

## **An Analysis on Different Variables of Psychological Symptoms in Accordance with the Sports Activities of University Students**

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**Abstract:** The purpose of this study is to analyze psychological symptoms in accordance with the sports university students play from the aspects of gender and their being disabled or not. Psychological symptom scores of participating university students were obtained through Short Symptoms Inventory (SSI) consisting of 53 items which was developed by Derogatis and adapted into Turkish by Şahin and Durak [16]. Sample of the study consists of 997 randomly and unproportionally chosen university students studying in Atatürk University, Erzurum, Turkey in 2006-2007 educational year. t-test and one way variance (ANOVA) analysis for independent groups were applied for statistical analysis of the data. There was found significant differences considering psychological symptom scores of students in favour of females, disabled and sedentary students. Playing sports has a psychological symptoms diminishing effect in any ways..

**Key words:** University students • Sports • Psychological symptoms • Sedentary

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### **INTRODUCTION**

The term *sport* originated from latin word “disportare” and french word “desport”. In the period it came forward, it bore no direct relation to competition, awards and performances which are the part of the sports now. It meant entertaining, spending good time together, amusement and relieving tensions rather than profession or work. Today, however, despite its still bearing characteristics of a game, children and young people start playing sports with games [1]. With a past of almost six thousand years, sports have been a social fact that always attracts people’s attention. Today it have become a widespread social institution with increasing viewers and participants. Thus, sports have been widely disseminated. 45 million people in USA (which makes nearly 20% or the population) and 4 million people in The Netherlands (that makes nearly 4% or the population) participate sports activities at least three times a week on regular basis. This ratio is about 1-2% in Turkey.

Sports’ relation with human psychology has been an area of concern since 1950’s [1]. Sport is an effective and actual treatment approach for the people who suffer from insomnia, strain and stress. It teaches even how to understand stress and deal with it. In this case any kind

of sports can be suggested as long as one’s health enables. Especially aerobics, stretching, yoga, fitness and respiratory exercises are advisable physical activities for the people who show strain and psychological symptoms. Furthermore water gymnastics and martial arts can also be defined as condition improving and maintaining movements [2]. It has been found about sports that it develops the sense of self-confidence especially for youngsters and prevents them feelings and thoughts of exhaustion and chronic stress, it is also supportive in terms of controlling one’s anxiety and in terms of getting recovered.

Psychological symptoms are observed intensely in the people who do not participate sports and physical activities [3-8]. Psychological symptoms are connected to the physiological and behavioral symptoms caused by anxiety [9]. Psychological symptoms discussed within the scope of this study can be collected under following title:

**Somatization:** It is a state of compulsion pertaining some physical functions. Somatization, consists of recurrent many somatic complaints that continue years long and is proven not to get caused by any specific physical disturbances. Some of its symptoms are fainting, loss of memory, chest pain, agoraphobia, poor appetite,

abdominal pains, nausea, difficulty in breathing, feeling uncomfortably warm or cold, body's going numb and tingling.

**Obsessive-Compulsive Disorder:** Symptoms of this disorder are involuntary, disturbing, unfamiliar to self, repeated thought that cannot get out of mind with conscious endeavors (obsession) to neutralize obsessive thoughts (compulsion).

**Interpersonal Sensitivity:** It consists of some symptoms such as over sensitiveness, believing other people's producing bad ideas about him, inferiority and being afraid of making mistakes.

**Depression:** It consists of some behaviors and symptoms such as grief, pessimism, misery, annoyance, reluctance, desperation, loneliness, negative feelings pertaining self, suicidality, lack of concern instability. There are fatigue, lassitude, tiredness, as well as physical, biological and psychological complaints in case of depression.

**anxiety Disorder:** It is a disturbing feeling emerges when a strong desire or motive is likely not to be achieved. It consist of fear, anxiousness, strain, nervousness, shaking, getting into panic, urination disorders, feeling of as asphyxiation, sweating, breathing excessively.

**Hostility:** It consists of some symptoms like nervousness and wobbliness, blaming others for current predicaments, getting angry, short temper, distrust, beating someone, physical injury, temp of giving damage and compulsion for vandalism.

**Phobic Anxiety:** It is a state of fear connected to an object. It consists of some symptoms and behaviors such as agoraphobia, staying away of the object which is scared off, getting annoyed by crowd and nervousness when left alone.

**Paranoid Thoughts:** An individual's being inclined to exploit thoughts such as distrust, skepticism, jealousy and blaming on others excessively.

**Psychoticism:** It is a state of the mind where getting away of social environment and schizoid life style prevails with distinct schizophrenic delusions. It consists of some symptoms such as thinking other people's controlling his thoughts, feeling alone in crowd and thinking of getting punished for a sin committed [10-15].

**Purpose of The Study:** The purpose of this study is to analyze psychological symptoms in accordance with the sports university students play from the aspects of gender of gender and their being disabled or not.

## **MATERIALS AND METHODS**

**Research Model:** This is a descriptive study in review model aimed to analyze psychological symptoms in accordance with the sports university students play from the aspects of gender and their being disabled or not.

**Population and Sampling:** Population of the study comprises nearly twenty thousand university students studying in Atatürk University, Erzurum Turkey in 2006-2007 educational year. The sample of the study consists of 997 university students chosen randomly and unproportionally out of the population.

**Data Collection:** Psychological symptoms scores of participating university students were obtained through Short Symptoms Inventory (SSI) which was developed by Derogatis and adapted into Turkish by Şahin and Durak [16]. Inventory consists of 53 items with a score range of 0-212. The higher the scores got from the scale, the more frequent the symptoms are. It also consists of ten sub-scales with additional items (somatization, obsessive-compulsive disorder, interpersonal sensitivity, depression, anxiety disorder, hostility, phobic-anxiety, paranoid thoughts, psychoticism and additional items) and three global indexes (annoyance serenity index, total symptom index, symptomatic complaint index). Considering reliability of the inventory, cronbach-alpha internal consistency coefficient is found 0.71 and 0.85 outside of Turkey and between 0.55 and 0.85 in Turkey whereas test-retest reliability is found between 0.68 and 0.01 outside Turkey. Considering validity, criterion validity is found as  $r=0.30$  with Minnesota Multidimensional Personality Inventory (MMPI) outside Turkey. In Turkey, on the other hand, it is found between  $r=0.34$  and  $0.70$  with Beck's Depression Scale. From the aspect of structural validity, it was found that it could make distinction between smokers and nonsmokers, between people with heart disease and people without between schizophrenics with suicibility or not and between the people stress-prone or not in Turkey [17].

**Data Analysis:** SPSS 16.0 packaged software was used for statistical analysis of data. t-test and one way disabledance (ANOVA) for independent group were applied

## RESULTS AND DISCUSSION

Findings and Interpretations Regarding Psychological Symptom Scores of University Students in Accordance With Their Gender:

t value, standard deviation and mean values of psychological symptom scores regarding participating university students' gender are given in Table 1 below:

As is seen in Table 1, there was found significant difference between somatization, obsessive compulsive disorder and anxiety disorder scores of male and female students in favour of female students ( $t_{995}=3.599$ ,  $p=0.000$ ;  $t_{995}=2.208$ ,  $p=0.027$ ;  $t_{995}=3.793$ ,  $p=0.000$ ); whereas it is in favour of male students regarding hostility symptom scores ( $t_{995}=-2.335$ ,  $p=0.020$ ). There was found no significant difference between interpersonal sensitivity, depression, phobic anxiety, paranoid thoughts and psychoticism symptom scores of male and female students ( $t_{995}=1.714$ ,  $p=0.087$ ;  $t_{995}=0.192$ ,  $p=0.848$ ;  $t_{995}=1.771$ ,  $p=0.077$ ;  $t_{995}=1.787$ ,  $p=0.074$ ;  $t_{995}=-1.285$ ,  $p=0.199$ ). As to the general evaluation of the table, it can be asserted that female students' psychological symptom scores are significantly higher than male students' scores. This finding can be explained by females' being more sensitive to negative life events and their being affected more when compared to males in general. Dökmen [18], Stuart and Halverson [19], Alver [20] and Bektaş [21] has revealed that psychological symptoms are observed to be more in females' [18-21].

Findings and Interpretations Regarding Psychological Symptom Scores of University Students in Accordance With Their Physical Abilities:

t value, standard deviation and mean values of psychological symptomss scores regarding participating university students' physical abilities are given in Table 2 below:

As is seen in Table 2, there was found significant difference between somatization, depression, anxiety disorder, phobic anxiety and psychoticism symptom scores of physically handicapped students and others who are not in favour of physically handicapped students ( $t_{995}=3.592$ ,  $p=0.000$ ;  $t_{995}=2.154$ ,  $p=0.031$ ;  $t_{995}=3.333$ ,  $p=0.001$ ;  $t_{995}=2.013$ ,  $p=0.044$ ;  $t_{995}=2.056$ ,  $p=0.040$ ). There was found no significant difference between obsessive compulsive disorder, interpersonal sensitivity, hostility and paranoid thoughts symptom scores of physically handicapped students and others who are not handicapped ( $t_{995}=0.767$ ,  $p=0.443$ ;  $t_{995}=1.450$ ,  $p=0.147$ ;  $t_{995}=0.811$ ,  $p=0.418$ ;  $t_{995}=1.636$ ,  $p=0.102$ ). Considering overall view of table 2, it can be stated that psychological

Table 1: t Value, Standard Deviation And Means Of Psychological Symptom Scores Regarding Pertaining University Students' Gender

Psychological Symptom	Gender	n	$\bar{x}$	sd	t	p
Somatization	Female	473	6.22	5.101	3.599	0.000
	Male	524	5.10	4.733		
Obsessive-Compulsive Disorder	Female	473	8.53	4.365	2.208	0.027
	Male	524	7.90	4.622		
Interpersonal sensitivity	Female	473	4.92	3.418	1.714	0.087
	Male	524	4.56	3.199		
Depression	Female	473	6.72	4.886	0.192	0.848
	Male	524	6.66	4.884		
Anxiety Disorder	Female	473	6.61	4.419	3.793	0.000
	Male	524	5.59	4.118		
Hostility	Female	473	5.78	4.153	-2.335	0.020
	Male	524	6.41	4.290		
Phobic Anxiety	Female	473	3.95	3.291	1.771	0.077
	Male	524	3.59	3.123		
Paranoid Thoughts	Female	473	6.59	3.817	1.787	0.074
	Male	524	6.17	3.607		
Psychoticism	Female	473	5.08	3.433	-1.285	0.199
	Male	524	5.37	3.829		

Table 2: t Value, Standard Deviation And Mean Values of Psychological Symptom Scores Regarding Physical Abilities of University Students

Psychological Symptoms	State of Physical Ability	n	$\bar{x}$	sd	T	p
Somatization	Disabled	52	8.01	6.45	3.592	0.000
	Able-Bodied	945	5.50	4.81		
Obsessive -Compulsive Disorder	Disabled	52	8.67	4.78	0.767	0.443
	Able-Bodied	945	8.17	4.49		
Interpersonal Sensitivity	Disabled	52	5.38	3.70	1.450	0.147
	Able-Bodied	945	4.70	3.28		
Depression	Disabled	52	8.11	5.90	2.154	0.031
	Able-Bodied	945	6.62	4.81		
Anxiety Disorder	Disabled	52	8.00	5.78	3.333	0.001
	Able-Bodied	945	5.97	4.17		
Hostility	Disabled	52	6.57	4.68	0.811	0.418
	Able-Bodied	945	6.08	4.21		
Phobic Anxiety	Disabled	52	4.63	3.99	2.013	0.044
	Able-Bodied	945	3.71	3.15		
Paranoid Thoughts	Disabled	52	7.19	4.58	1.636	0.102
	Able-Bodied	945	6.32	3.65		
Psychoticism	Disabled	52	6.25	4.20	2.056	0.040
	Able-Bodied	945	5.18	3.60		

Table 3: t Value, Standard Deviation And Mean Values of Psychological Symptom Scores of Participating University Students Pertaining Their Participating Sports Or Not

	Sports Activities	Attendance	n	$\bar{x}$	Ss	t	P
Somatization	Playing Sports	451	5.40	4.79	-1.369	0.171	
	Sedentary	546	5.83	5.05			
Obsessive-Compulsive Disorder	Playing sports	451	7.93	4.53	-1.747	0.081	
	Sedentary	546	8.43	4.47			
Interpersonal Sensitivity	Playing sports	451	4.48	3.23	-2.167	0.030	
	Sedentary	546	4.94	3.36			
Depression	Playing sports	451	6.38	4.62	-1.837	0.066	
	Sedentary	546	6.95	5.07			
Anxiety Disorder	Playing sports	451	5.64	3.98	-2.936	0.003	
	Sedentary	546	6.43	4.50			
Hostility	Playing sports	451	6.36	4.20	1.697	0.090	
	Sedentary	546	5.90	4.25			
Phobic Anxiety	Playing sports	451	3.56	3.14	-1.801	0.072	
	Sedentary	546	3.93	3.25			
Paranoid Thoughts	Playing sports	451	6.22	3.58	-1.119	0.263	
	Sedentary	546	6.49	3.81			
Psychoticism	Playing sports	451	5.21	3.42	-0.186	0.853	
	Sedentary	546	5.25	3.82			

symptom scores of physically handicapped students are higher than the able-bodied ones. This might be caused by the problems they confront in social life, psychomotor restrictions and negative thoughts and feelings they've developed for their handicap. Turk *et al.* [22] have revealed that physically handicapped individuals, such as one with fibromyalgia syndrome (FS), are more inclined to developed psychological disorders and especially depression [22].

Findings and Interpretations Regarding Psychological Symptom Scores of University Students Pertaining Their Participating Sports Or Not:

t value, standard deviation and mean values of psychological symptom scores of participating university students pertaining their participating sports or not are given in Table 3 below:

As is seen in Table 3, there was found significant difference between interpersonal sensitivity and anxiety disorder scores of students who play sports and who don't, in favour of students who don't play sports ( $t_{995} = -2.167$ ,  $p=0.030$ ;  $t_{995} = -2.936$ ,  $p=0.003$ ). There was found significant difference between somatization, obsessive compulsive disorder, depression, hostility, phobic anxiety, paranoid thoughts and psychoticism

Table 4: Standard Deviation And Mean Values of Psychological Symptom Scores of University Students Pertaining The Sports Branch They Play

Psychological Symptoms	Guplar			
		n	$\bar{x}$	sd
Somatization	Playing Individual Sports	101	5.48	5.20
	Playing Team Sports	161	5.06	4.59
	Playing More Than One Branch	189	5.64	4.74
	Total	451	5.40	4.79
Obsessive-Compulsive Disorder	Playing Individual Sports	101	8.16	4.38
	Playing Team Sports	161	7.91	4.51
	Playing More Than One Branch	189	7.81	4.65
	Total	451	7.93	4.53
Interpersonal Sensitivity	Playing Individual Sports	101	4.52	3.08
	Playing Team Sports	161	4.34	3.18
	Playing More Than One Branch	189	4.58	3.35
	Total	451	4.48	3.23
Depression	Playing Individual Sports	101	5.92	4.75
	Playing Team Sports	161	6.08	4.19
	Playing More Than One Branch	189	6.89	4.86
	Total	451	6.38	4.62
Anxiety Disorder	Playing Individual Sports	101	5.48	3.78
	Playing Team Sports	161	5.68	4.07
	Playing More Than One Branch	189	5.68	4.02
	Total	451	5.64	3.98
Hostility	Playing Individual Sports	101	5.88	3.84
	Playing Team Sports	161	6.07	4.16
	Playing More Than One Branch	189	6.86	4.39
	Total	451	6.36	4.20
Phobic Anxiety	Playing Individual Sports	101	3.40	2.95
	Playing Team Sports	161	3.45	3.39
	Playing More Than One Branch	189	3.73	3.02
	Total	451	3.56	3.14
Paranoid Thoughts	Playing Individual Sports	101	6.56	3.51
	Playing Team Sports	161	5.98	3.62
	Playing More Than One Branch	189	6.25	3.58
	Total	451	6.22	3.58
Psychoticism	Playing Individual Sports	101	4.69	3.44
	Playing Team Sports	161	5.22	3.54
	Playing More Than One Branch	189	5.48	3.30
	Total	451	5.21	3.42

symptom scores of students who play sports those who don't ( $t_{995} = -1.369$ ,  $p=0.171$ ;  $t_{995} = -1.747$ ,  $p=0.081$ ;  $t_{995} = -1.837$ ,  $p=0.066$ ;  $t_{995} = 1.697$ ,  $p=0.090$ ;  $t_{995} = -1.801$ ,  $p=0.072$ ;  $t_{995} = -1.119$ ,  $p=0.263$ ;  $t_{995} = -0.186$ ,  $p=0.853$ ). Viewing the table in general, it can be asserted that psychological symptom scores of students who don't play sports are higher than the scores of the students

Table 5: One Way Disabledance Analysis (ANOVA) Applied In Order To Determine Significance of The Difference Between Psychological Symptom Scores of Students Regarding The Sport Branch They Play

Psychological Symptom	Source of Variance	Sum of Squares	sd	Mean of Squares	F	p
Somatization	Inter-groups	30.504	2	15.252	0.662	0.516
	In-groups	10317.855	448	23.031		
	Total	10348.359	450			
Obsessive-Compulsive Disorder	Inter-groups	8.262	2	4.131	0.200	0.819
	In-groups	9258.607	448	20.667		
	Total	9266.869	450			
Interpersonal Sensitivity	Inter-groups	5.164	2	2.582	0.247	0.782
	In-groups	4691.519	448	10.472		
	Total	4696.683	450			
Depression	Inter-groups	85.669	2	42.834	2.015	0.134
	In-groups	9521.200	448	21.253		
	Total	9606.869	450			
Anxiety Disorder	Inter-groups	3.155	2	1.577	0.099	0.906
	In-groups	7132.654	448	15.921		
	Total	7135.809	450			
Hostility	Inter-groups	84.991	2	42.495	2.416	0.090
	In-groups	7879.373	448	17.588		
	Total	7964.364	450			
Phobic Anxiety	Inter-groups	9.833	2	4.916	0.497	0.609
	In-groups	4429.117	448	9.886		
	Total	4438.949	450			
Paranoid Thoughts	Inter-groups	21.405	2	10.702	0.832	0.436
	In-groups	5760.072	448	12.857		
	Total	5781.477	450			
Psychoticism	Inter-groups	40.970	2	20.485	1.750	0.175
	In-groups	5243.167	448	11.703		
	Total	5284.137	450			

who play sports except for hostility and psychoticism symptom scores. This finding can be explained through sports' having positive effect on individuals' physical and mental health state and there are certain research reports confirming it in literature [23-26].

Findings and Interpretations Regarding Psychological Symptom Scores of University Students in Accordance With The Sports Branch They Play:

Standard deviation and mean values of psychological symptomss scores of participating university students pertaining the sports branch they play are given in Table 4 below:

The results of one way disabledance analysis (ANOVA) applied in order to determine significance of the difference between psychological symptom scores of students regarding the sport branch they play are shown in Table 5 below.

As is seen in Table 5, there was found significant difference between psychological symptoms scores of students and the sports branch they play ( $F = 0.662$ ,  $p = .516$ ;  $F = 0.200$ ,  $p = .819$ ;  $F = 0.247$ ,  $p = .782$ ;  $F = 2.015$ ,  $p = .134$ ;  $F = 0.099$ ,  $p = .906$ ;  $F = 2.416$ ,  $p = .090$ ;  $F = 0.497$ ,  $p = .609$ ;  $F = 0.837$ ,  $p = .436$ ;  $F = 1.750$ ,  $p = .175$ ). However, according to t-test applied before psychological symptoms scores of students who don't play sports were found higher. Considering this finding, it can be affirmed that the people who play individual and team sports or more than one sports will have lower psychological symptom score than the one who don't play any sports. Also, it has a psychological symptom diminishing effect to play sports in any ways. Filare *et al.* [27] have reached a finding that team sports have positive effect on psychology and psycho-social aspects of an individual out of the study they conducted [27].

## CONCLUSION AND RECOMMENDATIONS

There was found significant difference between somatization, obsessive compulsive disorder and anxiety disorder scores of male and female university students in favour of female students, whereas it is in favour of male students regarding hostility symptom scores. There was found no significant difference between interpersonal sensitivity, depression, phobic anxiety, paranoid thoughts and psychoticism symptoms scores of male and female students. As to the general evaluation of the table, it can be asserted that female students' psychological symptoms scores are significantly higher than male students' scores.

There was found significant difference between somatization, depression, anxiety disorder, phobic anxiety and psychoticism symptoms scores of physically handicapped students and others who are not in favour of physically handicapped students. There was found no significant difference between obsessive compulsive disorder, interpersonal sensitivity, hostility and paranoid thoughts scores of physically handicapped students and others who are not handicapped. Considering overall view of, it can be stated that psychological symptoms scores of physically handicapped students are higher than the non-handicapped ones.

As is seen in Table 3, there was found significant difference between interpersonal sensitivity and anxiety disorder scores of students who play sports and who don't, in favour of students who don't play sports. There was found significant difference between somatization, obsessive compulsive disorder, depression, hostility,

phobic anxiety, paranoid thoughts and psychoticism symptoms scores of students who play sports those who don't. Viewing the table in general, it can be asserted that psychological symptoms scores of students who don't play sports are higher than the scores of the students who play sports except for hostility and psychoticism symptoms scores.

There was found significant difference between psychological symptoms scores of students and the sports branch they play. However, according to t-test applied before psychological symptoms scores of students who don't play sports were found higher. Considering this finding, it can be affirmed that the people who play single and team sports or more than one sports will have lower psychological symptoms score than the one who don't play any sports.

#### Recommendations:

- Psychological symptoms observed by many studies intensely in females can be analyzed by further researches and thus the reasons for these symptoms to come forward can be scrutinized deeply.
- An appropriate environment can be arranged for physically handicapped people to play sports, thus they would be protected from undesired psychological symptoms.
- Considering sports' positive effect on mental health of individuals regardless of the branch played, young people should be motivated to play sports.

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