative attitudes was anxiety. So, it was considered that the anxiety that students felt towards the lesson and negative attitude that they developed towards the lesson due to this anxiety might be the reasons for a decrease in students' participation in Physical Education lessons during adolescence. As Rikard and Banville (2006) stated, attitudes shape human behaviour in different ways and determine their participation in daily activities. They also shape individuals' behaviour, such as acknowledging a situation and abandoning it.

Many studies that investigate the relationship between the attitude and anxiety have found a close correlation between the attitude of a person towards a lesson and

anxiety he/she experiences towards the same lesson. In the studies that were carried out on statistics (Baloğlu, Koçak, & Zelhart, 2007; DeVaney, 2010), mathematics lessons (Kurbanoğlu & Takunyacı, 2012), and learning of English (Hussain, 2011), it was stated that anxiety level might be the indicator of student's attitude and it was concluded that low anxiety level was related to the positive attitude.

Based on the results obtained in the studies in which the relationship between anxiety and attitude was analysed, it was noticed that an analysis of the effect of anxiety in Physical Education lesson on the attitude towards the lesson would be useful. Moreover, if the effect of anxiety on the attitude towards the lesson and the level of this anxiety were identified, research could be carried out on what should be done to reduce this anxiety in students. So, if the anxiety level could be reduced and attitude could be turned into a positive one, it would be expected that a decrease in participation in the Physical Education lessons, which is a big problem during adolescence, might be removed.

## Method

### *Participants and Procedure*

The study group consisted of students attending seven public secondary schools in the city of Aksaray (Turkey), who were selected by random sampling method during the academic year 2013-2014. Having obtained permission from the Directorate of National Education of Aksaray, both scales were applied by the author. Information was given to students about the purpose of the items, as well as the instructions on how to use them. They were also informed that their responses to items would not be revealed to their PE teachers and they were asked to be as honest as possible when providing their responses. It took approximately 25 minutes for students to complete the items, including instruction and collection. Out of the 897 completed items, 708 were acceptable, while the remaining 189 were missing responses. 367 (51.8%) of 708 high school students ( $M_{age}=16.00$ ,  $SD=1.17$ ) were female and 341 (48.2%) of them were male.

### *Instruments*

Data was collected from our participants through a "Physical Education Trait Anxiety Scale" and "The Physical Education and Sports Attitude Scale".

**Physical Education Trait Anxiety Scale:** "The PE Trait Anxiety Scale" that was developed by Barkoukis and his colleagues (2012) was adapted to Turkish by Kalemoglu Varol (2014). Although many inventories have been developed by the researchers in the field of sports in order to measure achievement (Martens, Vealey, & Burton, 1990; Smith, Smoll, & Schutz, 1990; Spielberger, Gorsuch, & Lushene, 1970), the Inventory of Physical Education Trait Anxiety is the only scale in the field which was developed for determining the levels of trait anxiety related to Physical Education lessons. Since this scale was developed specifically for secondary school students, this

measurement tool was used in the research. The scale consists of three subscales and 18 items, as in the original form. The Cognitive Processes Subscale consists of aspects of cognitive processing, such as attention, cognition, thought, memory, and problem solving during the period in which anxiety is experienced. The second one is the Somatic Anxiety Subscale, which corresponds to feelings of tension and apprehension, while the third one, Worry Subscale, corresponds to negative expectations from involvement in the activity. Examples of trait worry, cognitive processes, and somatic anxiety items include: "When performing PE tasks, I am concerned about making errors"; "I find it difficult to focus on PE tasks", and "During PE classes, I have a feeling of pressure on my chest", for each subscale respectively. Each subscale consists of six items. The scale is Likert-type scale, which ranges from (1) "I totally disagree" to (5) "I totally agree". All the items included in the scale are positive statements and high scores correspond to a high level of anxiety. The scale demonstrates good internal consistency and test-retest reliability. Cronbach Alpha internal consistency coefficients are .93 for cognitive process sub-factors, .97 for somatic anxiety sub-factors, .98 for anxiety sub-factors and .94 for the whole scale. The test-retest reliability coefficient is .96. High consistency values which are obtained at the end of the confirmatory factor analysis illustrate that three-dimensional structure of the scale is validated (RMSEA=0.064, NFI=0.97, NNFI=0.98, CFI=0.99, SRMR=0.033, GFI= 0.88 and AGFI=0.84).

***The Physical Education and Sports Attitude Scale:*** "Physical Education and Sports Attitude Scale" developed by Demirhan and Altay (2001) was used in order to determine the attitudes of the students towards Physical Education. This scale was developed only to determine the attitudes of secondary school students towards Physical Education lessons and it revealed validity and reliability findings in many studies related to secondary school students (Chatterjee, Nandy, & Adhikari, 2012; Hünük & Demirhan, 2010; Kumar & Singh, 2011). The one-factor scale consisted of 24 items, 12 of which were negative and 12 of which were positive. Examples of negative and positive items regarding physical education and sports attitude included: "I am so bored during physical education and sport activities" and "My cooperation skills develop in PE lessons", respectively. The scale consisted of "I totally agree, I agree, I'm not sure, I disagree, and I totally disagree" expressions. The positive items of the scale started with "I totally agree" and continued with 5, 4, 3, 2, and 1; the negative expressions started with "I totally disagree" and continued with 5, 4, 3, 2, and 1. The lowest score that could have been obtained in the scale was 24 and the highest score was 120. The score between 1 and 24 indicated the most negative attitude, the score 25-48 indicated negative attitude, the score between 49 and 72 neutral attitude, the score 73-96 positive attitude and the score 97-120 indicated the most positive attitude. The reliability parameter of Cronbach Alpha scale was calculated as 0.93, parameter of in-class correlation was calculated as 0.85, and parameter of the criterion validity correlation was calculated as 0.83.

## Data Analysis

In the study, the distribution was examined prior to data analysis. It was found that the data was consistent with distribution by the Lilliefors and Kolmogorov-Smirnov test, Histogram graphics and normal distribution curve, and skewness and kurtosis. In the study, the arithmetic means of the items that were included in each subscale were calculated and after this calculation the score was determined for each relevant factor. The analysis was performed via these factor scores. Pearson Moments Multiplication Correlation Coefficient technique was used in order to identify the relationship. Furthermore, Multiple Linear Regression Analysis was employed with the purpose of determining the predictive power of the independent variables on the dependent variables. In these analyses, each of the PE trait anxiety scale's sub-factor scores were taken as independent variables, and the attitude towards Physical Education was accepted as the dependent variable. In the interpretation of the data, 0.01 and 0.05 significance levels were used. The data obtained in the research was analysed with SPSS 18 program.

## Results

We tried to determine the relationship between trait anxiety level and attitudes toward the PE lesson, and analysis results are presented in Table 1.

Table 1  
*The relationship between trait anxiety level and the attitudes towards the lesson*

Variables	CP	SA	W	PELA
Cognitive Processes (CP)	1			
Somatic Anxiety (SA)	.408**	1		
Worry (W)	.601**	.378**	1	
PE Lesson Attitude (PELA)	.048	-.399**	.043	1
Mean	12.77	12.60	14.24	79.44
Standard Deviations	5.049	6.039	5.813	18.00

\*\* $p < 0.01$

When Table 1 is examined, it can be seen that there is a very low positive relationship between the PE trait anxiety level and cognitive process subscale ( $r = .048$ ,  $p > .01$ ), and the worry ( $r = .043$ ,  $p > .01$ ) sub-dimension and the attitude level towards the PE lesson. However, it was identified that there was a moderately inverse relationship between the somatic anxiety ( $r = -0.399$ ,  $p < .01$ ) sub-dimension and the attitude level towards the PE lesson.

We also tried to determine the predictive power of trait anxiety levels on attitudes towards the lesson, and the results of the analysis are shown in Table 2. In this analysis, each of the PE trait anxiety scale sub-factor scores was taken as the independent variable and the attitude towards physical education was considered as the dependent variable.

Table 2

*The prediction of the trait anxiety level on the attitude towards the PE lesson*

Variables	B	Standard Error	$\beta$	T	P	Dual r	Partial r
Constant	85.001	1.860		45.706	.000		
Cognitive Processes	0.649	0.153	0.182	4.248	.000**	.048	.158
Somatic Anxiety	-1.559	0.110	-0.523	-14.143	.000**	-.399	-.470
Worry	0.408	0.131	0.132	3.115	.002**	.043	.117
R= 0.473	R <sup>2</sup> = 0.223						
F= 67.470	p= .000						

\*\*p&lt;0.01

When the findings presented in Table 2 were examined, it was seen that the prediction equation ( $R^2=.22$ ,  $F=67.47$ ,  $p<.01$ ) for the PE trait anxiety scale on the attitude towards the PE lesson sub-dimension was of great importance. The variables constituting the trait anxiety sub-dimension expressed 22% of the total variance at the PE attitude level. The relative significance level of the predictive variables on the attitude towards the PE lesson according to the standardized regression parameter ( $\beta$ ) was in the order of somatic anxiety, cognitive processes and worry. When the results with regard to the significance of the regression coefficient were examined, it was seen that cognitive processes and worry sub-dimensions were not significant predictors, but the somatic anxiety sub-dimension was a very important predictor. In line with all these findings, it was identified that the trait anxiety sub-dimensions had a moderate effect on the attitudes towards the PE lesson.

## Discussion and Conclusion

When the relationship between sub-dimensions of the PE trait anxiety scale and the attitude level towards PE lessons is examined (Table 1), it can be seen that there is a low positive relationship between the cognitive processes, worry sub-dimensions and the attitude level towards PE lessons. It was also detected that the somatic anxiety sub-dimension of trait anxiety has an inverse relationship with the attitude level towards PE. It can be concluded that the attitude towards the lesson is adversely affected by the increase in the somatic anxiety level. As stated in the introduction, the review of literature does not list any study which directly investigates the relationship between the PE lesson trait anxiety level and the attitude towards the lesson. Therefore, this finding cannot be interpreted by making a comparison with the findings of some other study. However, when the studies conducted in other fields which investigate the relationship between the attitude and anxiety are analysed, it can be seen that the obtained results are in line with the observation that there is an inverse relationship between the attitude and anxiety (Baloğlu et al., 2007; DeVaney, 2010; Hussain, 2011; Kurbanoglu & Takunyaci, 2012). The negative attitudes developed by individuals as a result of the problems arising from their education and living environment are reflected in their behaviour over time, and after a while a failure cycle emerges. It is

believed that this situation increases the probability for individuals to experience anxiety because they think that they will be unsuccessful in their performance.

It was also found that the somatic anxiety sub-dimension had a moderately positive relationship with the cognitive processes dimension, the worry dimension had a highly positive relationship with the cognitive processes dimension, and the worry dimension had a moderately positive relationship with the somatic anxiety dimension. The result showing that the worry level had a positive relationship with both the cognitive and somatic anxiety dimensions was not surprising. The expressions included in the PE trait anxiety scale were intended to measure the concern and trait anxiety about making a mistake and sustaining potential injuries with regard to the physical movement performed in the lesson and during exams (i.e. "When performing PE tasks, I am concerned about making errors"; "I worry a lot about PE tests"; "When performing PE tasks, I feel anxious about potential injuries"). A state of anxiety that can be experienced in this situation may cause an increase in both cognitive anxiety (i.e. "I find it difficult to focus on PE tasks") and somatic anxiety (i.e. "When performing PE tasks, my body aches").

The study shows that trait anxiety sub-dimensions have a moderate effect on the attitudes towards the PE lessons (Table 2). Also, the trait anxiety level in PE lessons has a 22% effect on the attitude towards the PE lesson. In the study, decrease in the PE trait anxiety level alone is not sufficient to make the attitude more positive. It is necessary to identify the remaining 78% of variables that affect the attitude towards the lessons. More concrete solutions should be put forward through studying the factors that affect the attitude towards the PE lessons in order to improve the attitude towards them.

Studies investigating the relationship between success and attitudes illustrate that there is a very close relationship between the student's attitude towards the lesson and the student's success in that lesson (Büyüköztürk, 1999). As a result of the close relationship between success and attitude, it is possible to provide more positive attitudes towards the lesson by helping students to achieve success in PE lessons. It is believed that positive attitudes will provide a decrease in PE lesson trait anxiety level. However, despite the fact that the adolescents' attitudes toward PE lessons are positive, it has been revealed that their anxiety levels are not low. A study conducted in mathematics shows that positive reinforcement of students' attitudes towards the lessons and their self-sufficiency beliefs decrease the anxiety level towards the lesson. It is thought that the results obtained in the study may have arisen from the students' low level of self-sufficiency (Kurbanoglu & Takunyaci, 2012). And if their self-sufficiency beliefs increase, there will be a decrease in PE lesson anxiety levels. Their parent's attitudes, their education levels, the approaches and the attitudes of PE teachers are various factors that can have effect on the high level of anxiety despite the students' positive attitude.

### ***Limitations and Future Research***

There are some limitations in this study. It makes it harder to generalize the results of this study, because it has been conducted in the city centre, with a group of selected

adolescents, and the study group was very small. It is necessary to conduct similar studies in rural and urban areas from different geographical regions. Also, it might be useful to analyse the percentage of the effect of other variables, such as the parents' attitude, socioeconomic level, etc. on the attitude towards the lessons. It is expected that if other variables are established, it may be useful to identify the attitude of adolescents towards lesson so that the participation of adolescents in Physical Education lessons will increase.

### **Practical Implications**

It is thought that the finding of this study is important because it is the first study carried out with the aim of determining the predictive power of Physical Education lesson trait anxiety levels of adolescents and their attitudes towards the lessons. In the chapter *Results of the study*, it has been explained that the rate of Physical Education lesson trait anxiety level on the attitude towards the lesson is 22%. So, it can be seen that the reduction of adolescents' trait anxiety level towards PE lessons is important in order for them to develop positive attitudes towards the lesson. So, if the control of anxiety can be achieved, it is believed that adolescents' participation in PE lessons will increase.

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**Yaprak Kalemođlu Varol**

School of Physical Education and Sport, Aksaray University

Merkez Kampüs, 68100 Aksaray, Turkey

yaprak81@gmail.com

# Predviđanje stava adolescenata prema nastavi tjelesne i zdravstvene kulture na temelju njihova stupnja anksioznosti kao osobine ličnosti na nastavi tjelesne i zdravstvene kulture

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## Sažetak

*Cilj ovog istraživanja bio je odrediti mogućnost predviđanja stupnja anksioznosti kao osobine ličnosti adolescenata tijekom nastave tjelesne i zdravstvene kulture i njegova utjecaja na tu nastavu. Uzorak se sastojao od 708 srednjoškolaca ( $M_{dob}=16,00$  godine,  $SD=1,17$ ) koji su pohađali različite srednje škole. Uz deskriptivnu statistiku u istraživanju su također u nezavisnim grupama korišteni: inferencijalna statistika, kao što je t-test kojime se određivala razlika između aritmetičkih sredina, kao i korelacijska i regresijska analiza. Istraživanje je pokazalo da je stupanj anksioznosti kao osobine ličnosti u nastavi tjelesne i zdravstvene kulture važan prediktor stava koji učenici imaju prema nastavi tjelesne i zdravstvene kulture. Rezultati su pokazali da su stavovi učenika prema nastavi tjelesne i zdravstvene kulture pozitivni, a stupanj njihove anksioznosti kao osobine ličnosti bio je umjeren. Na stupnju anksioznosti kao osobine ličnosti prisutnom na nastavi tjelesne i zdravstvene kulture utvrđene su značajne razlike s obzirom na spol.*

**Ključne riječi:** *adolescent; anksioznost; anksioznost kao osobina ličnosti; nastava tjelesne i zdravstvene kulture; stavovi.*

## Uvod

Tjelesna i zdravstvena kultura (TZK) smatra se dijelom aktivnog životnog stila koji se provodi da bi se učenicima pružilo zadovoljstvo pri sudjelovanju u nastavi tjelesne i zdravstvene kulture, te da bi se poticao njihov razvoj, znanje, stavovi, motoričke vještine i pozitivno ponašanje vezano uz fizičke aktivnosti, a koje podrazumijeva fizički kontinuitet (Pate, Corbin i Pangrazi, 1998). Nastava TZK jedan je od alata koji se koriste da bi se postigli obrazovni ishodi, a ako se izvodi na pravi način, može

biti najzabavniji i najučinkovitiji oblik nastave. No neka su istraživanja (Ntoumanis, Barkoukis i Thogersen-Ntoumani, 2009; Sallis, Prochaska i Taylor, 2000) pokazala da se sudjelovanje učenika u fizičkim aktivnostima i nastavi tjelesne i zdravstvene kulture tijekom razdoblja adolescencije smanjuje. Adolescencija je općenito poznata kao razdoblje tijekom kojega pojedinac prolazi kroz mnoge fizičke, psihološke i socijalne promjene i transformacije. Usprkos činjenici da je adolescencija razdoblje u kojem pojedinci općenito imaju dobro fizičko zdravlje, ona je također i razdoblje u kojem oni razvijaju navike koje će ili imati dugoročne negativne posljedice ili navike koje će im pomoći očuvati i zaštititi svoje zdravlje, kao što su vježbanje i prehrana, a koje će ih odvratiti od pušenja i zloupotrebe droga. Zbog toga je posebno bitno tijekom adolescencije omogućiti učenicima sudjelovanje u fizičkim aktivnostima i nastavi tjelesne i zdravstvene kulture.

Usprkos tome što nastavu tjelesne i zdravstvene kulture neki učenici smatraju zabavom, učenje i vježbanje na nastavi TZK mnogi učenici smatraju općenito teškim poslom. Bez obzira na činjenicu da se istraživanja općenito bave analizom emocionalnih iskustava kao što je zadovoljstvo zbog sudjelovanja u nastavi TZK (Barr-Anderson, Neumark-Sztainer, Schmitz, Ward, Conway, Pratt, Baggett, Lytle i Pate, 2008), anksioznost koju mnogi učenici osjećaju tijekom nastave TZK važan je prediktor njihova rada i spoznaja povezanih s uspjehom u radu tijekom te nastave, ciljevima, trudu i strategijama učenja (Cury, Da Fonséca, Rufo, Peres i Sarrazin, 2003). Spielberg (1972) je opisao anksioznost kao emocionalnu reakciju koju izaziva neki podražaj koji se smatra prijetnjom, a može biti dvojaka – anksioznost kao osobina ličnosti i anksioznost kao stanje. Anksioznost kao stanje je prolazno emocionalno stanje koje karakteriziraju osjećaj napetosti i straha. Anksioznost kao osobina ličnosti može se smatrati tendencijom prema percipiranju podražaja iz okoline kao prijetnji, te je reakcija osobe na takvu situaciju anksioznost kao stanje (Barkoukis i sur. 2012). U istraživanju koje su proveli Rickwood i Temple (2010) učenici su naveli da su najjači osjećaji povezani s nastavom TZK bili strah, depresija, nervoza, nelagoda i gubitak samopoštovanja, a svi oni bili su povezani s anksioznošću. Daalen (2005) je također utvrdio da TZK anksioznim učenicima predstavlja izazov. Kada su pitali deset djevojaka iz petog razreda pitali zašto su odlučile ne odabrati tjelesnu i zdravstvenu kulturu kao predmet nakon devetog razreda, one su odgovorile da TZK kod njih izaziva neke negativne emocije i osjećaje, pa da su to glavni razlozi zbog kojih nisu izabrale TZK (Daalen, 2005).

Nastava TZK razlikuje se od ostalih polja obrazovanja s obzirom na svoj sadržaj i nastavne metode. U nastavi TZK najčešće se koriste fizičke vještine, a učenike se ocjenjuje pred njihovim vršnjacima. Zbog toga učenici osjećaju anksioznost prema nastavi TZK. Takve negativne emocije i anksioznost koja se može primijetiti među učenicima mogu kod njih izazvati nevoljkost, plahost i negativan stav prema nastavi tjelesne i zdravstvene kulture. Bekdemir (2007) je naveo da je jedan od faktora u stvaranju negativnih stavova upravo anksioznost. Stoga se smatralo da anksioznost

koju učenici osjećaju u nastavi i negativan stav koji imaju prema nastavi zbog te anksioznosti mogu biti razlozi za smanjeno sudjelovanje učenika u nastavi tjelesne i zdravstvene kulture tijekom razdoblja adolescencije. Kako su naveli Rikard i Banville (2006), stavovi oblikuju ljudsko ponašanje na različite načine, te određuju njihovo sudjelovanje u dnevnim aktivnostima. Oni također oblikuju ponašanje pojedinaca, poput priznavanja situacije i odustajanja.

Mnoga istraživanja koja se bave ispitivanjem veze između stavova i anksioznosti otkrila su blisku korelaciju između stava koji osoba ima prema nastavi i anksioznosti koju on/ona osjeća u toj istoj nastavi. U istraživanjima koja su provedena o statistici (Baloğlu, Koçak i Zellhart, 2007; DeVaney, 2010), nastavi matematike (Kurbanoglu i Takunyaci, 2012) i učenju engleskog jezika (Hussain, 2011) utvrđeno je da stupanj anksioznosti može biti pokazatelj učenikova stava, te je zaključak bio da je nizak stupanj anksioznosti povezan s pozitivnim stavom.

Na temelju rezultata dobivenih u istraživanjima u kojima se analizirala veza između anksioznosti i stava uočeno je da bi bilo korisno analizirati utjecaj anksioznosti u nastavi tjelesne i zdravstvene kulture na stavove koje učenici imaju prema nastavi TZK. Štoviše, ako se utvrdi utjecaj anksioznosti na stavove prema nastavi i stupanj te anksioznosti, moglo bi se provesti istraživanje o tome što bi se trebalo učiniti da se stupanj anksioznosti kod učenika smanji. Stoga, ako se stupanj anksioznosti može smanjiti i negativan stav prema nastavi može promijeniti u pozitivan stav, može se očekivati da se smanjeno sudjelovanje učenika u nastavi TZK, što je velik problem tijekom adolescencije, može otkloniti.

## Metode

### *Sudionici i postupak*

Grupa u kojoj se provodilo istraživanje sastojala se od učenika koji su pohađali sedam državnih srednjih škola u Aksarayu (Turska), a koji su bili odabrani metodom nasumičnog odabira tijekom akademske godine 2013./2014. Nakon što se ishodila dozvola od Direktorata nacionalnog obrazovanja u Aksarayu, autor je primijenio obje skale. Učenici su informirani o svrsi svih tvrdnji, a dane su im i upute kako koristiti te tvrdnje. Također im je rečeno da njihovi nastavnici TZK neće znati tko je što napisao o bilo kojoj tvrdnji, te su zamoljeni da daju svoje iskrene odgovore. Bilo je potrebno otprilike 25 minuta da učenici odgovore na tvrdnje, uključujući i davanje uputa i prikupljanje upitnika. Od 897 popunjenih upitnika, 708 bilo je prihvatljivo, a kod njih 189 nedostajali su odgovori. 367 (51,8%) od 708 srednjoškolaca ( $M_{\text{dob}}=16,00$ ,  $SD=1,17$ ) bile su djevojke, a 341 (48,2%) bili su mladići.

### *Instrument*

Podaci su od sudionika prikupljeni s pomoću dviju skala – *Skale anksioznosti kao osobine ličnosti u nastavi TZK* i *Skale stavova prema tjelesnoj i zdravstvenoj kulturi i sportu*.

**Skala anksioznosti kao osobine ličnosti u nastavi TZK:** *Skalu anksioznosti kao osobine ličnosti* osmislili su Barkoukis i njegovi kolege (2012), a na turski ju je prevela

i prilagodila Kalemoğlu Varol (2014). Iako su izrađeni mnogi upitnici za istraživanja u području sporta da bi se izmjerila postignuća (Martens, Vealey i Burton, 1990; Smith, Smoll i Schutz, 1990; Spielberger, Gorsuch i Lushene, 1970), *Upitnik anksioznosti kao osobine ličnosti u nastavi TZK* je jedina skala u području sporta osmišljena da bi se odredio stupanj anksioznosti kao osobine ličnosti vezan uz nastavu tjelesne i zdravstvene kulture. Budući da je skala izrađena posebno za srednjoškolce, taj mjerni instrument koristio se u istraživanju. Skala se sastoji od tri podskale i 18 tvrdnji, kao i u izvornom obliku. *Podskala kognitivnih procesa* sastoji se od aspekata kognitivnih procesa kao što su pažnja, spoznaja, misao, sjećanje i rješavanje problema tijekom razdoblja u kojem se osjeća anksioznost. Druga podskala je *Podskala somatske anksioznosti*, koja odgovara osjećajima napetosti i straha, a treća podskala, *Podskala zabrinutosti*, odgovara negativnim očekivanjima vezanima uz sudjelovanje u aktivnosti. Primjeri tvrdnji o zabrinutosti kao osobini ličnosti, kognitivnim procesima i somatskoj anksioznosti su: „Kada izvršavam zadatke tijekom nastave TZK, bojim se da ću pogriješiti“; „Teško mi je koncentrirati se na zadatke tijekom nastave TZK“; „Tijekom nastave TZK imam osjećaj da me nešto pritišće u grudima“, za svaku podskalu pojedinačno. Svaka podskala sastojala se od šest tvrdnji. Skala je tipa Likertove skale, koja varira od (1) „Potpuno se slažem“ do (5) „Uopće se ne slažem“. Sve tvrdnje unutar skale su pozitivne tvrdnje, a visok broj bodova odgovara visokom stupnju anksioznosti. Skala pokazuje dobru unutarnju konzistenciju i pouzdanost testiranja-retestiranja. Koeficijenti Cronbach Alfa unutarnje konzistencije su 0,93 za podfaktore kognitivnih procesa, 0,97 za podfaktore somatske anksioznosti, 0,98 za podfaktore anksioznosti i 0,94 za cijelu skalu. Koeficijent pouzdanosti testiranja-retestiranja je 0,96. Visoke vrijednosti konzistencije koje su dobivene na kraju konfirmatorne faktorske analize pokazuju da je potvrđena trodimenzionalna struktura skale (RMSEA=0,064, NFI=0,97, NNFI=0,98, CFI=0,99, SRMR=0,033, GFI= 0,88 i AGFI=0,84).

**Skala stavova prema tjelesnoj i zdravstvenoj kulturi i sportu:** *Skalu stavova o tjelesnoj i zdravstvenoj kulturi i sportu* izradili su Demirhan i Altay (2001), a korištena je da bi se odredili stavovi učenika prema TZK. Ta skala izrađena je samo da bi se utvrdili stavovi srednjoškolaca prema nastavi TZK, a dala je valjane i pouzdane rezultate u mnogim istraživanjima o srednjoškolcima (Chatterjee, Nandy i Adhikari, 2012; Hünük i Demirhan, 2010; Kumar i Singh, 2011). Jednofaktorska skala sastojala se od 24 tvrdnje, od kojih je njih 12 bilo negativnih i 12 pozitivnih. Primjeri negativnih i pozitivnih tvrdnji vezanih uz stav prema nastavi TZK i sportu su (za svaku posebno): „Jako mi je dosadno tijekom nastave TZK i sportskih aktivnosti“ i „Moje suradničke vještine razvijaju se u nastavi TZK“. Skala se sastojala od izraza „Potpuno se slažem, slažem se, nisam siguran/sigurna, ne slažem se, uopće se ne slažem“. Pozitivne tvrdnje u skali počinjale su s „Potpuno se slažem“, a nastavljale se s 5, 4, 3, 2, 1; negativne tvrdnje počinjale su s „Uopće se ne slažem“, a nastavljale se s 5, 4, 3, 2, 1. Najniži rezultat koji se mogao dobiti u skali bio je 24, a najviši 120. Rezultat u rasponu od 1 do 24 pokazao je najnegativniji stav, rezultat u rasponu od 25 do 48 pokazao je negativan

stav; rezultat između 49 i 72 neutralan stav, rezultat između 73 i 96 pozitivan stav, a rezultat u rasponu od 97 do 120 pokazao je najpozitivniji stav. Parametar pouzdanosti Cronbach Alpha skale izračunat je kao 0,93, parametar korelacije unutar skupine je 0,85, a parametar korelacije kriterija valjanosti je 0,83.

### **Analiza podataka**

U istraživanju je distribucija provjerena prije provođenja analize podataka. Utvrđeno je da su podaci u skladu s distribucijom uz primjenu Lillieforsova i Kolmogorov-Smirnovljeva testa, histograma, krivulje normalne distribucije, asimetrije i zaobljenosti (engl. *skewness and kurtosis*). U istraživanju je izračunata aritmetička sredina tvrdnji od kojih se svaka podskala sastojala. Nakon izračuna određivao se rezultat za svaki važni faktor. Analiza je provedena uz pomoć tih rezultata. Koristila se tehnika Pearsonova koeficijenta korelacije umnožaka da bi se utvrdila veza. Nadalje, koristila se višestruka linearna regresijska analiza s ciljem utvrđivanja prediktivnosti utjecaja nezavisnih varijabli na zavisne varijable. U ovim analizama svaki rezultat podfaktora Skale anksioznosti kao osobine ličnosti u nastavi TZK uzet je kao nezavisna varijabla, a stavovi prema TZK uzeti su kao zavisne varijable. U interpretaciji podataka korišteni su stupnjevi važnosti 0,01 i 0,05. Podaci dobiveni u istraživanju analizirani su uz pomoć programa SPSS 18.

### **Rezultati**

Pokušali smo utvrditi vezu između stupnja anksioznosti kao osobine ličnosti i stavova prema nastavi TZK, a rezultati su prikazani u Tablici 2.

#### Tablica 1.

Kada se analizira Tablica 1, može se vidjeti da postoji vrlo niska pozitivna veza između stupnja anksioznosti kao osobine ličnosti na nastavi tjelesne i zdravstvene kulture i Podskale kognitivnih procesa ( $r=0,048$ ,  $p>0,01$ ), te subdimenzije zabrinutosti ( $r=0,043$ ,  $p>0,01$ ) i stava prema nastavi TZK. Međutim, uočeno je da postoji umjereno obrnuta veza između subdimenzije somatske anksioznosti ( $r=0,399$ ,  $p>0,01$ ) i stava prema nastavi TZK.

Također smo pokušali utvrditi prediktivnost utjecaja stupnja anksioznosti kao osobine ličnosti na stavove prema nastavi TZK, a rezultati analize su prikazani u Tablici 2. U ovoj analizi je svaki rezultat podfaktora Skale anksioznosti kao osobine ličnosti u nastavi TZK uzet kao nezavisna varijabla, a stav prema nastavi TZK uzet je kao zavisna varijabla.

#### Tablica 2.

Kada su analizirani rezultati prikazani u Tablici 2, uočeno je da je jednadžba predviđanja ( $R^2=0,22$ ,  $F=67,47$ ,  $p<0,01$ ) utjecaja skale anksioznosti kao osobine ličnosti u nastavi TZK na subdimenziju *stav prema nastavi TZK* bila jako značajna. Varijable koje sačinjavaju subdimenziju *anksioznost kao osobina ličnosti* izražavaju 22% ukupne

varijance na stupnju stavova prema nastavi TZK. Relativni stupaj važnosti prediktivnih varijabli na stav prema nastavi TZK, prema standardiziranom parametru regresije ( $\beta$ ), bio je poredan na sljedeći način: somatska anksioznost, kognitivni procesi, zabrinutost. Kada su analizirani podaci s obzirom na važnost regresijskog koeficijenta, utvrđeno je da subdimenzije *kognitivni procesi* i *zabrinutost* nisu važni prediktori, no da je subdimenzija somatske anksioznosti jako važan prediktor. U skladu sa svim ovim rezultatima, utvrđeno je da subdimenzija anksioznosti kao osobine ličnosti ima umjeren utjecaj na stavove prema nastavi tjelesne i zdravstvene kulture.

## Rasprava i zaključak

Kada analiziramo vezu između subdimenzije skale anksioznosti kao osobine ličnosti na nastavi TZK i subdimenzije stava prema toj nastavi (Tablica 1), možemo vidjeti da postoji niska pozitivna veza između subdimenzija *kognitivni procesi* i *zabrinutost* i stava prema nastavi tjelesne i zdravstvene kulture. Također je uočeno da subdimenzija somatske anksioznosti ima obrnutu vezu sa stavom prema nastavi TZK. Može se zaključiti da na stav prema nastavi negativno utječe povećani stupanj somatske anksioznosti. Kako je navedeno u uvodu, pregled literature ne navodi nikakva istraživanja koja se izravno bave vezom između stupnja anksioznosti kao osobine ličnosti na nastavi tjelesne i zdravstvene kulture i stavom prema nastavi TZK. Stoga se ovi rezultati istraživanja ne mogu protumačiti u usporedbi s rezultatima nekog drugog istraživanja. Međutim, kada se analiziraju istraživanja provedena u drugim područjima, a koja se bave vezom između stava i anksioznosti, može se uočiti da su dobiveni rezultati u skladu s opažanjem da postoji obrnuta veza između stava i anksioznosti (Baloğlu i sur. 2007; DeVaney, 2010; Hussain, 2011; Kurbanoglu i Takunyaci, 2012). Negativni stavovi koje pojedinci imaju kao rezultat problema čiji je korijen u njihovu obrazovanju i životnom okruženju s vremenom se reflektiraju u njihovu ponašanje, a nakon određenog vremena započinje ciklus neuspjeha. Vjeruje se da ta situacija povećava mogućnost da pojedinci dožive anksioznost jer su uvjereni da će biti neuspješni u svojim postignućima.

Također se pokazalo da subdimenzija somatske anksioznosti ima umjereno pozitivnu vezu s dimenzijom kognitivnih procesa, dimenzija zabrinutosti ima visoko pozitivnu vezu s dimenzijom kognitivnih procesa, a dimenzija zabrinutosti ima umjereno pozitivnu vezu s dimenzijom somatske anksioznosti. Uopće ne iznenađuje rezultat koji pokazuje da stupanj zabrinutosti ima pozitivnu vezu i s kognitivnom dimenzijom i s dimenzijom somatske anksioznosti. Tvrdnje koje su sadržane na Skali anksioznosti kao osobini ličnosti na nastavi TZK imale su za cilj izmjeriti zabrinutost i anksioznost kao osobine ličnosti koje se javljaju zbog pogreške i mogućeg zadobivanja ozljeda zbog fizičkih aktivnosti koje se provode na nastavi TZK i tijekom ispita (npr. „Kada izvršavam zadatke na nastavi TZK bojim se da ću pogriješiti“; „Jako sam zabrinut/a zbog testiranja u nastavi TZK“; „Kada radim zadatke na nastavi TZK zabrinut sam zbog mogućih ozljeda“). Stanje anksioznosti koje se može iskusiti u



toj situaciji može uzrokovati povećanje i kognitivne anksioznosti (npr. „Teško mi je usredotočiti se na zadatke na nastavi TZK“) i somatske anksioznosti (npr. „Kada izvodim zadatke na nastavi TZK, boli me tijelo“).

Istraživanje pokazuje da subdimenzije anksioznosti kao osobine ličnosti imaju umjereni utjecaj na stavove prema nastavi TZK (Tablica 2). Također, stupanj anksioznosti kao osobine ličnosti na nastavi TZK ima utjecaj od 22% na stav prema nastavi tjelesne i zdravstvene kulture. U istraživanju pokazalo da smanjenje stupnja anksioznosti kao osobine ličnosti na nastavi TZK samo po sebi nije dovoljno da bi se stav učinio pozitivnijim. Neophodno je utvrditi preostalih 78% varijabli koje utječu na stav prema nastavi. Trebalo bi ponuditi konkretnija rješenja putem proučavanja faktora koji utječu na stav prema nastavi TZK da bi se stav mogao popraviti.

Istraživanja koja se bave proučavanjem veze između uspjeha i stava pokazuju da postoji vrlo tijesna povezanost između stava učenika prema nastavi i njihova uspjeha u njoj (Büyükköztürk, 1999). Kao rezultat uske povezanosti između uspjeha i stava, moguće je osigurati pozitivnije stavove prema nastavi, tako što će se učenicima pomoći postići uspjeh na nastavi TZK. Smatra se da će pozitivan stav dovesti do nižeg stupnja anksioznosti kao osobine ličnosti na nastavi TZK. Međutim, usprkos činjenici da su stavovi adolescenata prema nastavi TZK pozitivni, pokazalo se da njihov stupanj anksioznosti nije nizak. Istraživanje provedeno u području matematike pokazuje da jačanje pozitivnog stava učenika prema nastavi i njihova vjera u samodostatnost smanjuju stupanj anksioznosti na nastavi. Smatra se da su rezultati dobiveni u istraživanju proizašli iz niskog stupnja samodostatnosti kojega učenici imaju (Kurbanoglu i Takunyaci, 2012). Ukoliko se može povećati vjera učenika u vlastitu samodostatnost, doći će do nižeg stupnja anksioznosti na nastavi TZK. Stavovi roditelja, njihov stupanj obrazovanja, pristupi i stavovi nastavnika TZK su sve različiti faktori koji mogu utjecati na visok stupanj anksioznosti usprkos pozitivnom stavu učenika.

### ***Ograničenja i buduća istraživanja***

Ovo istraživanje ima određena ograničenja. Teško je generalizirati njegove rezultate jer je provedeno u centru grada na uzorku grupe odabranih adolescenata, a ta grupa bila je vrlo mala. Neophodno je provesti slična istraživanja u ruralnim i urbanim sredinama u različitim geografskim regijama. Također se smatra da će biti korisno u postotku analizirati utjecaj drugih varijabli, kao što je stav roditelja, socioekonomski status, itd. na stav prema nastavi. Očekuje se da će, ako se definiraju ostale varijable, biti korisno utvrditi stav adolescenata prema nastavi, tako da će njihovo sudjelovanje u nastavi tjelesne i zdravstvene kulture biti veće.

### ***Praktične implikacije***

Smatra se da je rezultat ovog istraživanja važan jer je ono prvo istraživanje provedeno s ciljem utvrđivanja prediktivnosti stupnja anksioznosti kod adolescenata kao osobine

ličnosti na nastavi TZK i njihova stava prema nastavi. U odjeljku *Rezultati istraživanja* objašnjeno je da postotak utjecaja stupnja anksioznosti kao osobine ličnosti na nastavi tjelesne i zdravstvene kulture na stav prema nastavi iznosi 22%. Dakle, može se vidjeti da je smanjenje stupnja anksioznosti kao osobine ličnosti kod adolescenata vezano uz nastavu TZK važno da bi oni izgradili pozitivne stavove prema nastavi. Stoga, ako se može postići kontrola anksioznosti, opravdano je smatrati da će se sudjelovanje adolescenata u nastavi TZK povećati.