



INVESTIGATION OF THE EFFECT OF SPORTIVE ACTIVITIES ON DEPRESSION LEVELS OF CHILDREN BETWEEN 13-17 YEARS OLD

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Abstract

The aim of this study was to investigate whether application of regular sportive activities for 12 weeks has an effect on depression levels of children or not. Moreover, depression level of the research group was also examined in terms of age and branch of sports. The research group was constituted of 80 students including 40 students as application group who live in Yozgat Children's Shelter in city center of Yozgat as well as 40 students from Yozgat Cumhuriyet Secondary School and Yozgat Industrial Vocational High School (control group). The research was figured as test model with pre-test and post-test control groups. Regular sports education was given to the students in application group for 2 hour 3 days a week throughout 12 weeks. Before and after 12-week period, Children Depression Scale (Beck, 1979) was applied to both application and control groups. For statistical analysis of the data, SPSS 15.0 software program was used whereas Independent and Paired samples t test together with One-way anova test were applied for comparisons. This study was tested for 0.05 and 0.01 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 ($p < 0.05$). As a result, it was indicated in this research which was aimed to investigate depression levels of children between 13 and 17 years old that sports activities done by application group resulted in significant difference in depression levels of children. In this regard, it can be concluded that sports positively affected depression levels of children between 13 and 17 years old.

Keywords: Sports, Children, Depression.

INTRODUCTION

Many behaviours or situations that are faced with in our daily lives, are not liked and cause stress might result in depression which can primarily be regarded as a response of the body. Depression is generally a syndrome including symptoms such as slowing, stagnation, unwillingness in speaking and motions, weakness, self-depreciation and decrease in physiological functions during a feeling or a situation occurred within the effect of sadness and trouble (Ozturk, 1988). Depression is a normal reaction against stressful situations faced in life. Generally, negations in education or working lives, failures, bereavement, diseases or elderliness might be indicated as situations causing depression (Atkinson et al., 1990).

The distinct properties in depression can be summarized as loneliness, sadness, unwillingness, futility, occurred as well as self-denigration feeling, social isolation and autism, disturbed sleep, loss of weight, reduction in sexual intercourse, physical power loss, wish to die and commit suicide (Beck et al., 1979). Pessimistic line of vision occurs against world as a result of depression, social relations break down, low self-respect occurs, moreover the person develops guilt feelings within him/herself and as a result many-sided symptoms such as learned helplessness reveals (Brendt & Brendt, 1980). In depression, common and most frequently situation is woe some and unhappy mood (Köknel, 2000).

Depressed moods might be observed in children due to various reasons and this situation results in negative behaviour exhibition of children. These depressed situations affect the school lives of children negatively and weaken their social relationships (Yorganci, 2006). It is certainly necessary to treat these depressed symptoms for children in order to maintain a healthy life spiritually, mentally and physically in their future lives. Sports are one of the most effective methods that will support this treatment (Arslan, Güllü, & Tural, 2011).

Nowadays, it is a known fact that sports activities not only have contributions to enhance the quality of life but also have remedial effects on depression (Dowall et al., 1988). Sports cannot be considered as separated from communal living (Ilhan & Gencer, 2010). Increase in leisure time with developing economical conditions has contributed to the improvement of the place of sports in daily life by combining with the health concerns of individuals. Sports is done for the aim of performance as well as has started to be done for healthy life and enhancement of life quality (Koruç & Bayar, 2004).

Sports activities encourage children and the young ones to study all together. By this means, improvement of social relationships is enhanced while gaining of cooperation, social skills and leadership properties is provided. Aggressive behaviours of people are prevented by the development of their social aspects, they learn how to respect themselves and others and the opportunity to grow individuals having high self-confidence can be taken (Tamer, 1988). Moreover, socializing environment provided by sports can realize emerging of profitless relationships between people and cohesion between people (Keten, 1974).

Participation in exercise is also known with its benefits for the mental health of individuals (Aracı, 2006; Karakaya, Coşkun, & Ağaoğlu, 2006). It is also a known fact that exercise, in addition to its contributions to the physical conditions of people, has benefits in prevention of stress, prevention of mental and somatic disorders resulting from stress and even in treating them (Celikkol, 2007). The studies performed indicated that sports decreased anti-social trends and it has also therapy aspects (Ilhan & Gencer, 2010: 139). Sports activities enable people keeping away from stress, to feel themselves happy and joyful. While sports activities enable people to be more self-confident (Yarım kaya, Akandere, & Baştuğ, 2014); more assertive and extroverted (Tepeköylü, Soytürk, & Çamlıyer, 2009), they also contribute to a decrease in the depression levels of individuals (İkizler, 2002; Arslan, Güllü, & Tural, 2011; Ekeland, Heian, & Hagen, 2005). In this regard, the aim of this study was to investigate whether sports education applied regularly has an effect on the depression levels of children or not.

METHOD

The research which was performed in order to investigate the effect of sports education on the depression levels of children was designed in testing model with pre-test post-test control group. While 40 male students participated in the research as application group, another 40 male students participated as control group. A training program was applied to the students in application group for 3 days (Monday, Wednesday, Friday) a week throughout 12 weeks as 2 hours in the branches of wrestling, athleticism, volleyball and gymnastics. Any activities were not done in the control group within this period. The opinions of 3 different academicians who are expert in Physical Education and Sports as well as Mental Health of Children and Teenagers were taken for sports application program. Before and after 12-week period, Child Depression Scale (Beck, 1979) was applied to both application and control groups (n:80). For this research, the required permissions were taken from Yozgat Directorate of Orphanage, Yozgat Provincial Directorate for National Education and from the school managements where this application would be performed.

Working Group

In the research, 40 students between 13-17 years old from Yozgat Orphanage in the city centre participated as an application group while 40 students between 13-17 years old from Yozgat Cumhuriyet Secondary School and Yozgat Industrial Vocational High School participated as control group. During determination of application group constituting of male students, 40 male students between 13-17 years old who have not done exercises regularly before were selected by drawing lots via random sampling in the cooperation of vice-principals of Yozgat Orphanages. During determination of control group students, 40 male students between 13-17 years old who have not done exercises regularly before were selected by drawing lots via random sampling in the cooperation of vice-principals of Yozgat Cumhuriyet Secondary School and Yozgat Industrial Vocational High School. Volunteering of students for the participation in the study was based on.

Data Collecting Tools

In the research, Beck Depression Inventory (Beck, 1979) was used as data collecting tool. Beck Depression Inventory (Beck, 1979) which was developed by Dr. Aaron T. Beck is a tool with 21 multiple-choice questions used to measure the intensity of depression. Beck Depression Inventory with its current situation is applied to individuals 13 years old and above. In addition to sensual symptoms such as hopelessness, delinquency, physical symptoms such as tiredness and loss of weight were also investigated with the questions in the inventory. There are 21 questions in Beck Depression Inventory, in every question the lowest grade is 0 and the highest grade is 3. Total grades of all answers are evaluated as follows:

Grades between 0 - 9: Depressed symptoms at minimal level

Grades between 10 - 16: Mild depressed symptoms

Grades between 17 - 29: Depressed symptoms at moderate level

Grades between 30 - 63: Depressed symptoms at severe level

Sports Application Program

A training program was applied to the students in application group for 3 days (Monday, Wednesday, Friday) a week throughout 12 weeks as 2 hours in the branches of wrestling, athleticism, volleyball and gymnastics. The content of the program consisted of warm-up, technical-tactical actions special to the branches, sports games, entertaining athleticism and stretching. For sports application program, the opinions of 3 different academicians who are expert in Physical Education and Sports as well as Mental Health of Children and Teenagers were taken for sports application program. The program of the research was applied within the hours determined except Physical Education and Sports lecture in Orphanage and Bozok gym in Yozgat city centre. The sports application program applied to the application group is described in detail as follows:

Wrestling

10 students between 13-17 years old from Yozgat Orphanage participated voluntarily in the research. An 12-week training program was applied to the application group. The content of the training program consisted of 2 hours a day and 3 days a week. The program of study was planned as 10% warm-up, 20% wrestling, 20% technical-tactical actions, 40% sports games and 10% stretching.

Athleticism

10 students between 13-17 years old from Yozgat Orphanage participated voluntarily in the research. An 12-week training program was applied to the application group. The content of the training program consisted of 2 hours a day and 3 days a week. The program of study was planned as 10% warm-up, 20% athleticism, 20% technical-tactical actions, 40% entertaining athleticism and 10% stretching.

Volleyball

10 students between 13-17 years old from Yozgat Orphanage participated voluntarily in the research. An 12-week training program was applied to the application group. The content of the training program consisted of 2 hours a day and 3 days a week. The program of study was planned as 10% warm-up, 20% volleyball, 20% technical-tactical actions, 40% sports games and 10% stretching.

Gymnastics

10 students between 13-17 years old from Yozgat Orphanage participated voluntarily in the research. An 12-week training program was applied to the application group. The content of the training program consisted of 2 hours a day and 3 days a week. The program of study was planned as 10% warm-up, 20% gymnastics, 20% technical-tactical actions, 40% sports games and 10% stretching.

Analysis of the data

For the evaluation of the data and finding the calculated data, SPSS 15.0 statistical software program was used. Whether the data indicated normal distribution or not was tested with One-Sample Kolmogorov-Smirnov test and it was determined that the data indicated normal distribution. Since the data indicated normal distribution, Independent and Paired Samples t tests as well as One-Way Anova test were used for the determination of the difference between groups. In this study, significance level was tested at the levels of 0.05 and 0.01.

FINDINGS

Table 1: Comparison of pre-test depression grade averages of students in application and control groups

Variable	Group	N	X	S	Sd	t	p
Depression	Application	40	16.38	6.624			
Pre-Test	Control	40	10.55	4.956	78	4.453	0.000*

*($p < 0.01$)

When Table 1 is investigated, the depression grade averages of application and control groups before sports education were found as 16.38 ± 6.624 and 10.55 ± 4.956 , respectively. It was observed that there is a significant difference between groups in terms of pre-test depression levels ($p < 0.01$). The significant difference between pre-test depression grades of students in application and control groups can be described with staying of students in application group in orphanage.

Table 2: Comparison of post-test depression grade averages of students in application and control groups

Variable	Group	N	X	S	Sd	t	p
Depression	Application	40	13.00	5.787			
Post-Test	Control	40	10.38	5.011	78	2.169	0.033*

*($p < 0.05$)

When Table 2 is investigated, the depression grade averages of application and control groups after sports education were found as 13.00 ± 5.787 and 10.38 ± 5.011 , respectively. It was observed that there is a significant difference between groups in terms of post-test depression levels ($p < 0.05$). Although depression grade averages of students in application group considerably decreased after sports education, depression grade averages of students in control group were still at positive level. This situation can be described with staying of students in application group in orphanage.

Table 3: Comparison of pre-test post-test depression grade averages of students in application and control groups

Variables	N	X	S	Sd	t	p
Application group Pre-Test	40	16.38	6.624			
Application group Post-Test	40	13.00	5.787	39	2.975	0.005*
Control group Pre-Test	40	10.55	4.956			
Control group Post-Test	40	10.38	5.011	39	1.554	0.128

*($p < 0.01$)

When Table 3 is investigated, pre-test and post-test grade averages of application group were found as 16.38 ± 6.624 and 13.00 ± 5.787 , respectively according to pre-test post-test depression grade averages of application and control groups. When depression levels of application group were compared before and after program, it was observed that there was a significant difference ($p < 0.01$). Pre-test grade average of control

group was found as 10.55 ± 4.956 and its post-test grade average was found as 10.38 ± 5.011 . When depression levels of control group were compared before and after program, it was observed that there wasn't a significant difference ($p > 0.05$).

Table 4: Comparison of depression levels of students participated in the research as application and control groups in terms of age variable

Age	N	X	S
13-14	28	12.36	7.319
15-16	24	15.08	5.492
17	28	13.18	6.406
Total	80	13.46	6.510

Variation Source	Sum of squares	Sd	Mean of squares	F	p
Between groups	99.518	2	49.759		
In-groups	3248.369	77	42.187	1.180	0.313
Total	3347.888	79			

When Table 4 is investigated, it was observed that there wasn't a significant difference between depression grades of students (80) participated in the research according to statistical evaluation taking age groups into consideration ($p > 0.05$).

Table 5: Comparison of depression levels of students participated in the research as application group in terms of sports branch variable

Age	N	X	S
Wrestling	10	18.70	7.150
Athleticism	10	19.20	6.713
Volleyball	10	12.70	5.539
Gymnastics	10	14.90	5.567
Total	40	16.38	6.624

Variation Source	Sum of squares	Sd	Mean of squares	F	p
Between groups	290.675	3	96.892		
In-groups	1420.700	36	39.464	2.455	0.079
Total	1711.375	39			

When Table 5 is investigated, it was observed that there wasn't a significant difference between depression grades of students (80) participated in the research according to statistical evaluation taking sports branches into consideration ($p > 0.05$).

DISCUSSION AND CONCLUSION

Totally 80 male students including 40 ones as application and 40 ones as control group participated in this study which was carried out in order to investigate the effect of sports education on their depression levels. When Table 1 was investigated, the depression grade averages of application and control groups before sports education were found as 16.38 ± 6.624 and 10.55 ± 4.956 , respectively. It was observed that there was a significant difference between groups in terms of pre-test depression levels ($p < 0.01$). This significant difference between pre-test depression grades of students in application and control groups can be described with staying of students in application group in orphanage. In the study of Akandere and Serdengeçti (2003), it was determined that there was a significant difference between depression levels of university students doing and not doing sports and the students doing sports had lower depression levels than those not doing sports.

When Table 2 was investigated, the depression grade averages of application and control groups after sports education were found as 13.00 ± 5.787 and 10.38 ± 5.011 , respectively. It was observed that there was a

significant difference between groups in terms of post-test depression levels ($p < 0.05$). Although depression grade averages of students in application group considerably decreased after sports education, depression grade averages of students in control group were still at positive level. This situation can be described with staying of students in application group in orphanage. The studies performed indicated that exercise can be used both as directly and supplementary in the treatment of depression, exercise is a support for prevention and taking depression under control and it might be as effective as meditation for the treatment of depression (Biddle & Mutrie, 2001; King et al., 2000; Lawlor, 2001; McAuley et al., 2003; Dunn, 2005).

When Table 3 is investigated, pre-test and post-test grade averages of application group were found as 16.38 ± 6.624 and 13.00 ± 5.787 , respectively according to pre-test post-test depression grade averages of application and control groups. When depression levels of application group were compared before and after program, it was observed that there was a significant difference ($p < 0.01$). Pre-test grade average of control group was found as 10.55 ± 4.956 and its post-test grade average was found as 10.38 ± 5.011 . When depression levels of control group were compared before and after program, it was observed that there wasn't a significant difference ($p > 0.05$).

In the study of Karadağ (2008) related with students staying at orphanage, it was revealed that the depression levels of students doing sports were lower than those not doing sports in addition to the findings related with decrease in usage of harmful substances and improvement in the quality of their lives. Koruç and Bayar (2004) suggested in their study that exercise might have an effect on mood disorders such as depression and anxiety, negative moods and situations resulting from depression might be eased by exercise and optimized to be liveable. Tekin, Amman, & Tekin (2009) found that physical exercise done in leisure time was an important variable in decreasing the depression levels of university students.

In the study of Senduran (2008), it was indicated that the students doing exercise regularly were more in coherence with themselves and their circle than those who were not doing exercises, they had peace of mind and they were loved by their circle. Knapen et al., (2005) revealed that movement therapy provided not only gaining of positive self-respect and self-esteem but also decreasing of depression and anxiety. Camacho, Roberts and Lazarus (1991) who were carried out a longitudinal study suggested at the end of 9-year study that the individuals doing sports had less risk of depression than those not doing sports.

When Table 4 was investigated, it was observed that there wasn't a significant difference between age and depression grades of students (80) participated in the research according to statistical comparison of depression grade averages by taking age groups into consideration ($p > 0.05$). While Arslan, Güllü, & Tural (2011) investigated depression levels of students doing and not doing sports in terms of age variable and a significant difference was not found between students being 11-12 years old, a significant difference was found between students being 13-14 years old in terms of their depression levels.

When Table 5 was investigated, it was observed that there wasn't a significant difference between depression grades and sports branches according to the statistical comparison of depression grade averages of application group (n: 40) participated in the research ($p > 0.05$). In the study of Arslan, Güllü, & Tural (2011) depression levels of primary school students were investigated in terms of sports branch variable and a significant difference was also not found between depression levels of students doing and not doing sports in accordance with our study. In a tracking study of Sexton, Meare, & Dahl (1989) it was reported that any of the sports branches did not have an advantage over another one in the subject of depression however they decreased depression.

The researches performed indicated that sports or physical activity have an effect on depression and mental health and can be used as a treatment method in depressed cases and this also supports our findings. The students dealing with sports can be qualified as individuals who feel relaxed physically, mentally and psychically, have lower anxiety and concern levels, are self-confident and have positive sense of self than students not doing sports. Consequently, it was found in the study which was performed in order to investigate depression levels of individuals between 13-17 years old that sports activities applied to the application group



resulted in a significant difference in the depression levels of children. In this regard, it can be concluded that sports positively affected depression levels of children between 13-17 years old.

Following suggestions can be presented according to these results;

Sports activities should be started in the early childhood.

Sports culture should be gained to students at every stage of the education.

It should be remembered that regular sports activities will be beneficial for students having depressive symptoms. Before starting to sports activities, psychological and mental situations of participants should be taken into consideration. In the following process, the researchers investigating the effect of sports on depression can select application groups among students doing sports and control groups among individuals dealing with various hobbies such as music, art and others.

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