

# Comparison of depression levels of elite wrestling and taekwondo athletes

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## Abstract

The aim of this study was to compare depression levels of elite wrestling and taekwondo athletes. To the study, 130 elite wrestlers and 130 elite taekwondo athletes who were now competing in the league between Universities. "Beck Depression Inventory" was used as a tool for collecting data. According to the scale consists of 21 questions used to determine the severity of the depressive symptoms, the reliability and validity coefficient values was found to be 86. The statistical analysis of the data, the frequency distribution analysis and "Independent t test" was applied. As a result of test depression levels of elite wrestling and taekwondo athletes, the difference between groups was found to be statistically significant ( $p < 0.05$ ). In conclusion, elite wrestler were defined more depressive than elite taekwondo athletes, so both of branches needed to be psychiatric examination according to possibility situation of the inventory.

**Keywords:** Depression, taekwondo, wrestling.

## INTRODUCTION

Although the positive effects of sport and physical exercise on physical and mental health are known, it should be noted that intensive trainings have also some negative effects. Especially feeling disorders encountered in young athletes has entered among the topics of interest to researchers for many years (1).

The adequacy of the athlete's motivation affects physiological and psychological state of the athlete in the competition environment. This situation is putting motivation among the factors affecting performance. In addition, depression, anxiety and some neurotic conditions affect performance negatively. According to scientists, athletes' performance and achievement levels depend on genetic structure and regular training in addition to control on thinking, feeling and mental processes in line with mind-body interaction (6).

Autonomy, competence and intercommunication, which are known as the basic psychological needs, allow individuals to show their efforts, work in full capacity and increase their well-being. Individuals become fully functional when they meet these needs; however, mental disorders may occur and their performance drops down when they cannot fulfill their needs. It is necessary to meet

these needs in order to maintain the physiological and psychological balance in the nature of human beings. Therefore, individuals feel gratification, satisfaction and motivation, when they receive their basic needs; however, they feel pain and sorrow when they fail to meet their basic needs and they can further experience depression in the following period (4).

Depression is a syndrome that includes some symptoms such as slowness in thoughts, speeches and movements; feelings of worthlessness, pettiness, weakness and reluctance in addition to slowness in physiological functions. Depression is a normal reaction to stressful situations faced in the life. In the topic of depression, there are many symptoms that affect physical and psychological functions of individuals. Some incidences that may cause people to be depressed can be listed as follows; failure suffered at work or school life, loss of a loved one or understanding that resources are being consumed by sicknesses or being elder (5).

In taekwondo, the body of the athlete is in constant motion. While consuming power to demonstrate taekwondo techniques at the highest level, organs and joints experience some difficulties. While performing these techniques, patience is needed in the Technical physiological, psychological

and biomechanical accumulation of the athlete. The contribution of taekwondo to the character of the athlete in addition to development of fighting techniques is very important (2).

Sporting success is a result of the physical technical and psychological gratification feeling. These features are more important in wrestling. The history of wrestling dates back to the existence of mankind and necessity of wrestling technique is better understood. Researchers have proven that wrestling helps developing motor skills. In addition to this contribution, wrestling develops also some mental characteristics such as self-confidence, courage and humility. In some other sport branches, physical structure of the body is a factor limiting the success. Although this is different in wrestling, a smart wrestler can use his short or long height as an advantage. An Italian proverb seems to describe the wrestling as "Training can take the place of many drugs, but there is no drug that can be used as a substitute for training" (3). Based on this information, it was aimed to compare depression levels of elite wrestling and taekwondo athletes.

## MATERIAL & METHOD

In the study, 130 elite wrestlers and 130 elite taekwondo athletes, who were now competing in the league between Universities, were included randomly. Data collection was conducted during inter-university category competitions organized by University Sports Federation in the 2011-2012 academic year.

In the study, "Beck Depression Inventory" is used as data collection tool. According to the scale consists of 21 questions used to determine the severity of the depressive symptoms, the reliability and validity coefficient values was found to be 86. In the study, total scores given by students to the scale were received and evaluations were conducted based on these points. Evaluation of total scores based on "Beck Depression Inventory" is given as follows:

- **0-9 points:** Depressive symptoms at minimal level
- **10-16 points:** Depressive symptoms at mild level
- **17-29 points:** Depressive symptoms at moderate level
- **30-63 points:** Depressive symptoms at severe level

According to the scores obtained from this scale, the possibility of depression is as follows:

- **10 points and below:** There is a possibility of a diagnosis of depression by psychiatric examination but very unlikely.
- **11-16 points:** There is a possibility of a diagnosis of depression by psychiatric examination
- **17 points and above:** The possibility of a diagnosis of depression is 80% while the possibility of receiving 16 points and below by a person with depression is 30%, respectively.
- **24 points and above:** The possibility of a diagnosis of depression is very high.

Kolmogorov-Smirnov test were applied on the data obtained in the study and it has been determined that the data is distributed normally. In the statistical analysis of the data, the frequency distribution analysis and "Independent t test" was applied by using the SPSS 18 program (Statistical Package for Social Sciences).

## RESULTS

As seen in Table 1, 43.8% (n=57) of the taekwondo athletes are women and 56.2% (n=73) of them men; 41.5% (n=54) of the wrestlers are women and 58.5% (n=76) of them are men, respectively. Accordingly, 42.7% (n=111) of the athletes included in the study are women whereas 57.3% (n=149) of them are men.

Table 1. Distribution of athletes by their sports branches and genders.

Gender	Taekwondo	Wrestling	Total
Female	57 (43.8 %)	54 (41.5%)	111 (42.7 %)
Male	73 (56.2 %)	76 (58.5%)	149 (57.3 %)
Total	130 (100%)	130 (100%)	260 (100%)

Table 2. Comparison of average total depression scores of the athletes by their genders.

Gender	Taekwondo		Wrestling		t	p
	n	Mean	n	Mean		
Female	57	17.85	54	31.33	-6.1	0.000
Male	73	17.90	76	27.77	-4.7	0.000
Total	130		130			

Considering Table 2, when we compare average scores of total depression of female taekwondo and female wrestling athletes with each

other, significant difference was found between these two group of students ( $p < 0.05$ ). In addition, when we compare average scores of total depression of male taekwondo and male wrestling athletes with each other, significant difference was found between these two group of students ( $p < 0.05$ ). Considering these differences, it has been determined that both male and female wrestlers are more depressive compared to both male and female taekwondo athletes.

Table 3. Comparison of total depression scores of the athletes.

Gender	n	Mean	SD	t	p
Taekwondo	130	17.88	11.6	-7.2	0.000
Wrestling	130	29.25	12.7		

Considering the data given in Table 3, according to Beck Depression Inventory based on total depression scores of the athletes, the average scores of taekwondo athletes ( $X=17.88$ ) are considered as "Depressive Symptoms At Moderate Level", whereas the average scores of wrestling athletes ( $X=29.25$ ) are considered as "Depressive Symptoms At Severe Level", respectively. According to these evaluation criteria, it has been determined that "The Possibility Of A Diagnosis Of Depression In Taekwondo Athletes Is By Psychiatric Examination 80%" while "The Possibility Of A Diagnosis Of Depression In Wrestling Athletes Is Quite High".

When we compared total average scores of responses given by taekwondo and wrestling athletes in response to Beck Depression Inventory with each other, statically significant difference were found between their depression levels ( $p < 0.05$ ). In our study, it has been determined that elite wrestling athletes are more depressed compared to elite taekwondo athletes.

## DISCUSSION

In this study, which aimed to compare the depression level of elite wrestling and taekwondo athletes, elite wrestling athletes are found to be more depressed compared to elite taekwondo athletes ( $p < 0.05$ ).

According to a study conducted by Özbekçi (13) to determine the level of anxiety in sports, it has been found that track and field athletes experience the stress of competition more intense compared to volleyball and basketball athletes. This study, which

reveals the difference between different branches, is consistent with our study.

In the study of Civan et al. (7), in which the levels of continuous anxiety and slowness before and after individual and team sports competitions were aimed to be compared, significant difference was found depending on the variable of sports branch. Their data are consistent with our results.

In our study, when we compared athletes by same genders but different branches with each other, we have found significant difference in both groups ( $p < 0.05$ ); however, no significant difference was found female and male athletes without taking their branches into consideration ( $p > 0.05$ ).

Baştuğ et al. (5) have aimed to determine the depression levels of male cross athletes before and after competition at the university and they have found significant differences between depression levels of the athletes before and after competition. In their study, significant difference was found between male and female students and depression levels of both groups were found to be high prior to the competition. This study is not consistent with our results.

According to the study of Arslan et al. (2), in which it has been aimed to compare depression states of male-female students whether engaged in sports or not, no significant difference was found between female students engaged in sports and female students didn't engage in sports; however, depression scores of female students didn't engage in sports are found to be higher. Significant difference was found between male students engaged in sports and male students didn't engage in sports. In general, depression levels of female students were found to be higher than depression levels of male students. Results of this study are consistent with our findings.

Friedrich (9) has determined that men receive lower scores compared to women from Beck Depression Inventory and women are more prone to depression. This result is in line with our research.

Ören & Gençdoğan (12) have determined depression scores of high school students. According to the comparison of these scores, significant difference was found between boys and girls. Conclusions of their study are not consistent with our results.

In the study of Hammond et al. (10), depression levels of elite athletes were found to be normal;

however, this level rises based on failure in competitions.

In the study of Kontos et al. (11), in which sports-related depression levels were determined, depression levels are found to be high. This may be caused by traumatic events experienced by athletes during their sports lives.

In the study of Covassin et al. (8), in which he effect of age and gender on sports-related depression levels was investigated, they have determined that depression is at normal levels, but there are some differences between depression levels depending on gender and age differences. Findings of their study support our results.

As a result of this study, it has been determined that elite wrestling athletes are more depressed compared to elite taekwondo athletes. Considering the total depression score averages by branches, the average scores of taekwondo athletes are considered as "depressive symptoms at moderate level", whereas the average scores of wrestling athletes are considered as "depressive symptoms at severe level", respectively. According to these evaluation criteria, it has been determined that "the possibility of a diagnosis of depression in taekwondo athletes is by psychiatric examination 80%" while "the possibility of a diagnosis of depression in wrestling athletes is quite high".

Ensuring success and performance of individuals in many individual sports as well as these sports branches vary depending on physiological and psychological state of the athlete. It is certainly known that factors affecting physiological balance and psychological state of the athlete cause depression. Players in team sports are less affected by these factors than players in individual sports. In individual sports, first, all factors that can push athlete into depression must be minimized in order to keep a high level of performance. However, since factors causing depression can be multi-directional, it is important for future studies to investigate the causes why players of individual sports branches are depressed and minimize the most important causes in order to keep the performance of athlete at a high level.

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