

A Study and Comparison of the Effect of Team Sports and Individual Sports on Depression among Graduate Level Tribal Students

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Abstract

The present research study compares the effect of participating in team sports (soccer and volleyball) and individual sports (athletics and weight lifting) on depression among graduate level tribal students. 100 students with depression (ranging from borderline to severe) were chosen using Beck Depression Inventory and were randomly divided into five homogeneous groups (soccer, volleyball, athletics, weight lifting and a control group). The four experimental groups participated in sports activity for eight weeks, three sessions per week and each session lasting for 1 hour and 30 minutes and subjects in the control group were prevented from performing any regular sports activity. At the end of eighth weeks, they took the depression test for the second time. After collecting the data and analyzing them using correlated and independent t-tests and one-way ANOVA, the results showed that sports activity reduced depression among subjects (at the significance level of $\alpha=0.05$) and that the effect of team sports (soccer and volleyball) on reducing depression is greater than the effect of individual sports (athletics and weight lifting).

KEYWORDS: Depression, Individual Sports, Team Sports.

INTRODUCTION

Physical education is a phenomenon that all the people in the society, especially the younger generation, need it and can benefit from its valuable rewards. Now if this phenomenon is integrated with a series of scientific ideas, concepts and achievements, it will certainly have a greater effect (Azadehfar A., 2008).

Psychopathy and in particular, depression, is a phenomenon that accompanies industrialization in societies. As countries move away from the traditional to being developed and industrialized, contagious and infectious diseases give way to psychological disorders and cardiovascular diseases (which are again affected by psychological disorders). These diseases afflict lots of individuals, especially in the current conditions of society, and deprive them of opportunities which is irremediable (Azadehfar A., 2008)

Depression is a disorder that is very much prevalent in most societies, in particular among students, and can totally deprive them of golden opportunities for progress, career and a promising future. The necessity to train students who insure the future of a society calls for our attempt to treat or decrease their emotional and psychological disorders. One of the methods that can influence the depression of students is participating in sports activities; for sports activities have a special place among students and several studies have compared depression level in athletes and those who participate in sports activities in comparison with non-athlete groups.

Although there have been research studies regarding the relationship between sports and depression, tangible assessment of the effect of sports on depression requires more work and there are always many questions in this regard: can a specific sports activity affect

depression? Do various physical activities have similar effects on depression or are the effects different? Physical education and sports are of the necessities of contemporary life. Moreover, it is a knowledge whose roots can be found in different sciences and it benefits from various forms of knowledge. It is therefore essential for all professions and specialties in the area of physical education to become aware of various aspects and the extraordinary value of physical education and to realize its role in the changing society (Ramezani F., 2007).

Depression is one of the temperament problems and is becoming more prevalent day by day. Thus, considering its negative effects on the spirit and psyche of individuals which may even go so far as to make them “commit suicide”, the necessity to reduce depression level of people is evident. Many methods have been introduced and applied by psychologists and researchers for dealing with this problem. Physical education and sports activities are of methods that have been applied much more since 1980. However, its effectiveness has to be proven through many research studies carried out among different populations. Thus, the purpose of this research is a relative elevation of the practical aspect of studies carried out in this area and is important in that by conducting two types of sports, i.e. team sports (soccer and volleyball) and individual sports (athletics and weight ,lifting)and by taking into account a control group, this research will to some extent clarify the effects of these activities on depression level; so if the effect of these activities on depression of the graduate level tribal students there may be studies in a broader range of student populations and in other regions, which will add to the value of sports in the society and the field of physical education will be given more attention.

The research will reveal whether or not there is a difference in the effects of these four sports on high school students who are at the critical point of choosing their future career and destiny. Coaches, psychologists and parents can, with more awareness, guide students to participate in a specific team or individual sport and the significance of sports as an inexpensive and cherished method will attract more attention

Research Methodology: The research method is semi-empirical with a pre-test-posttest design and with a control group. After performing the pretest, each of the four 20-subject groups participated in sports activities (soccer, volleyball, athletics and weight lifting) for eight weeks, three sessions per week and each session lasting for one hour and thirty minutes. 20 subjects in each of the experimental groups (soccer, volleyball, athletics and weight lifting) participated in the activities and during this period, the control group was prevented from performing any kind of sports. After eight weeks, all the five groups (four experimental groups and a control group) were again tested using Beck Depression Inventory.

Statistical Sample and Sampling Method: Sampling was of stratified random type; Beck Depression Inventory as well as personal specifications questionnaire was distributed among the tribal students selected from the different colleges under Vidyasagar University and after analyzing the data obtained from questionnaires, 100 individuals who had depression (from borderline depression to severe depression) and according to their written statements had no special diseases and no record of continuous and regular exercise were chosen and randomly divided into five groups of 20 subjects; 20 subjects in the first experimental group (soccer), 20 in the second experimental group (volleyball), 20 in the third (athletics), 20 in the fourth (weight lifting) and 20 in the control group. The depression level of samples in all groups ranged from borderline

depression to severe depression and the scholar ensured homogeneity between the mean depression scores of the five groups.

Material: The measurement tool in the present research is Beck Depression Inventory (Azadehfar A., 2006). This test contains 21 questions which altogether assess 21 aspects of depression. Statistical Methods: In this research, one-way ANOVA has been applied to compare the means of the five groups and correlated and independent t-tests have been used to compare the results of pre and posttest. Moreover, descriptive analysis has been used to obtain core indices (mean, median and mode), index of dispersion and standard deviation.

Results: The purpose of this research was to analyze and compare the effects of team sports (soccer and volleyball) and individual sports (athletics and weight lifting) on the depression of the students. In the present research, the researcher aimed to achieve the following objectives: 1-Determining depression level of graduate level tribal students before and after participating in an eight-week sports activity 2- Comparing the depression level of these students before and after participating in team sports (soccer and volleyball) for eight weeks 3- Comparing the depression level of these students before and after participating in individual sports (athletics and weight lifting) for eight weeks 4- Comparing the effects of team sports and individual sports with one another. The research method is semi-empirical with a pre-test-posttest design and with a control group. Subjects could obtain a score from 0 to 3 for each aspect of depression. In each part of this test, choices were ordered in a way that if the subject marks choice 1, their score will be zero for that aspect, choice 2 had the score of 1, choice three has the score of 2 and choice 4 has the score of 3. After finishing the training session, subjects took the posttest. The statistical methods applied include one-way ANOVA and independent and correlated t-tests. The results are as follows:

1. Team sports (soccer and volleyball) have no significant effect on the depression level of high school students

Table 1

Distribution of Indices of Depression Level in the Pre Test and the Post Test for Tribal Students in Team Sports (Soccer and Volleyball)

Index (Level)	No.	Mean	SD	DOF	Obtained t	P
Pretest	40	21.42	5.83	39	8.78	0.000
Posttest	40	13.67	4.56			

* Significance level: $P < 0.05$

As seen in table 1, considering the mean scores of the pre-test and the posttest for team sports and by comparing the obtained t value and the value of t in the table (with 95%CI and $P < 0.05$), it can be inferred that the depression level of students significantly changed after eight weeks of participation in team sports (soccer and volleyball); these changes signify reduction and they are statistically significant. The table value of t is less than the calculated value of t ($2.021 < 8.78$, $p < 0.05$, $DOF = 39$).

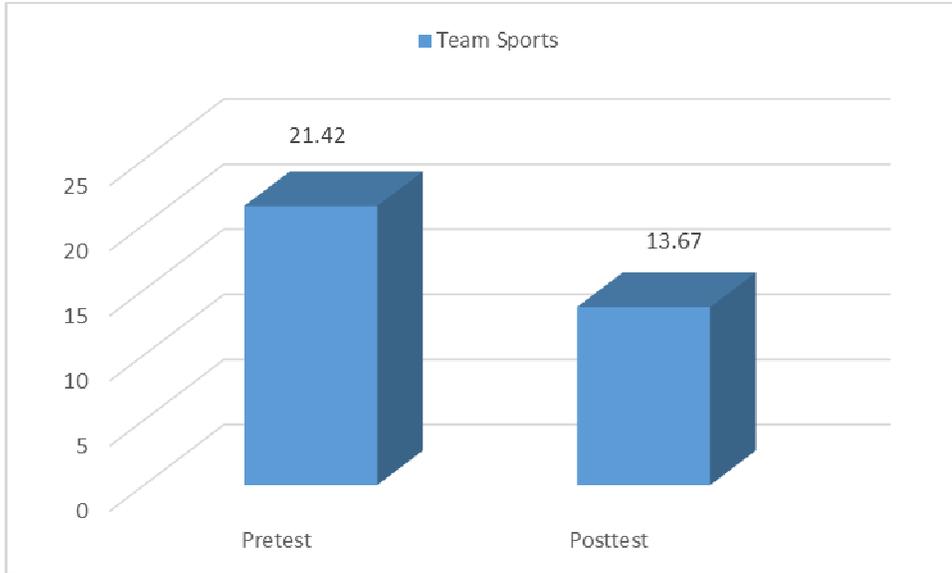


Chart 1: Comparing the mean depression scores of the pretest and the posttest for team sports group.

2. Individual sports (Athletics and Weight lifting) have no significant effect on depression level of graduate level tribal students.

Table 2

Distribution of Indices of Depression Level in the Pre Test and the Post Test for Tribal Students Participating in Individual Sports (Athletics and Weight lifting)

Index (Level)	No.	Mean	SD	DOF	Obtained t	P
Pre test	40	21.26	6.465	39	8.364	0.000
Post test	40	14.45	4.822			

* Significance level: $P < 0.05$

As seen in table 2, considering the mean scores of the pretest and the posttest for individual sports and by comparing the obtained t value and the value of t in the table (with 95%CI and $P < 0.05$), it is inferred that the depression level of students significantly changed after eight weeks of participation in individual sports (table Athletics and Weight lifting); these changes signify reduction in depression and they are statistically significant. The table value of t is less than the calculated value of t ($2.021 < 8.364$, $p < 0.05$, $DOF = 39$).

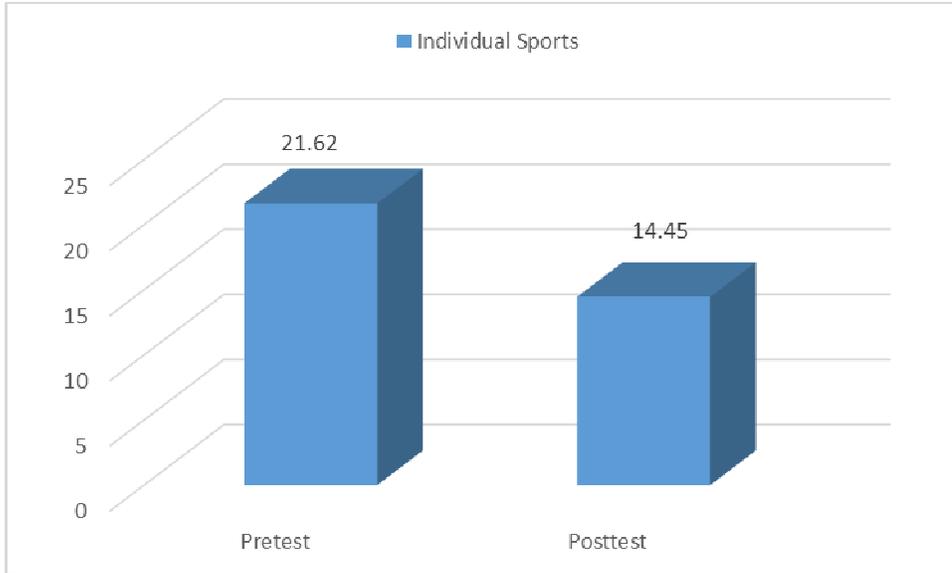


Chart 2: Comparing the mean depression scores of the pretest and the posttest for individual sports group.

In order to control the effect of other variables on the tests, to see whether or not other variables influence depression level, and to support test results it was necessary to give pre-test and posttest to a number of students without assigning them to perform any sports activities; thus, the scholar also analyzed depression level of the control group.

Table3

Distribution of Statistical Indices of Correlated t-test between the Mean Score of Pre-Test and Post Test for the Control Group

Index (Level)	No.	Mean	SD	DOF	Obtained t	P
Pre test	20	20.5	5.74	19	1.78	0.109
Post test	20	18.7	5.81			

* Significance level: $P < 0.05$

As seen in table 3, mean scores of the pre-test and the posttest for the control group is 20.5 and 18.7 respectively. Although the scores have changed, considering findings about the calculated value of t and by comparing it to the value of t in the table (with $p < 0.05$, $DOF = 19$), it can be inferred that the difference between the two mean scores is not significant; the calculated value of t is 1.78 which is less than the table value of t which is 2.093, signifying that the difference is not significant, i.e. no other variable has affected the reduction of depression level in the subjects of this group.

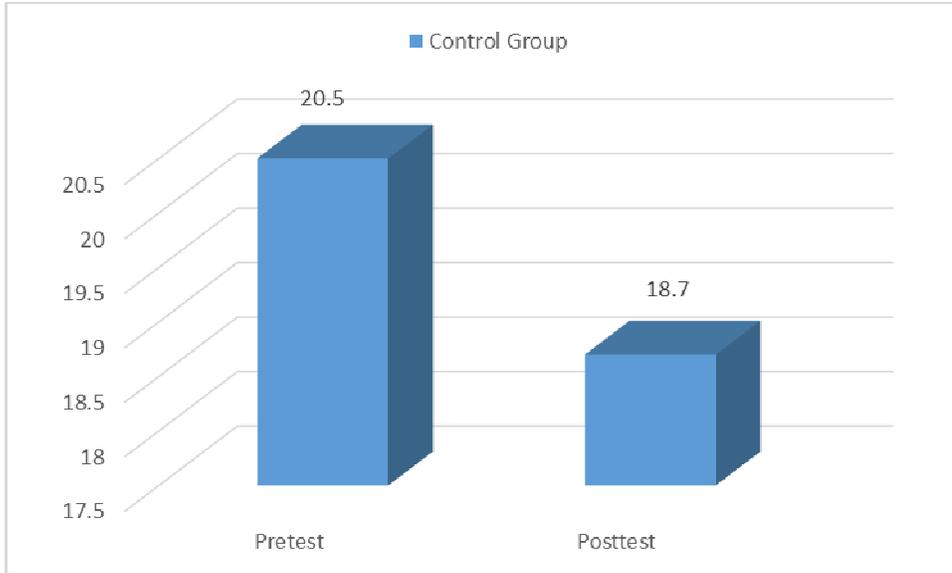


Chart 3: Comparing the mean depression scores of the pretest and the posttest for the control group.

2. There is no significant difference between the depression level of the experimental groups and the control

Table: 4
Distribution of Indices of the Correlated t-test for the Third Hypotheses

Index (Level)	No.	Mean	SD	DOF	Obtained t	P
Post test of the control group	80	18.86	5.75	79	8.71	0.000
Post test of the Experimental groups	80	13.42	4.8	79		

* Significance level: $P < 0.05$

As seen in table 4, mean score of the posttest of the control group and the experimental group differ; since the calculated value of t is more than the table value of t (with 95%CI and $P < 0.05$), it is inferred that the depression level of individuals has changed after participation in eight weeks of sports activity and this change is marked by reduction in the depression level. The table value of t is less than the calculated value of t ($1.98 < 8.71$, $\alpha = 0.05$, $DOF = 79$).

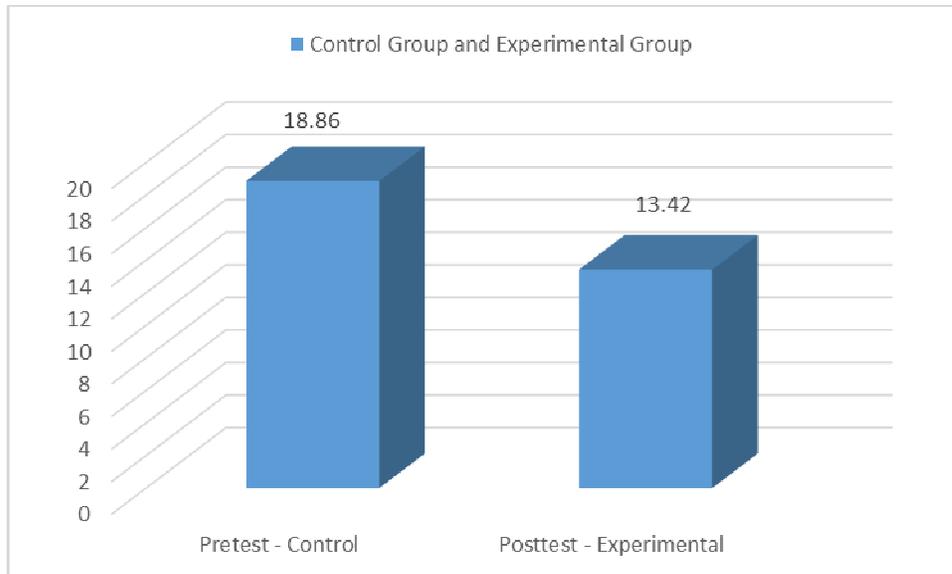


Chart 4: Comparing mean depression scores of the control group and the experimental groups in the post test level.

4. There is no significant difference between the effect of team sports and the effect of individual sports on depression

Table 5

Distribution of Indices of the t-test for the Amount of Change in the Depression Level of Team Sports Group and the Individual Sports Group

Index (Level)	No.	Mean	SD	DOF	Obtained t	P
Post test of the control group	40	7.15	5.31	79	3.19	0.002
Post test of the Experimental groups	40	5.35	3.72	79		

* Significance level: $P < 0.05$

As seen in table 5, mean decrease of depression level in the team sports group differs from that of the individual sports group; considering the calculated value of t and the table value of t (with 95%CI and $P < 0.05$), it can be inferred that there is a significant difference between the effect of team sports and individual sports on depression level and statistically, the effect of team sports on depression level is greater than the effect of individual sports; this effect signifies more reduction of depression level in team sports in comparison with individual sports and it is statistically significant. The table value of t is less than the calculated value of t ($2.021 < 3.19$, $\alpha = 0.05$, $DOF = 39$).

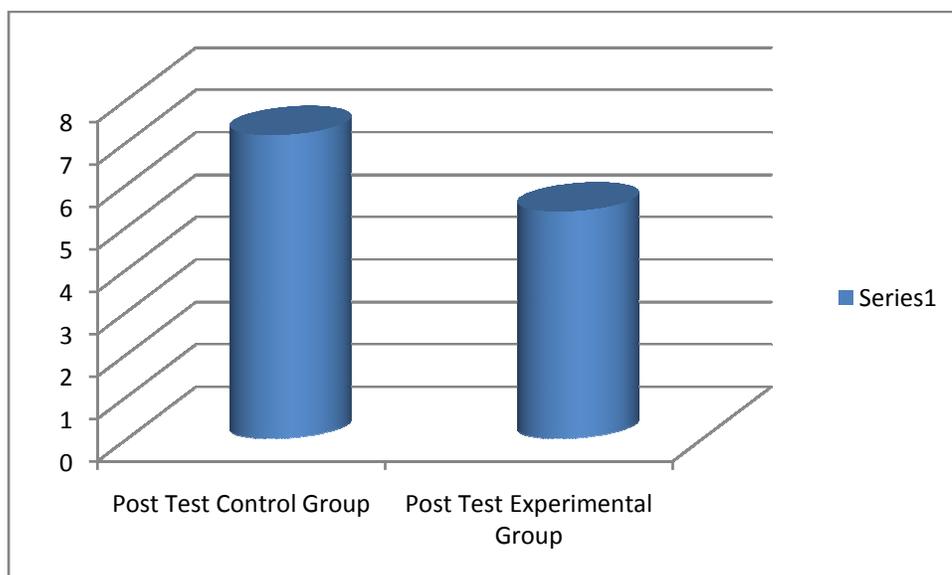


Chart 5: Comparing mean changes of depression level in the pretest and posttest of the three groups.

Discussion: The results are inconsistent with the research of Antonio Diano (1985) on male and female athletes and non-athletes with Beathea (1995) on the effects of various training methods on mood states with the research of Ramezani (2007) on the effect of aerobic fitness on depression among adolescents (15-18 years old) with the research of Khalaji (2001) on personality traits of endurance athletes in adolescent and adult age groups and in comparison with normal groups and with Taheri (2001) who analyzed and compared depression and trait anxiety of elite female athletes in the individual sports of track and field and swimming with team sports of volleyball and basketball. Regarding the comparison of the effect of different types of sports on depression, the result of this study is consistent with the research of Caruso and Gill (1986), Doyneet *al.* and Wilson (1987), Hoffart, Martinsen and Solberg (1989) who conducted aerobic and non-aerobic exercises in two different groups, Hamiditabar (2003) who compared the dispersion of depression in team and individual sports, and Mehdipour on the effect of individual and team sports on depression. Yet the results are inconsistent with the research of Palmer *et al.* (1995) and Dongpayee (1996).

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