

# Assessment of State and Trait Anxiety Level of Physical Education and Sports' Students before the Term Final Examinations: Example of Halic University

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**Abstract** The purpose of this study was to evaluation of state and trait anxiety levels of students in Halic University, School of Physical Education and Sports, during final exams according to their age, department and year in school. For this research, 469 students (mean age 21,17 ±2,27) studying in 2014-2015-spring term were chosen randomly. As data collection tools, personal information form and Spielberger's State-Trait Anxiety Inventory which consists of 40 questions; 20 to evaluate state anxiety and 20 for trait was used. Statistical analysis of the obtained data was evaluated by SPSS 20.0 Windows program with Frequency, T-Test and Anova Analysis. As a result of the research; state and trait anxiety of students in Halic University, School of Physical Education and Sports differed in few factors. The both levels were shown differences according to the year of the students studied ( $p < 0.05$ ). Based on years; first, second and third year students have higher state anxiety levels than fourth whereas for trait anxiety fourth year students have the highest level ( $P < 0,05$ ). In conclusion, students who were in graduate situation had more anxiety level than the others.

**Keywords** Anxiety, State, Trait, Physical Education, Sports and Student

## 1. Introduction

The root of the word anxiety is coming from ancient Greek "anxietas", it means worry, fear, curiosity. It is a universal feeling and experience one goes through in certain states of his life. In general meaning, anxiety is defined by the experts as the fear or unsettling feeling one experience in a wake of a threatening event. The reaction one gives against a future unwanted event and an unconfident time expresses future anxiety, instability, chaos, fear, pessimism and hopelessness,

therefore it results in failure (6, 10, 2, 1, 21).

Anxiety is described in "state-trait" model. State anxiety derives from a time when one views or interprets a situation as threatening and dangerous. This situation results in an unsettling, unwanted state. When people view a situation as threatening they feel anxiety. If someone feels anxious in result of a threatening situation that worry is considered normal and temporary. On the contrary, trait anxiety is not directly related to a certain situation, but it reasons from one's own personality. Especially, when the stress is intense, anxiety level is getting high (27). The reactions to a state anxiety is listed as negative feelings such as; excitement, wakefulness, fear, misgiving, confusion, lack of self-confidence. Duration and intensity of the trait anxiety differs depending on personality structure. If someone has a tendency towards being anxious the level of trait anxiety increases. When faced with a situation that is threatening to one's self-confidence, people with higher trait anxiety levels compared to people with lower ones show much more trait anxiety reactions (12, 22, 15).

The anxiety of the exams in school is a feeling of students experience through all their school lives. This feeling brings out situations such as; inability to get ready for an exam, excessive physical reactions because of lack of knowledge on efficient work tips, brain activity unrelated to exam (12, 2). If someone experiences high anxiety, the person is on the edge and tension causes veins to shrink and prevents blood from properly flowing into the cells. Adrenalin that is released under tension and anxiety prevents protein chain needed for learning from established. During tension and anxiety, cells are not able to use up the oxygen they need, therefore are unable to reach their full capacity (1). A student's academic achievements are important for himself, his family or the society he lives in. Unexpected academic failures, dropping out of school, inability of reaching one's potential contrast to his abilities leads preventing the needed

amount and quality of labor force from joining to the society. While teacher candidates are preparing for 'Public Staff Selection Exam' (KPSS), they go through more anxiety than their first year when they reach their last year (17, 5, 14). KPSS is an exam that was first introduced as civil service examination in 1999 and it is set to recruit public staff such as teacher, officer, police, soldier, doctor, engineer etc. As in most public establishment, when the ministry of education assigns the teachers they take this exam as standard (8).

Meanwhile, teacher candidates are trying to finish up" their majors, they also are desperately, anxiously and intensively getting ready to KPSS. This situation puts a very negative pressure on teacher candidates. Especially, teacher candidates who graduated or just about to be graduated have higher level of anxiety. Because KPSS is the final step for candidates to be recruited for the job they have been trained for. Therefore, candidates are under a lot of pressure and suffer from high anxiety (17). The reason why the study was done on this group was to learn how these students in the physical education and sports faculties (as regularly sporting individuals) were concerned about their state and trait concerns during their education. Recent studies have shown that athletes are less concerned about their academic performance while determining anxiety situations in the sportive performance. The purpose of this research was to evaluate state and trait anxiety levels of students in Halic University, School of Physical Education and Sport during the spring term final exams.

## 2. Material and Methods

### 2.1. Research Model

General scanning method was used for this research. Scanning method is an approach to define a past or current event as it is (9). It was planned to evaluate state-trait anxiety levels of students in Halic University, School of Physical Education and Sport. Therefore, the research was descriptive.

### 2.2. Population and Sampling

The population of the research was consisted of Halic University, School of Physical Education and Sports students. 469(400 men and 69 women) students were participated to this study during 2014-2015 spring education term.

### 2.3. Measurement Tools

As data collection tool in this research, personal information form and Spielberger's State-Trait Anxiety

Inventory were used. Spielberger's State-Trait Anxiety Inventory consists of two sub inventories with 20 articles for each; Trait Anxiety Inventory (TAI) and State Anxiety Inventory (SAI). Turkish validity and reliability study was applied by Öner (1997) (20). Correlation Coefficient was 0.34 to 0.72 for the Trait Anxiety Inventory; for the State Anxiety Scale; between 0.42 and 0.85 (Öner and Comte, 1983).

The scoring of inventory; the inventory has straight or reverse statements. Positive feelings, when the said reverse statements were scored the ones scored 1 is changed to 4 and the ones scored 4 is changed to 1. When negative feeling are stated the score valued 4 means the anxiety is high. As for the reverse statements, 4 expresses low, 1 expresses high anxiety. For the total scores obtained from straight statements are reduced from reverse statements' total values and an unchanged amount is added to this number. The value came out of inventory changes between 20-80. High number is for high anxiety level and low is for low level (19).

Personal Information Form contains demographic data that could be related to the study and was determined by researchers.

### 2.4. Statistical Analysis

The data were analyzed with SPSS 20.0 (SPSS Inc., Chicago, IL, USA) program. To evaluate distribution of subjects in the sampling group by personal values, descriptive statistics such as; frequency, percent values, mean values, standard deviation were used. After comparing state-trait anxiety levels if it appears that variables contain more than two groups, One Way Anova was used. As a result of Anova; in the event of having differences between groups, to determine where the differences were coming from one of the multiple comparison tests Tukey HSD was used. Confidence interval was determined as %95 and the values under  $p < 0.05$  were accepted as statistically significant.

## 3. Results

As a result of the study, state and trait anxiety scores of the students were found as  $40,18 \pm 8,32$  for trait anxiety and  $61,19 \pm 11,02$  for state anxiety. And Table 1.shows state-trait anxiety differences of students according to the academic years.

When Table 1 examined, the trait anxiety level of students sorted by years, the fourth year students have statistically significantly higher anxiety level than first and third years students. When state anxiety levels examined fourth year students have statistically significantly less anxiety level than first, second and third years ( $p < 0.05$ ), between the other years there were no significant differences found ( $p > 0.05$ ).

**Table 1.** Differences of State-Trait Anxiety Levels of Students by Their Academic Year.

	Academic Years	Academic Years	Mean ±Std Deviation	P values
Trait Anxiety Levels	1 <sup>st</sup> year	2 <sup>nd</sup> year	-1,17± 0,87	,538
		3 <sup>rd</sup> year	1,61± 1,30	,602
		4 <sup>th</sup> year	-3,45± 1,24	<b>,030*</b>
	2 <sup>nd</sup> year	1 <sup>st</sup> year	1,17± 0,87	,538
		3 <sup>rd</sup> year	2,79± 1,35	,168
		4 <sup>th</sup> year	-2,27± 1,29	,297
	3 <sup>rd</sup> year	1 <sup>st</sup> year	-1,61± 1,30	,602
		2 <sup>nd</sup> year	-2,79± 1,35	,168
		4 <sup>th</sup> year	-5,06± 1,61	<b>,010*</b>
	4 <sup>th</sup> year	1 <sup>st</sup> year	3,45± 1,24	<b>,030*</b>
		2 <sup>nd</sup> year	2,27± 1,29	,297
		3 <sup>rd</sup> year	5,06± 1,61	<b>,010*</b>
State Anxiety Level	1 <sup>st</sup> year	2 <sup>nd</sup> year	1,67± 1,14	,462
		3 <sup>rd</sup> year	-,58± 1,70	,986
		4 <sup>th</sup> year	7,51± 1,63	<b>,000*</b>
	2 <sup>nd</sup> year	1 <sup>st</sup> year	-1,67± 1,14	,462
		3 <sup>rd</sup> year	-2,26± 1,77	,579
		4 <sup>th</sup> year	5,84± 1,69	<b>,004*</b>
	3 <sup>rd</sup> year	1 <sup>st</sup> year	0,58± 1,70	,986
		2 <sup>nd</sup> year	2,26± 1,77	,579
		4 <sup>th</sup> year	8,10± 2,12	<b>,001*</b>
	4 <sup>th</sup> year	1 <sup>st</sup> year	-7,51± 1,63	<b>,000*</b>
		2 <sup>nd</sup> year	-5,84± 1,69	<b>,004*</b>
		3 <sup>rd</sup> year	-8,10± 2,12	<b>,001*</b>

\*p&lt;0.05

Table 2. shows state-trait anxiety differences of students according to their education department. According to the results there were no significant anxiety level differences between students' departments (Table 2).

**Table 2.** Differences of State-Trait Anxiety Levels of Students by Their Departments.

	Department	Department	Mean± Std Deviation	P values
Trait Anxiety Levels	Coaching	Sports Management	-0,30± 0,84	,930
		Recreation	1,77± 1,10	,243
	Sports Management	Coaching	0,30± 0,84	,930
		Recreation	2,08± 1,13	,157
	Recreation	Coaching	-1,77± 1,10	,243
		Sports Management	-2,08± 1,13	,157
State Anxiety Level	Coaching	Sports Management	0,44± 1,11	,916
		Recreation	-2,60± 1,46	,177
	Sports Management	Coaching	-,44± 1,11	,916
		Recreation	-3,05± 1,49	,104
	Recreation	Coaching	2,60± 1,46	,177
		Sports Management	3,05± 1,49	,104

\*p&lt;0.05

Table 3. shows state-trait anxiety differences of students according to their ages. As a result, there was no significant anxiety level differences between students' ages found (Table 3).

**Table 3.** Differences of State-Trait Anxiety Levels of Students by Their Ages.

	Age Ranges	Age Ranges	Mean± Std Deviation	P values
<b>Trait Anxiety Levels</b>	17-19	20-23	-1,55± 0,93	,218
		24+	-1,72± 1,27	,370
	20-23	17-19	1,55± 0,93	,218
		24+	-0,16± 1,11	,988
	24+	17-19	1,72± 1,27	,370
		20-23	0,16± 1,11	,988
<b>State Anxiety Level</b>	17-19	20-23	2,79± 1,23	,063
		24+	1,94± 1,69	,485
	20-23	17-19	-2,79± 1,23	,063
		24+	-0,85± 1,47	,832
	24+	17-19	-1,94± 1,69	,485
		20-23	0,85± 1,47	,832

\*p<0.05

#### 4. Discussion

The aim of the research was to evaluate if the state-trait anxiety levels of students in Halic University, School of Physical Education and Sports had any differences. It was conducted the 4<sup>th</sup> year students were shown higher trait anxiety levels. The reason for this appears to be based on the fear; if they could make it to graduation or not or further to that a newly fear; whether they would be able to land a job or not.

Young people are faced with a society that emphasizes success in academic life and more competitive environment, especially in Turkey. The increase in the importance given to achievement has also raised the need for the evaluation of individuals. From a high school standpoint, it makes it more compulsory for students to enter the university and increases their test anxiety. With the increasing importance given to the university exam; the number of students experiencing anxiety of examination and the need for treatment of this anxiety type. The university exam is considered a 'threat' to the future by the students preparing for the exam, which causes both the cognitive and physiological effects of exam anxiety (Palti, 2012). The greatest anxiety of almost graduated students is to take the examination of KPSS in Turkey after graduation to having a proper job in public places. When KPSS is mentioned, the fact that teacher, coach and manager candidates think of "tiredness, distress and memurlar.net" is a crucial aspect. In order to get ready for KPSS, teacher candidates go into overdrive. Also, the fear and distress of not being able to get assigned considerably wears them out (17). Dinçer and Akdeniz determined that motivation; time management and exam anxiety has a significant effect on academically success of teacher

candidates (12).

Gündoğar and colleagues (7) confirmed in their research that university students who had job expectations had also higher trait anxiety levels. Students with high trait anxiety levels also had less life satisfaction level. Şahin and colleagues (18) pointed out in their research that first year students had higher life satisfaction levels than last year students in the same major. This finding shows that whereas fourth years students had expectations that were not met throughout the years, the first year students have not yet had this kind of disappointment and still carry hopes of having met their expectations. The findings in our research also have been supporting to this evidence.

Kaya and Varol (10) explored in their study on the state-trait anxiety level of the students in faculty of theology was evaluated with regards to their grades, majors, genders, marital status, economics conditions, working conditions and academic standings. Anxiety levels showed great differences in view of majors, genders, marital status, economics conditions and working in a job or not. Students listed "sickness and loss of loved ones" and "being able to find a job or not" as their greatest source of anxiety. According to the results of the study on the students, some demographic factors such as gender have affected the students' anxiety levels (Mcknight and Mcknight, 2012). In the study of the relationship between anxiety and depression of 200 university students studying at different faculties; the anxiety levels of the female students found higher than male students (Lama M and Al-Qaisy, 2011). In a similar study; the relationship between state-trait anxiety and violence was examined in the self-efficacy feelings of students from psychology department. It concluded that the level of anxiety was higher in males than in females, as well as a negative

relationship between state and trait anxiety (Rand and Poornaghi, 2012). In the study of the academic achievement and anxiety levels of first year biology students; it was found that there was a high level of state anxiety rather than trait anxiety (Remedios and Melanio 2013).

In their research on university students who suffer from future anxiety, Şanlı and his colleagues (11) suggested that trait anxiety while gender, faculty/school, parental attitude, monthly income of the family and residence variables and trait anxiety levels have statistically significant differences, in terms of university entrance date and cumulative grade point average there was no statistically significant difference. Yılmaz and et al. (21) in their research focused on determining anxiety levels of university students, they indicated that while socio-demographic features such as; monthly income of the families, gender and whether they were happy with the education, they were getting from their school made up for a significant difference, other socio-demographic features had no result in a significant difference. Mojgan et al., (2011) was determined the relationship between state and trait anxiety with career indecision of university students and relationship was reported positively (31). Also another study showed that the process of learning about global environmental problems had a significant impact on state anxiety levels of students (32). In present study similarly, state anxiety level was higher than trait anxiety level. The reason of this might be the examination of KPSS for career decision end of the graduation year.

The effects of state anxiety levels on university students who take tennis exams measured in a research and it showed that state anxiety had a bad influence on applied tennis exam and this influence was greater on women than men (4). In a research focusing on anxiety and depression levels of a group of university students; female students compared with male students showed to have significantly higher anxiety levels (3). In the research, Pamuk et al., (16) analyzed state-trait anxiety levels of primary school teacher and have propounded that while state-trait anxiety levels of teacher candidates had no significant difference with regards to their marital status and academic success, between female teacher candidates and male teacher candidates had no significant differences. When analyzing open-ended questions they pointed out that teacher candidates were worried about not being able to find a job or assigned, failing at KPSS and expectations of family-community. In our research male student ratio was much greater than female students there have been no gender comparison.

253 candidates who were about to take a special talent exam in order to get in School of Physical Education and Sports examined according to few variables and the results showed that before taking the exam the candidates had average state anxiety level ( $56.86 \pm 7.76$ ). The results also showed that the fact that factors such as; candidates being male and under 19 years of age, it's being their first time taking the exam and them feeling inadequate with their

preparations for the exam leveled up their anxiety (13). In present research, the gender rate differences analyzed but no significant differences found ( $p > 0,05$ ).

Depression and anxiety levels compared considering various factors. Bozkurt (3) noticed significant differences in depression levels of students depending on socio-economic positions of their families, the parental attitude, parents' perception of success, if they were studying the major they want or not, satisfaction level for their major and the reasons they took psychological consultation. He confirmed significant differences in a positive ratio between depression levels and trait anxiety levels of students and a negative one between their age and trait anxiety levels. A similar research was applied to 246 university students and results showed that while socio-demographic features such as; gender, monthly income of their families, their satisfaction or dissatisfaction with the education they were getting from their school caused significant differences, the other socio-demographic features had not result in any differences (21). Vitasari et al., (2010) investigated the relationship between academic performance and anxiety levels of the 205 students from faculty of engineering and the results showed that there was a significant correlation of high level anxiety and low academic performance among engineering students, with significant correlation ( $p = 0.000$ ) and the correlation coefficient is small with  $r = -.264$  (23).

## 5. Conclusions

The participants' general trait and state anxiety levels were examined and trait anxiety level was found as  $40,18 \pm 8,32$  and state anxiety level as  $61,19 \pm 11,02$ . According to the academic year; there was statistically significant difference between 3<sup>rd</sup>, 1<sup>st</sup> year students and 4<sup>th</sup> year students ( $p < 0,05$ ). Particularly, it can be considered that 4<sup>th</sup> year students' anxiety level affected by their career feelings and stress after graduation. Although there is no difference in anxiety levels according to the age factor, it can be thought that because of especially anxiety-enhancing factor emerge when the graduation approaches. There was no statistically significant difference in the level of state and trait anxiety according to the sections of the students (coaching, teaching and sport management) ( $p > 0,05$ ). The fact that there was no difference of the anxiety levels according to the departments may be due to similar education. The results of this study, the future career and the vocational exams such as KPSS, which have an important place in terms of students' future, could be trained to cope with anxiety. Counseling guidance can be provided especially to students in different years.

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