## Original Research

# Effectiveness of Positive Parenting Group Training On Improving Mother-Child Relationships and Hardiness of Hyperactive Children

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**Abstract:**

**Background:**

The research literature confirms the importance of hyperactivity symptoms in children as well as the type of mother-child relationship. In this study, the effectiveness of positive parenting group education on the mother-child relationship from the child's point of view and symptoms of hyperactivity disorder in male children has been investigated.

**Method:**

In this study, there were two experimental and control groups the control group of 30 patients and the experimental group of 33 were trained in school positions for 1.5 months. Also, the children's symptoms questionnaire (CSI-4), child report of parental behavior (CRPBI-C), and parenting styles and dimensions (Robinson et al.) were used. Quasi-experimental research method and samples were selected through available sampling.

**Results:**

The results showed that in the post-test, the scores of the experimental and control groups differed significantly from the child's point of view in the symptoms of hyperactivity, parenting style, and mother-child relationships. In addition, in the score of signs of hyperactivity and the total score of parenting style and child report of mother's behavior, the experimental group showed a lower score in the post-test. However, there was no significant difference between the experimental group in post-test in two subscales of parenting style (non-argumentative/punitive and independence subscales).

**Conclusion:**

In general, it seems that positive parenting group training is a meaningful and efficient intervention. Also, the results promise to generalize this education in real-life families with children with ADHD.

**Keywords:** Hyperactivity disorder, Positive parenting, Mother-child relationship, Group education.

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**Introduction**

Hyperactivity disorder is the most common behavioral disorder in childhood so approximately 5% of primary school children in the United States are affected. Hyperactivity disorder (ADHD) is a neurobehavioral disorder that impairs the child's ability to maintain attention and age-appropriate inhibitions in cognitive and behavioral situations. These symptoms are described by some disproportionate symptoms with developmental levels: inattention, failure to follow orders, inability to organize work-related to themselves and school, playing with hands and feet, over-speaking. Hitting, pausing on assignments, unfinished abandonment of normal daily tasks and programs, unfinished assignments, lack of attention to detail (American Psychiatric Association(1&2). This disorder is one of the psychological disorders of childhood that most research is done about it today. The relatively high prevalence of this disorder enables clinical specialists and students in the field of child clinical psychology to properly evaluate this disorder and plan effective treatment interventions (3). Numerous researchers believe that children with ADHD are at higher risk for other problems and disorders. These disorders include learning disabilities, social skills deficits, academic failure, deviant behaviors, interpersonal problems, coping disorders, and conduct disorders (4). The developmental and persistent consequences of this disorder have been identified by family environmental factors such as parenting. Parent-child relationships for children with ADHD compared to the normal group are described as more conflict, less child hearing, and more authoritarian, controlling, and commanding parenting (5). Parent-child relationship, especially the mother-child relationship is one of the important family factors in the normal or abnormal development of the child's emotions and behaviors. Parent-child relationships have mutual action, meaning that the effects of children and parents are mutual. There are inappropriate behaviors in parent-child relationships of people with hyperactivity disorder. Children with this disorder have more inappropriate behaviors compared to normal children and have less self-control and their parents are more negative and less involved in social activities. In addition, these mothers use more honest behaviors when interacting with their children, oppose them more, give fewer rewards to appropriate behaviors of the child, and their rewards are more haphazard. In general, these mothers are negative toward mothers of normal children (6) .In addition, these parents may attribute the child's problems to their failures in foster care, and these results are usually self-blaming. A positive parenting program can be used to properly address the child's problems and improve parenting. A positive parenting group program teaches parents positive management skills to replace their dysfunctional and authoritarian parenting. This program also considers the attitudes of parents and tries to correct those .A positive parenting program is a new and universal parenting program that builds a positive relationship between parents and their children; it helps parents learn effective management strategies for dealing with their child's developmental-behavioral issues. The aim of this program is to increase the knowledge, skills, confidence, and self-efficacy of parents, create a safe, encouraging, violence-free, and low-conflict fostering environment for children, and promote social, emotional, verbal, intelligence, and behavioral performance of children through positive parenting measures. Parental education can have a therapeutic effect on parents. For example, it reduces stress, depression, and anxiety and increases their self-esteem. In addition, parents' education has been improved and improvements in parents' reports on the severity of ADHD symptoms of their child (7).

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Considering that hyperactivity disorder has a relatively high prevalence and causes many problems for children, parents, teachers, and society, and on the other hand, little research has been done on therapeutic interventions to control and treat this disorder. The aim of this study was to investigate the effectiveness of positive parenting education on mother-child relationships and symptoms of hyperactivity disorder in children. Accordingly, the research objectives are considered as follows:

1) Improve the symptoms of hyperactivity in children with ADHD.

2) Changing dysfunctional parenting practices of mothers of children with ADHD.

3) Improving the mother-child relationship through mother-child acceptance, as well as reducing maternal rejection and improving the child's disciplinary inequality.

**Research method**

The present research is an applied type and the research method is quasi-experimental with pre-test and post-test design with the control group. The independent variables in this study are positive parenting education and the dependent variables include the symptoms of ADHD, parenting style, and mother-child relationship, and the control variables include gender, age, and the level of education of the student.

The statistical population includes all students with hyperactivity disorder, 10 to14-year-old boys studying in Shiraz in 2012-2013, and their mothers. Sampling in an accessible form that was diagnosed according to the DSM-IV-TR questionnaire and diagnostic criteria. 67 subjects were assigned to the two groups, 37 to the experimental group and 30 to the control group. Also, 4 mothers left the group during the training.

The research tools are as follows:

Children's Morbid Symptoms Questionnaire (CSI-4): Children's symptoms questionnaire is a screening tool for the most common psychiatric disorders whose expressions have been developed based on diagnostic criteria of diagnostic and statistical manual of mental disorders. The questionnaire includes a list of 21 behavioral and emotional disorders including hyperactivity disorder.

- Child Report Questionnaire of Parental Behavior (CRPBI-C) (Mother's Form): In this study, theCRPBI-C questionnaire includes three subscales assessing the child's perception of parenting style including 1) acceptance 2) rejection 3) disciplinary heterogeneity was used. The questionnaire consists of 28 items that are completed by the child and have a 5-degree spectrum: I agree very much, I agree, partly I agree, disagree and I disagree very much that they score 5, 4, 3, 2, and 1, respectively. Cronbach's alpha acceptance index was 0.95, exclusion index was 0.87 and disciplinary heterogeneity index was 0.86 - Parenting Styles and Dimensions Questionnaire (8): A 32-item test that is never, sometimes, almost average, most of the time and always on the Likert scale. The questions of this questionnaire have been developed to measure three powerful, authoritarian, and easy-to-use styles based on Baumrind's theory and parenting styles. This questionnaire has 7 communication dimensions in addition to three parenting styles. George (2004) (3) estimated the reliability coefficient of this scale to be 0.79 and in this study based on the sample group, alpha coefficients (a) of the powerful, despotic, and negligent styles questionnaire were 0.90, 0.83, and 0.61, respectively, and the total alpha coefficient of the questionnaire was 0.81. The validity of this questionnaire was assessed and confirmed by a number of professors.

**Procedure**

After expressing consent from parents to participate in this study, positive parenting education was given by the researcher, the experimental group in 3 separate groups (two groups of 12 people and one group of 13

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people) It was tested that 4 people left the group during training. The training consisted of 7 1-hour group sessions. This program was implemented in the school for 1.5 months.Then, the data are analyzed at two levels of descriptive and inferential statistics. At the level of descriptive statistics, statistical indicators such as mean, standard deviation and histogram chart are used, and at the level of inferential statistics with the help of SPSS-21 software, univariate analysis of covariance will be used.

**Research results**

In Table 1, the descriptive statistics of the demographic variables used in the present study are observed separately for the experimental and control groups.

Table 2 shows the descriptive statistics of the hyperactivity variable of the experimental and control groups used in the present study separately by pre-test / post-test.

According to the table above, the mean of pre-test and post-test of hyperactivity in the experimental group are 37.90 and 34.63, respectively. Also, the mean of pre-test and post-test in the control group are 32.83 and 43.09, respectively. In Table 3, the variable descriptive statistics of the parenting style of the experimental and control groups used in the present study can be seen separately by pre-test / post-test and subscales.

According to the table above, the average of total pre-test and post-test parenting styles in the experimental group is 92.69 and 83.12, respectively. Also, the mean of pre-test and post-test in the control group are 91.10 and 9.53, respectively. Table 4 shows the descriptive statistics of the child report variable of the maternal behavior of the experimental and control groups used in the present study separately by pre-test / post-test and subscales.

According to the above table, the mean of the total pre-test and post-test of the child's report of mother's behavior in the experimental group was 74.12 and 93.00, respectively. Also, the mean pre-test and post-test in the control group were 99.10 and 89.40, respectively.

**Inferential statistics:**

First hypothesis: Positive parenting education has a significant effect on hyperactivity symptoms from the mother's point of view. To investigate the first hypothesis, the covariance analysis test is used. In this test, the scores of hyperactivity symptoms in the post-test as a dependent variable and the scores of hyperactivity symptoms in the pre-test have been used as the Curate variable. Chart 1 shows the mean scores of hyperactivity scores of children in the control and experiment groups in the post-test.

Diagram 1. Histogram diagram of the means of the control group and testing the hyperactivity variable in the post-test.The significance level of the Loon test is 0.26 which is not significant, so the assumption of variance homogeneity is met. Table 5 also shows the results of covariance analysis of hyperactivity disorder scores.

As can be seen from the table above, there is a significant difference between the groups in the scores of hyperactivity symptoms in the post-test (F: 685/155, sig: 0.001).

Hypothesis 2: Positive parenting group training has a significant effect on the mother's parenting style from the mother's point of view. To test the second hypothesis, an analysis of covariance was used. In this test, the scores of maternal parenting style in the post-test as a dependent variable and the scores of maternal parenting style in the pre-test as a variable were used. Figure 2 shows the mean scores of parenting styles of the control and experimental groups in the post-test.

The significance level of the Leven test is 0.29, which is not significant, so the assumption of variance homogeneity is met. Table 6 also shows the results of covariance analysis of maternal parenting style.

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As can be seen from the table above, there is a significant difference between the groups in the scores of the mother's parenting style after the test (F: 08.05 / 155, sig: 0.001).

Hypothesis 3: Positive parenting group training has a significant effect on each of the subscales of maternal parenting style. Leven test is not significant in any of the parenting style subscales, so the assumption of variance homogeneity is met. Table 7 also shows the results of the analysis of covariance of the subscales of maternal parenting style.

As can be seen from the table above, there is a significant difference between the groups in the scores of authoritarian parenting style in the post-test (F: 110-1186: sig, 0.000).

Question 1: Does positive parenting group training change the child's reporting scores of the mother's behavior?

The analysis of covariance test was used to examine the first question. In this test, the child reported scores of the mother's behavior in the post-test as a dependent variable, and the child reported scores of the mother's behavior in the pre-test as a variable was used. Figure 3 shows the mean scores of the child reporting the mother's behavior in the control and experimental groups in the post-test.

The significance level of theLeven test is 0.14, which is not significant, so the assumption of variance homogeneity is met. Table 9 also shows the results of theanalysis of covariance of the child's report scores on the mother's behavior.

As can be seen from the table above, there is a significant difference between the groups in the scores of the child's report of the mother's behavior after the test (F: 50.921, sig: 0.001).

Question 2: Does positive parenting group training change the scores of each of the subscales of child reporting of mother behavior?

The significance level of theLeven test is not significant for any of the subscales, thus the assumption of variance homogeneity is met. Table 9 also shows the results of theanalysis of covariance under the Child Report of Mother Behavior Scales.

As is evident from the table above, there is a significant difference between the groups in the scores of the subscales of the child's report of the mother's behavior in the post-test.

**Discussion**

The first finding indicated that there was a significant difference between the control group and the experimental group in the scores of post-test hyperactivity symptoms. The control group had significantly higher scores of hyperactivity symptoms in the post-test than the experimental group. This result shows that teaching a positive parenting style to mothers has been able to significantly reduce the symptoms of hyperactivity in children with hyperactivity disorder. This result is consistent with research by Dunn et al (2). (2019), Bonham et al(4). (2021), and Rezaeefard (2022)(9). These studies showed that parental education reduces the symptoms of ADHD in their children and there is a significant difference between the control and intervention groups in terms of hyperactivity index. Modification of parental role, especially mother, is a key factor that can help to manage impulsivity, inattention, and hyperactivity behaviors of children. Increasing parents 'awareness of the characteristics of the disorder, the appropriate ways to deal with these children, leads to a change in parents' perception of the child's behavior, and thus can prevent the worsening of children's maladaptive and hyperactive behaviors. Another hypothesis of the present study is whether positive parenting group training can manipulate the scores of the mother's parenting style. The second finding indicated that there was a significant difference between the control and experimental groups. The control group had significantly higher parenting style scores in the post-test than the experimental

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group. Another hypothesis of the present study was whether the positive parenting style training can affect the subscales of parenting style or not. The findings of this study show that there is a significant difference between the control and experimental groups. The control group had significantly higher scores of authoritarian and negligent parenting style in the post-test than the experimental group. The experimental group had higher scores of authoritative parenting style in the post-test than the control group. The results show that positive parenting training has been able to affect the scores of parenting style so that the authoritarian and careless parenting style of mothers with children with ADHD has decreased after the end of the positive parenting training sessions and in contrast Authoritative parenting style in this group has increased compared to the control group. These findings are consistent with the research of Wood Cook et al. (2020),(6) Ord et al. (2012),(10) Bahmani and Alizadeh (2011).(11) The researchers also found that dysfunctional parenting practices were reduced by the intervention of a positive parenting education program. Thus, learning how to interact properly with children and developing self-regulatory capacity in parents helps to build better relationships with children and change mothers' dysfunctional parenting styles. The findings of the present study showed that there was a significant difference between the two groups in the total score of the child's report of child behavior after the test. The experimental group scored significantly higher in the child report of child behavior than the control group in the post-test. In addition, there was a significant difference between the two groups in each of the subscales of child reporting of parental behavior after the test. This study is in line with the findings of Leijten et al. (2020)(12). Their results showed that teaching a positive parenting program to mothers of children with ADHD is effective in reducing conflicting mother-child relationships. Nevertheless, the effectiveness of the program in the field of conflict has been more significant than other areas. These findings are consistent with the results of studies by Cortese (2020)(1) and Nazemi (2007)(13). Thus, another possible reason for the improvement of mother-child relationships can be attributed to the educational activities and exercises that mothers considered themselves committed to during the intervention sessions. In this way, mothers' attention was spent more on establishing a better relationship with the child, and consequently, the amount of stress caused by tolerating the child's behaviors was reduced and the vicious cycle of the mother-child relationship improved.

## Conclusion

According to the results of this study, group training of positive parenting can reduce the symptoms of hyperactivity. It also has a significant effect on parenting style so that it reduces arbitrary and easy parenting and increases the authoritative style. In addition, this study showed that this training improves the mother-child relationship from the child's point of view. It increases the adoption of the child by the mother and reduces the disciplinary heterogeneity and exclusion of the child.

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**Tables**

**Table 1. Descriptive statistics related to demographic variables by experimental / control group**

| | | Number | Average | Standard deviation |
|---|---|---|---|---|
| **The age of the child** | the experiment | 33 | 11.97 | 1.61 |
| | Control | 30 | 11.63 | 1.03 |
| **Birth order** | the experiment | 33 | 1.64 | 0.65 |
| | Control | 30 | 2.00 | 0.74 |
| **Mother's age** | the experiment | 33 | 41.12 | 3.42 |
| | Control | 30 | 40.67 | 3.35 |

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**Table 2. Descriptive statistics related to the hyperactivity variable - experimental and control groups by pre-test / post-test**

| | | Number | Average | Standard deviation |
|---|---|---|---|---|
| **Exprimenta group** | Pre-test | 33 | 37.90 | 1.80 |
| | Post-test | 33 | 34.63 | 3.59 |
| **Control group** | Pre-test | 30 | 32.83 | 2.80 |
| | Post-test | 30 | 43.09 | 3.01 |

**Table 3. Descriptive statistics related to parenting style variable - experimental group by pre-test / post-test and subscales**

| Experimental Group | Pre test | | | Number | Average | Standard deviation |
|---|---|---|---|---|---|---|
| | | Dictatorial | Non-reasoned / punitive | 33 | 10.60 | 3.45 |
| | | | Physical coercion | | 13.39 | 4.57 |
| | | | Verbal violence | | 7.75 | 1.39 |
| | | | Total | | 36.45 | 11.60 |
| | | Authoritative | Warm and supportive bond | | 15.78 | 3.14 |
| | | | Independence | | 12.72 | 2.55 |
| | | | Reasoning/ Induction | | 13.84 | 3.23 |
| | | | Total | | 42.36 | 8.44 |
| | | Negligent | | | 13.87 | 3.12 |
| | | Total | | | 92.69 | 10.56 |
| | Post test | Dictatorial | Non-reasoned / punitive | 33 | 6.06 | 0.99 |
| | | | Physical coercion | | 7.54 | 1.30 |
| | | | Verbal violence | | 12.23 | 4.10 |
| | | | Total | | 21.36 | 3.20 |
| | | Authoritative | Warm and supportive bond | | 19.66 | 1.86 |
| | | | Independence | | 13.93 | 3.18 |
| | | | Reasoning/ Induction | | 18.66 | 1.29 |
| | | | Total | | 51.27 | 9.98 |
| | | Negligent | | | 10.48 | 1.46 |
| | | Total | | | 83.12 | 9.32 |
| Control group | Pre - test | Dictatorial | Non-reasoned / punitive | 30 | 10.26 | 3.19 |
| | | | Physical coercion | | 13.06 | 4.84 |
| | | | Verbal violence | | 12.00 | 3.34 |
| | | | Total | | 35.56 | 11.75 |
| | | Authoritative | Warm and supportive bond | | 15.70 | 2.89 |
| | | | Independence | | 12.40 | 3.47 |
| | | | Reasoning/ Induction | | 14.10 | 3.46 |
| | | | Total | | 41.30 | 11.48 |

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| | | | | | | |
|---|---|---|---|---|---|---|
| | | Negligent | | | 14.23 | 2.28 |
| | | Total | | | 91.10 | 12.30 |
| | Post-test | Dictatorial | Non-reasoned / punitive | 30 | 10.13 | 2.62 |
| | | | Physical coercion | | 12.46 | 3.75 |
| | | | Verbal violence | | 12.45 | 4.04 |
| | | | Total | | 34.60 | 9.08 |
| | | Authoritative | Warm and supportive bond | | 15.56 | 2.55 |
| | | | Independence | | 13.03 | 2.47 |
| | | | Reasoning/ Induction | | 14.10 | 2.94 |
| | | | Total | | 42.70 | 7.30 |
| | | Negligent | | | 14.23 | 2.25 |
| | | Total | | | 91.53 | 9.33 |

**Table 4. Descriptive statistics related to the child report variable of the mother's behavior in the experimental and control groups by pre-test / post-test and below. 00/93 is. Also, the mean of pre-test and post-test in the control group are 99.99 and 89.40, respectively.**

| Experimental Group | Pre -test | | Number | Average | Standard deviation |
|---|---|---|---|---|---|
| | | Admission | 33 | 23.09 | 4.86 |
| | | Disciplinary heterogeneity | | 24.09 | 3.90 |
| | | Exclusion | | 32.96 | 6.91 |
| | | Total | | 74.12 | 11.99 |
| | Post-test | Admission | 33 | 29.06 | 7.47 |
| | | Disciplinary heterogeneity | | 30.46 | 5.99 |
| | | Exclusion | | 26.93 | 4.42 |
| | | Total | | 93.00 | 17.16 |
| Control group | Pre -test | Admission | 30 | 28.13 | 6.02 |
| | | Disciplinary heterogeneity | | 29.13 | 4.36 |
| | | Exclusion | | 31.70 | 6.73 |
| | | Total | | 99.10 | 14.99 |
| | | Admission | 30 | 28.26 | 7.75 |
| | | Disciplinary heterogeneity | | 30.96 | 6.34 |
| | | Exclusion | | 32.83 | 5.83 |
| | | Total | | 89.40 | 18.21 |

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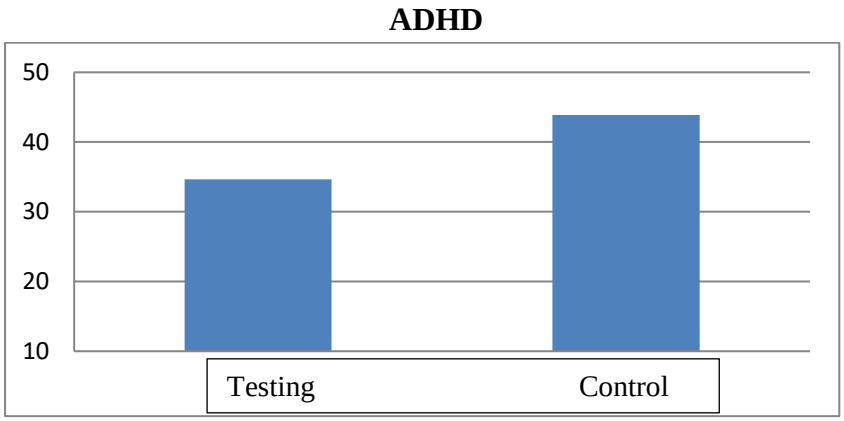



**Diagram 1. Histogram diagram of the means of the control group and testing the hyperactivity variable in the post-test.**

**Table 5. Analysis of covariance of hyperactivity disorder scores with the variable covariate of the pretest**

| Source | Total squares | Degrees of freedom | The average sum of squares | F | Significance level |
|---|---|---|---|---|---|
| **group** | 98.346 | 1 | 98.346 | 15.685 | 0.001 |
| **Error** | 376.194 | 60 | 6.270 | | |
| **Total** | 97925.000 | 63 | | | |

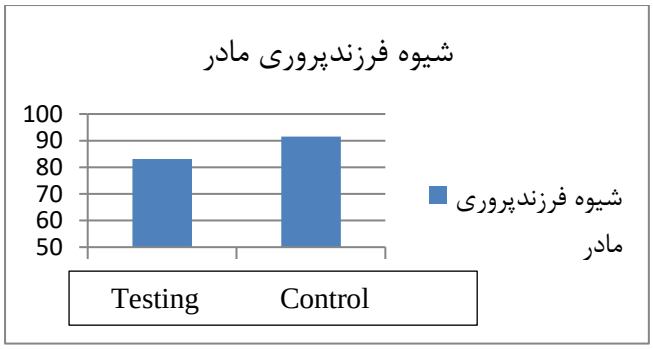



**Diagram 2. Histogram diagram of means of a control group and test of variable maternal parenting style in post-test**

**Table 6. Analysis of covariance test of parenting style with the variable covariate of the pretest**

| Source | Total squares | Degrees of freedom | The average sum of squares | F | Significance level |
|---|---|---|---|---|---|
| **group** | 1212.799 | 1 | 1212.799 | 15.085 | 0.001 |
| **Error** | 4823.726 | 60 | 80.395 | | |
| **Total** | 484663 | 63 | | | |

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**Table 7. Analysis of covariance test Scores of parenting style subscales with pre-test variable covariance**

| | Source | Total squares | Degrees of freedom | The average sum of squares | F | Significance level |
|---|---|---|---|---|---|---|
| **Dictatorial** | group | 2921.43 | 1 | 2921.43 | 183.73 | 0.001 |
| | Error | 959.24 | 60 | 15.98 | | |
| | Total | 536997 | 63 | | | |
| The non-argumentative / authoritarian dimension | group | 8.51 | 1 | 8.51 | 1.45 | 0.233 |
| | Error | 352.07 | 60 | 5.86 | | |
| | Total | 12009 | 63 | | | |
| Authoritarian physical coercion | group | 402.67 | 1 | 402.67 | 119.74 | 0.001 |
| | Error | 201.76 | 60 | 3.36 | | |
| | Total | 7005 | 63 | | | |
| Authoritarian verbal violence | group | 309.71 | 1 | 309.71 | 55.39 | 0.001 |
| | Error | 335.49 | 60 | 5.59 | | |
| | Total | 10622 | 63 | | | |
| Authoritative | group | 1033.08 | 1 | 1033.08 | 17.06 | 0.001 |
| | Error | 3632.21 | 60 | 60.53 | | |
| | Total | 146191 | 63 | | | |
| Next is a warm bond and authoritative support | group | 258.75 | 1 | 258.75 | 88.70 | 0.001 |
| | Error | 175.02 | 60 | 2.91 | | |
| | Total | 20334 | 63 | | | |
| The power of reasoning / induction dimension | group | 344.12 | 1 | 344.12 | 130.85 | 0.001 |
| | Error | 157.78 | 60 | 2.63 | | |
| | Total | 17767 | 63 | | | |
| | group | 8.51 | 1 | 8.51 | 1.45 | 0.233 |
| | Error | 352.07 | 60 | 5.86 | | |
| | Total | 12009 | 63 | | | |
| **Negligent** | group | 209.01 | 1 | 209.01 | 68.42 | 0.001 |
| | Error | 183.29 | 60 | 3.05 | | |
| | Total | 9921 | 63 | | | |

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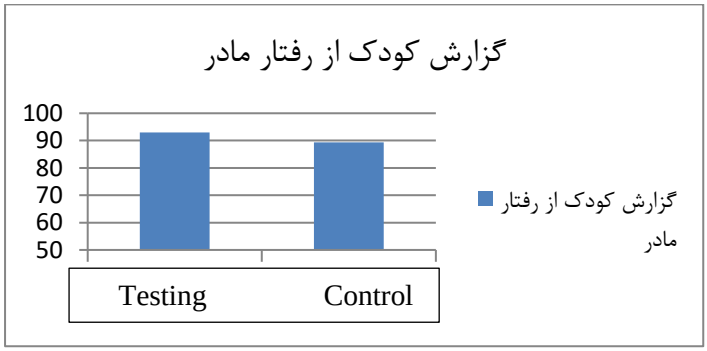



**Diagram 3. Histogram diagram of the means of the control group and the variable test of the child report of the mother's behavior after the test**

**Table 8. Analysis of covariance test Scores of the child's report of the mother's behavior with the variable covariate of the pretest**

| Source | Total squares | Degrees of freedom | The average sum of squares | F | Significance level |
|---|---|---|---|---|---|
| group | 5293.150 | 1 | 5293.150 | 50.921 | 0.001 |
| Error | 6236.904 | 60 | 103.948 | | |
| Total | 544231 | 63 | | | |

**Table 9. Analysis of covariance test Scores of child reporting subscales of mother behavior with thevariable covariate of pre-test**

| | Source | Total squares | Degrees of freedom | The average sum of squares | F | Significance level |
|---|---|---|---|---|---|---|
| **Admission** | group | 504.698 | 1 | 504.698 | 21.544 | 0.001 |
| | Error | 1405.593 | 60 | 23.427 | | |
| | Total | 55375 | 63 | | | |
| **Exclusion** | group | 681.801 | 1 | 681.801 | 58.992 | 0.001 |
| | Error | 693.449 | 60 | 11.557 | | |
| | Total | 57904 | 63 | | | |
| **Disciplinary heterogeneity** | group | 332.274 | 1 | 332.274 | 14.796 | 0.001 |
| | Error | 1347.430 | 60 | 22.457 | | |
| | Total | 61830 | 63 | | | |

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