

## INVESTIGATION OF THE EFFECT OF WRESTLING TRAINING ON DEPRESSION LEVELS OF CHILDREN BETWEEN THE AGES OF 11-14 <sup>1</sup>

### 11-14 YAŞ ARASI ÇOCUKLARDA GÜREŞ EĞİTİMİNİN DEPRESYON DÜZEYİNE ETKİSİNİN İNCELENMESİ

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**Öz:** Bu araştırmanın amacı, 8 hafta süre ile düzenli olarak uygulanan güreş eğitiminin, çocukların depresyon düzeyleri üzerinde etkisinin olup olmadığının araştırılmasıdır. Araştırma grubu, Ankara Sincan Ahi Evran Ortaokulu ile Eryaman Cumhuriyet Ortaokulu'nda öğrenim gören 11-14 yaş aralığındaki 210 öğrenciden oluşmaktadır. Araştırma ön test – son test kontrol gruplu deneme modelinde desenlenmiştir. Araştırmada veri toplama aracı olarak “Çocuklar İçin Depresyon Ölçeği” (Kovacs, 1981) kullanılmıştır. Uygulama grubu öğrencilerine 8 hafta boyunca, haftada 3 gün 2 saatlik düzenli olarak güreş eğitimi verilmiştir. Verilerin istatistikinde SPSS 15.0 paket programından yararlanılmış, karşılaştırmalarda Wilcoxon ve Mann-Whitney U testlerine başvurulmuştur. Bu araştırma, 0.05 anlamlılık düzeyinde test edilmiştir. Araştırmaya uygulama grubu olarak katılan öğrencilerin ön test – son test depresyon puan ortalamalarının karşılaştırılmasında, istatistiksel olarak anlamlı bir farklılık olduğu tespit edilmiştir ( $p<0,05$ ). Bu bağlamda, düzenli olarak katılım gösterilen güreş eğitiminin, çocukların depresyon düzeyleri üzerinde olumlu bir etkiye sahip olduğu söylenebilir.

**Anahtar Kelimeler:** Spor, Güreş, Çocuk, Depresyon, Eğitim

**Abstract:** The aim of this research was to investigate whether wrestling training for 8 weeks has an effect on depression levels of children or not. The research group was constituted of 210 students in the range of 11-14 years old who take education in Ankara Sincan Ahi Evran Secondary School with Eryaman Cumhuriyet Secondary School. The research was designed as a test-module with pretest-posttest control group. In the research, “Depression Scale for Children” (Kovacs, 1981) was used as data collecting tools. Regular wrestling training was given to the students in application group for 2 hour 3 days a week throughout 8 weeks. For statistical analysis of the data, SPSS 15.0 software program was used whereas Wilcoxon and Mann-Whitney U tests were applied for comparisons. This research was tested for 0.05 significance levels. It was determined that there was a significant difference in terms of statistics when averages of pre-test and post-test grades of students participated in the research as application group ( $p<0.05$ ). In this regard, it can be concluded that wrestling training with regular participation will have a positive effect on depression levels of children.

**Key Words:** Sports, Wrestling, Child, Depression, Education

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## INTRODUCTION

Nowadays, it is considered that many mental disorders in adults might be originated from several negativities experienced in childhood. The feelings, ideas or situations which are lived in childhood and are not overcome, give stress and annoy the individual might cause various mental disorders particularly depression. It was determined by the researches that depressive situations might be seen due to various reasons in children and this resulted in displaying negative behaviours by children (Erdoğan, 2012). Depression in children, as this is the case in adults, is a mental disorder which affects development and performance and if it is not treated, might cause serious results (Arslan et al., 2011). These depressive situations affect the school life of children negatively and weakens their social relations (Yorgancı, 2006).

For growing healthy generations, the mental structure of children should be good and this goodness should be protected (Bayraktar, 2011). For this reason, the mental disorders in children who will be the adults of the future should be considered as early as primary school level (İlhan and Gencer, 2010) and these depressive signs should be certainly treated in order for the children to survive a healthy life in terms of spirit, body and mental. Sports is one of the most effective methods that might support this treatment (Arslan et al., 2011).

Sports is an important social relation tool that meets the need of being a member of a group for children. Threatening sense of belonging leads to negative emotional effects such as anxiety, aggression, loneliness, low self respect as well as depression (Medora et al., 1987; Asher and Paquette, 2003; Twenge et al., 2003). Sports and physical activities have positive effect on self-respect, concern, behavioural problems and depression of children (Ekeland et al., 2005; Karakaya, et al., 2006; İkizler, 2002). It was indicated in the researches that physical activities and sports decreased depression or the symptoms of depression tendency (Yarımkaya et al., 2015; Durstine et al., 2009), provided improvement in social relationships (Mülâyim, 2014; Arslanoglu et al., 2013; Can et al., 2014) and supported self-confidence development (Yarımkaya et al., 2014; Solish et al., 2010).

Wrestling education, which was considered as an independent variable in the research, is an easy and enjoyable branch of sports in addition to its property of being among the most liked sports branches for children and youth with its psychological, social, physical and pedagogic esteems. In most of the countries all over the world, wrestling has been an irrevocable factor of basic education in schools and clubs (Gökdemir, 2000). From this point of view, the effect of wrestling education on the depression levels of children between 11-14 years old in terms of added values for children is the main subject of



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our research. In this regard, the purpose of this research was to investigate whether the wrestling education had any effects on the depression levels of children or not.

## METHOD

In this section, there are titles related with the design of the research group, data collecting tool and analysis of the data.

### Research Design

The research was designed as test model with pre-test post-test control group. In this model which is one of the three test models having the highest scientific value, more than one group is used and the groups are formed via unbiased assessment approach. Within this approach, two groups are formed as application and control groups (Karasar, 2014). An independent variable is applied to one of these groups (application group) and it is accepted that it is caused by independent variable if post-test grades are higher than pre-test grades (Ekici, 2008). Within the scope of the research, independent variable applied to application group was “Wrestling Education Program”.

### Research Group

The research was carried out in 2013-2014 education year. 210 students (application group n: 105, control group n: 105) who were getting education in Ankara Sincan Ahi Evran Secondary School and Eryaman Cumhuriyet Secondary

School between 11-14 years old were selected by random sampling method and participated in the research. The results of data collecting tool applied to students (Depression Scale for Children) were evaluated and application as well as control groups were formed consisting of 105 children in each via unbiased assessment method. The criteria for the determination of application and control groups was to form two groups having the closest properties and being equal in number.

### Data Collecting Tools

“Depression Scale for Children (DSC)” was used as a data collecting tool in this research. “Depression Scale for Children” was developed by Kovacs (1981) and is a self-report measure that can be applied to children between 6-17 years old. In the scale consisting of 27 items, there are three different choices for each item. For example; 1. I occasionally feel sad. 2. I often feel sad. 3. I always feel sad. Each item takes 0, 1 and 2 points according to the influence of the indication. Higher the taken points, harder becomes the depression. Critical point was suggested as 19. The validity and reliability studies were carried out in our country and pathological critical point was determined as 19 (Oy, 1991). For test retest reliability of the scale, it was applied to a group of 380 students every other week and r was found as 0.80. For the validity of the scale, interviews related with depression were performed with 59 students and Childhood Depression Rating Scale was applied. As a result, sensitivity of



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the scale was 60.00% (n=6), its specificity was 95.92% (n=47), its false negative rate was found as 40.00% (n=4), its false positive rate was 4.08% (n=2) and its intrinsic accuracy rate was determined as 89.83% (n=5). For these children it was found that there was a relationship of  $r=0.61$  between the grades of Depression Scale for Children and Childhood Depression Rating Scale (Savaşır & Şahin, 1997). Within the scope of this research, Cronbach Alpha internal consistency coefficient was found as 0.80 among performed reliability analysis.

### **Wrestling Education Program**

For the application group, an education program based on warm-up, exercises and technical studies specific to wrestling sports, sportive games as well as stretching and cooling exercises in 3 days a week for two hours a day. The program was prepared according to the opinions and approvals of three different academicians who were specialists in Physical Education and Sports as well as Child Development. Wrestling education program was applied by 3rd degree wrestling coaches. The program was continued for 8 weeks. The education was carried out in indoor sports halls of schools.

In wrestling education program, as a detailed content, information about description of wrestling sports and its history was given to application group that was getting wrestling education at the stage of information and then wrestling materials

were introduced. Before education program, warm-up exercises (running, arm and waist circling, etc.) were applied to the application group for 15 minutes. In order for students to learn the rolls (forward roll, backward roll, somersault, hoop, walk over, arm stand, picked roll) which are warm-up exercises for students in wrestling sports and to use them during warm-up, these actions were presented to them practically. These actions were done by students with the support of equipments when they had difficulty in doing.

Basic stance positions which are beginner level in wrestling were displayed for students and they were desired to determine and apply whichever was appropriate for themselves. Holding positions in wrestling sports were displayed, the students were desired to apply them and styles of holding were displayed with examples practically in order for them to comprehend better and let them to make holdings by help. During wrestling education, the students were let for 15 minutes to apply stretching actions (arm, wrist, leg, neck, hand, waist) better.

### **Process**

In the first stage of this research, the required permissions were taken from the families of children, Ankara Provincial Directorate for National Education and the management of the school where the research would be carried out. In the second stage, the families were informed



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about the aim and content of the research and the research group (application group n: 105 and control group n: 105) was determined by the researcher. In the third stage, pre-test was applied to the research group. In the fourth stage, wrestling activities were performed with application group for 8 weeks including 3 days a week re-

sulting in totally 24 sessions. In this period, control group did not participate in any of these activities. In the fifth stage, post-test was applied to the research group after 8-week sports activities program. The period of process is given in table 1.

**Table 1. Period of Process**

Group	Pre-test	Wrestling Training (8 weeks)	Post-test
Application	Depression scale was applied	Wrestling activities were applied	Depression scale was applied
Control	Depression scale was applied	Participants did not attend in any of physical activities	Depression scale was applied

### Analysis of Data

For the evaluation of the data and for finding the calculated values, SPSS 15.0 statistical software program was used. The data were summarized by giving percentage and frequency tables. Whether the data indicated normal distribution or not was tested by One-Sample Kolmogorov-Smirnov test and it was determined that the data did not indicate normal distribution. Since the

data did not indicate normal distribution, Wilcoxon and Mann-Whitney U tests at the non-parametric level were used for the determination of difference between groups. The level of error was taken as 0.05 in this research.

### FINDINGS

In this section, the findings obtained as a result of statistical operations carried out with the data of this research are given.

**Table 2. Comparison of Pre-test Depression Grade Averages of Students in Application Group**

Variable	Group	N	Mean rank	Sum of rank	Sd	U	p
Pre-test	Application	105	100.95	10599.50	208	5034.50	0.277
	Control	105	110.05	11555.50			



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Before wrestling education program, it was indicated that there was no significant difference between groups when depression pre-test grade

averages of application and control groups were compared ( $U=5034.50$ ,  $p>0.05$ ).

**Table 3. Comparison of Post-Test Depression Grade Averages of Students in Application Group**

Variable	Group	N	Mean rank	Sum of rank	Sd	U	p
Post-test	Application	105	96,80	10163.50			
	Control	105	114.20	11991.50	208	4598.5	0.038*

\*( $p<0.05$ )

After application of wrestling education program, a significant difference was determined between

groups when depression post-test grade averages of application and control groups were compared ( $U=4598.50$ ,  $p<0.05$ ).

**Table 4. Comparison of Pre-Test and Post-Test Depression Grade Averages of Students in Application Group**

Group	Post-Test-Pre- Test	N	Mean rank	Sum of rank	Z	p
Application	Negative rank	48	42.47	2038.50		
	Positive rank	31	36.18	1121.50	2.277	0.023*
	Equal	26	-	-		

\*( $p<0.05$ )

When pre-test and post-test depression grade averages of application group were compared, it

was determined that there was a significant difference between pre-test and post-test values of application group ( $Z=2.277$ ,  $p<0.05$ ).

**Table 5. Comparison of Pre-Test and Post-Test Depression Grade Averages of Students in Control Group**

Group	Post-Test-Pre- Test	N	Mean rank	Sum of rank	Z	p
Control	Negative rank	31	42.76	1325.50		
	Positive rank	44	34.65	1524.50	0.534	0.593
	Equal	30	-	-		



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When pre-test and post-test depression grade averages of control group were compared, it was determined that a significant difference was not found between pre-test and post-test values of control group ( $Z=0.534$ ,  $p>0.05$ ).

## RESULTS and DISCUSSION

In this research which was carried out to investigate the effect of wrestling education on depression levels of children between 11-14 years old, 210 male students (application group n: 105 and control group n: 105) getting education in Ankara Sincan Ahi Evran Secondary School and Eryaman Cumhuriyet Secondary School participated. In the light of these findings; before wrestling education program, it was indicated that there was no significant difference between groups ( $U=5034.50$ ,  $p>0,05$ ) when depression pre-test grade averages of application and control groups were compared. Pre-test values of both application and control groups showed similarity (Table 2).

After application of wrestling education program, a significant difference was determined between groups when depression post-test grade averages of application and control groups were compared ( $U=4598.50$ ,  $p<0.05$ ). It was observed that the significant difference between post-test values of application and control groups was in favour of application group (Table 3). It was considered in terms of depression level after wrestling education program that this significant

difference observed between application and control groups which was in favour of application group was resulted from regularly applied wrestling education. The studies in literature indicated that exercise can be used directly and complementarily for the treatment of depression, exercise was a support to take depression under control and to prevent it as well as exercise was as effective as meditation for the treatment of depression (Biddle and Mutrie, 2001; Lawlor and Hapkor, 2001; McAuley et al., 2003; Dunn et al., 2005).

When pre-test and post-test depression grade averages of application group were compared, it was determined that there was a significant difference between pre-test and post-test values of application group ( $Z=2.277$ ,  $p<0.05$ ). In this comparison, post-test depression grades were decreased more significantly than pre-test depression grades (Table 4). The contribution of wrestling education for this result was presented as a result of our findings. Contrary to this, when pre-test and post-test depression grade averages of control group were compared, it was determined that a significant difference was not found between pre-test and post-test values of control group who did not participate in any activities during wrestling education ( $Z=0.534$ ,  $p>0.05$ ) (Table 5).

In the study of Arslan et al., (2011), it was stated that depression levels of primary school students doing exercises were lower than those of students not doing exercises. It was determined by Akan-



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dere and Serdengeçti (2003) that a significant difference was found in favour of university students doing exercises when depression levels of university students doing and not doing exercises were compared. In the study of Koruç and Bayar (2004), it was stated that exercise might have an effect on disorders such as depression and anxiety as well as negative emotions and moods occurred as a result of depression can be eased and changed as liveable by means of exercise. In the study of Şenduran (2008), it was expressed that the students doing exercises were more in compliance with themselves and with their environment than those who were not doing exercises, were loved by their environment and they were at peace with themselves.

Karadağ (2008) presented in his study performed with the students staying at orphanage that the children dealing with sports had a decreased rate of using harmful substances, they had improved life quality and their depression grades were lower than those who were not dealing with sports. It was determined by Tekin et al., (2009) that physical exercises done in spare time was an important variable in decreasing the depression level of university students. These researches indicated that sports positively affect depression level of children and this result is in accordance with the findings of this research related with “wrestling education positively affected depression levels. Consequently, in this research which was carried out to investigate whether wrestling

education had an effect on depression levels of children or not, it was determined that 8-week wrestling education program performed with application group students (n:105) resulted in a significant effect on depression levels of children. In this regard, it can be concluded that wrestling education has a positive effect on depression levels of children.

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