



The role of school physical activities and sports in alleviating symptoms of attention deficit hyperactivity disorder A study of primary school pupils (7-12 years old)

دور الأنشطة البدنية والرياضية المدرسية في التخفيف من اعراض اضطراب فرط الحركة
المصحوب بتشتت الانتباه. دراسة على تلاميذ المدارس الابتدائية (7-12 سنة)

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Abstract:

This study aims to verify the effectiveness of a suggested program with small games in reducing symptoms of attention deficit hyperactivity disorder and impulsivity in primary school children. The study sample consisted of (12) students, their ages (7-12 years). In the light of the results obtained, it was proved that the proposed program is effective in increasing attention, reducing impulsiveness, and excessive movement among educated students by recording statistically significant differences confirmed by the calculated (T_{cal}) and tabular (T_{th}) values.

- **Keywords:** Small games, hyperactivity, attention, impulsivity, disorder.

ملخص:

تهدف هذه الدراسة للتحقق من فاعلية برنامج مقترح بالألعاب الصغيرة في خفض أعراض قصور الانتباه وفرط الحركة وكذا الاندفاعية لدى الاطفال المرحلة الأبتدائية. تكونت عينة الدراسة من (12) تلميذ، اعمارهم (7-12 سنة). وفي ضوء النتائج المتوصل اليها ثبت أن للبرنامج المقترح فاعلية في زيادة الانتباه، والتخفيف من الاندفاعية، والحركة المفرطة لدى التلاميذ المتمدرسين من خلال تسجيل فروق ذات دلالة احصائية اكدتها قيم (T_{cal}) المحسوبة و (T_{th}) الجدولية.

الكلمات المفتاحية: ألعاب صغيرة، فرط الحركة، انتباه، اندفاعية، اضطراب.

- Introduction:

The childhood stage is one of the most important stages in a person's life because it constitutes the beginning of the formation of his personality, and because it is the stage in which the largest amount of changes occur. The formative features of the individual's personality are affected and formed during the childhood stage. The process of upbringing through the family and school affects many developmental aspects, which include physical, behavioral, and social changes, as well as changes that occur in the emotional and mental aspects. This disorder occurs in the early age stage, but it is not diagnosed in the pre-school stage. ⁽¹⁾ The problem of attention deficit and hyperactivity is one of the most prevalent behavioral problems in childhood, and this disorder affects 10% of children in the world. ⁽²⁾ While the fourth Diagnostic Manual (DSM-IV) of 1994 showed three sub-patterns of this disorder: attention deficit pattern, hyperactivity pattern, and impulsivity pattern. ⁽³⁾ Play is also an innate and vital behavior in a child's life, through which the child expresses his way of thinking and pampering, relaxation and remembering, creativity and representation and understanding of the outside world, that in fact life itself. ⁽⁴⁾ The current study is one of these studies, as it aims to investigate the effectiveness of a therapeutic program based on play in reducing the severity of symptoms of hyperactivity disorder, attention deficit and impulsivity among primary school students.

problem:

Childhood problems and their prevention are among the issues that have taken a prominent place among educators and researchers in educational circles, as they are the most important stages in which a person's personality is built with all its features and characteristics, and this depends on the social upbringing that he receives, as he begins to acquire a certain pattern of behavior patterns, as we noticed A good number of parents and educators complain about the behavior of their children, which is characterized by exaggeration in motor activity and impulsiveness, in addition to the difficulty of continuing in a certain physical position for more than one minute. The fourth Diagnostic and Statistical Manual of Mental Disorders (DSM-IV, 2000) issued by the American Psychiatric Association indicates that its prevalence is between 3% to 5% of children of school age. cases, the

different diagnostic tools used and the social environments that are surveyed. ⁽⁵⁾ Excessive activity is defined in many studies as bodily movements that exceed the normal or acceptable limit, and this can be known by observing the child and comparing the degree of his voluntary and involuntary activity with that of a group of other children of the same sex, and since the child spends most of the time in school, which always seeks to Achieving the integrated development of the child through diversifying the activities that develop various social, physical and psychological aspects through play as one of the basic requirements for childhood. Through this study, we seek to know the effectiveness of a proposed program with small games based on playing as one of the motor activities in reducing hyperactivity and attention deficit in a sample of children who suffer from ADHD, based on a group of games. Hence, the problem of the current study was crystallized, so we set out to prepare a program with small games, which is a program based on playing and verifying its effectiveness in reducing negative symptoms of attention deficit insufficiency and reducing hyperactivity and impulsivity on scientific grounds among a sample of primary school children in the state of Souk Ahras so that this group can integrate with its surroundings school and social in a positive way. In this sense, some questions were raised that help us in treating this phenomenon.

The general question:

Is the proposed program with small games effective in increasing attention and reducing hyperactivity and impulsivity among primary school students?

Sub-questions:

1. Are there statistically significant differences between the mean scores of the pre and post measurement of the respondents applying the proposed program to increase the attention dimension of primary school students?
2. Are there statistically significant differences between the mean scores of the pre and post measurement of the sample members after applying the proposed program to alleviate symptoms of hyperactivity among primary school students?
3. Are there statistically significant differences between the mean scores of the pre and post measurement of the respondents after applying the

proposed program to reduce the symptoms of impulsivity among primary school students?

Study hypotheses:

General Hypothesis:

The proposed program with small games is effective in increasing attention and reducing hyperactivity and impulsivity in primary school children.

Partial hypotheses:

1. There are no statistically significant differences between the mean scores of the pre and post measurement of the respondents after applying the proposed program to increase attention among primary school students.
2. There are no statistically significant differences between the mean scores of the pre and post measurement of the respondents after applying the proposed program to alleviate symptoms of hyperactivity among primary school students.
3. There are no statistically significant differences between the mean scores of the pre and post measurement of the sample members after applying the proposed program to alleviate the symptoms of impulsivity among primary school students.

Objectives of the study:

Diagnosis of attention deficit disorder accompanied by hyperactivity in a group of children in primary schools. The current study also aims to verify the effectiveness of the proposed program with small games in increasing attention and reducing hyperactivity among primary school students.

The importance of the study:

The current study contributes to clarifying the effect of the proposed program on children who suffer from the disorder based on small games in increasing attention and reducing hyperactivity and impulsivity.

Highlighting the importance of playing in a child's life as a therapeutic method in modifying some undesirable behaviors by relying on small games, as well as using the results of this current study to direct researchers, teachers and parents of children to the need to pay attention to such programs to help them get rid of this disorder and its effects.

Define search terms

Small games: They are selected games that do not need large playgrounds and can be implemented with simple tools that are easy to use and introduce

longing and enthusiasm into physical education and sports lessons, in addition to the pleasure that the individual gains from practicing them. ⁽⁶⁾

Procedural definition: It is a sporting activity that helps in developing the motor performance of sports games, and it is practiced according to easy and unstable rules of play, and it can be changed and made difficult gradually, and it does not require great preparation, many tools, or a special place.

Attention Deficit Hyperactivity Disorder (ADHD): It is a neurological disorder that affects children and affects their ability to pay attention and continue to perform their tasks efficiently and effectively.

Procedural definition: It is an unacceptable increase in the level of motor activity of the child, the inability to focus attention for a long time, the inability to self-control (impulsiveness) and the inability to establish good relations with his peers and parents.

Previous and similar studies:

Reviewing the most important previous and similar studies related to the subject of the research, allowed us to define the problem as well as formulate the appropriate hypotheses for this study.

1. **Study (Zakaria Riyad Al-Minshawi 1999)**

Study title: The effectiveness of a motor activities program in alleviating some manifestations of attention deficit disorder accompanied by hyperactivity in a sample of primary school children. (Al-Akkad Ahmed Mohamed (2004), p 43)

The aim of the study: The study aimed to build an objective tool to measure attention accompanied by hyperactivity in a sample of primary school children in the field of physical education, as well as to design a program to alleviate some manifestations of attention deficit disorder accompanied by hyperactivity in children.

Method used: The researcher used the experimental method. Study sample: The sample was chosen randomly from the fourth grade students at Al-Rabwah Primary School in the Kingdom of Saudi Arabia, where the number of the sample was 17 students. Study tools: It consisted of a scale for estimating some behavioral characteristics of attention-disordered students accompanied by hyperactivity.

Results of the study: The most important results were that there was a significant positive effect of the program in alleviating some manifestations of attention deficit disorder associated with excessive motor activity in the research sample in the total score, as well as in the three dimensions of the scale, which are (attention, hyperactivity, and impulsivity). This study proves the effectiveness of physical education and sports in Absorbing the child's excess energy, reducing impulsiveness, and increasing attention.

2. Study (Akkad Ahmed Mohamed, 2004)

Study title: The effect of a proposed motor education program on reducing excessive motor activity associated with attention deficit for mentally handicapped students.

The aim of the study: To identify the effect of the proposed motor education program on reducing excessive motor activity associated with attention deficit, and on the development of physical characteristics.

Study sample: The study sample consisted of 36 students, and they were divided into two control groups, with a total of 18 students who did not undergo any program, and an experimental group, with an average of 18 students, to whom the program was applied.

Study tools: The researcher relied on the proposed motor education program prepared by the researcher.

Results of the study: The results indicated that the movement education program has a positive effect on the development of physical characteristics and the reduction of excessive motor activity associated with attention deficit, and there were statistically significant differences in favor of the experimental group. (Al-Qamish Mustafa, and Al-Maaita Khalil (2013), p32)

3. Study (Abdel Nasser Tazkarat, 2017)

Study title: The effectiveness of play therapy in reducing symptoms of attention deficit and hyperactivity in primary school students.

Objective of the study: The study aims to investigate the impact of the proposed program in achieving its goal, which is developing some cognitive skills such as auditory and visual attention, modifying impulsive motor and cognitive behaviors, providing them with relaxation and self-control skills, and bringing them to an appropriate behavioral level that is compatible with the academic and social difficulties they encounter. As

well as presenting the therapeutic program as a model through which similar programs can be prepared to treat other developmental disorders in school children.

Study sample: The researcher relied on a sample of 20 students with attention deficit hyperactivity disorder, and they were divided into two homogeneous groups in terms of age, IQ, academic level, and the degree of disability recorded on the measures of attention deficit hyperactivity diagnosis, into a control group of 10 children and a group An experimental group of 10 students underwent the program.

Study tools: The researcher subjected the sample to Conner's questionnaire, non-silver intelligence test, Stroop test, pairing numbers test, picture matching test, and statistical tests T.test to measure differences.

Study results: Collecting the results of the study hypotheses on the effectiveness of the study program in reducing symptoms of attention deficit hyperactivity disorder among individuals who received the proposed play program with its various activities, tools and techniques.

Research methodology and field procedures

Study methodology: The aim of the current study is to find out the effectiveness of the proposed program with small games in increasing attention and reducing hyperactivity among primary school students. Applied, and the desire to study this for accuracy and objectivity, we adopted a semi-experimental approach.

Study variables: The independent (experimental) variable: represented in a "proposed program with small games". The dependent variable: "hyperactivity disorder with attention deficit and impulsivity".

fields of study:

Spatial field: The survey was conducted at the level of some elementary schools in the wilaya of Souk Ahras and Annaba. Temporal field: The actual field study was completed in October/April 2018. The study population: It included children between the ages of (7-12 years) who suffer from "attention deficit hyperactivity disorder" in the state of Souk Ahras.

The study sample and how to select it: It consisted of 12 students who were chosen randomly.

Study tools:

In order to complete our study and achieve the objectives set forth in order to deny or prove the hypotheses presented in the problem at hand, it is necessary to follow the most successful methods and means that are in line with this type of research.

These tools and means are:

1. Theoretical study: which is termed as: "bibliographic", as it is represented in sources and references such as books, notes, magazines, official newspapers, texts, legal decrees, whose content revolves around the subject of our study, as well as a group of similar studies related to the subject.

2. Attention Deficit Hyperactivity Disorder Diagnosis Form: which was prepared by the staff working at the RCPD Resource Center for Persons with Disabilities of Michigan State University according to the criteria included in the fourth Diagnostic and Statistical Manual of Mental Disorders to diagnose the disorder, It was Arabized and codified by Dr. Magdy Mohamed El-Desouki (2005).

3. Attention Deficit Hyperactivity Disorder Scale: In Children Modified Diagnostic and Statistical Manual of Mental Disorders, revised by the American Psychiatric Association, Fourth Edition (DSM-IV-TR).

(Jean et al, 2001, p31). (Translated by the researcher: Ali Muhammad al-Nubi Muhammad 2010)

4. Small Games Program: This proposed program aims to increase attention and focus among students who suffer from ADHD disorder. On the other hand, it seeks to direct excessive movement and reduce impulsivity. (Al-Hajjar Muhammad Ali (2004), pg. 76)

5. Statistical processing methods:

The Student T test: its mathematical formula. $T = \frac{\bar{D}}{s\bar{D}}$

average variances $\bar{D} = \sum D / n$

SD of the sample: It is calculated from the following equation $SD =$

$$\sqrt{\frac{nD^2 - (\sum D)^2}{n(n-1)}}$$

Relative homogeneity coefficient $CV^{(11)}$: $Cv = (SD/\bar{x}) \times 100$

Presentation, analysis and discussion of the results

View and analyze the results of the first axis to verify the first hypothesis
 "There are no statistically significant differences between the mean scores of the pre and post measurement of the respondents after applying the proposed program with small games for the dimension of increasing attention."

View and analyze the results of the first axis according to each statement

Table No. (01): shows the results of the answers First axis phrases

Statistic al significance	$t_{cal} = \bar{D}/S_{\bar{D}}$	C_v		$S_{\bar{D}} = S_D/\sqrt{n}$	S_D standard deviation	\bar{D}	ferries
		for telemetry	for pre-measurement				
D	3.125	42.05	17.22	0.48	1.65	1.5	1
D	7.28	48.06	10.51	0.32	1.11	2.33	2
D	8.03	33.3	17.2	0.28	0.96	2.25	3
D	3.947	36	15	0.38	1.31	1.5	4
D	3.16	28.3	15	0.37	1.30	1.17	5
D	4.46	42	22.5	0.28	0.96	1.25	6
D	3.79	36	15	0.33	1.14	1.25	7
D	6.08	43.2	28	0.26	0.90	1.58	8
D	4.46	31.6	14.5	0.28	0.96	1.25	9
$t_{th} = 2.201 ; \quad \alpha = 0.05 ; \quad d_f = 11$							

the tabular $T_{cal} > T_{th}$, which is a significant function. As we note, the values of the homogeneity coefficient for the pretest measurements were confined between the intensity of the strong and medium homogeneity (10.51-28), which suggests that the sample was suffering from the same disorder occurring at the level of attention disorder through the various phrases. After applying the program, it was noticed that there was a change in the level of homogeneity of the sample with a weak coefficient of homogeneity, which is an indication that there is an effect of the program on the various behaviors of the axis statement in the attention dimension that was experienced by the different members of the study sample. And from it we can say that the applied program had an effective role in changing the various behaviors that were the cause of the attention disorder.

View and analyze the results of the first axis according to each student

Table No. (02): shows the results of the answers to the phrases The first axis "increased attention"

	D ²	D	The degree of observed behavior		Pupil number
			remote	tribal	
Statistical significance	225	15	23	38	1
	400	20	21	41	2
	256	16	21	37	3
	144	12	23	35	4
	64	8	30	38	5
	169	13	28	41	6
	144	12	24	36	7
	196	14	23	37	8
	289	17	22	39	9
	100	10	24	34	10
	144	12	31	43	11
	225	15	27	42	12
D morally	2356	149	297	461	the total
	12.42				\bar{D}
	6.78				standard deviation S_D
	1.96				$S_{\bar{D}} = S_D/\sqrt{n}$
	6.33				$t_{cal} = \bar{D}/S_{\bar{D}}$
	2.201				$t_{th} (\alpha=0.05 ; d_f= 11)$
	7.3				Homogeneity coefficient for C_V pre-measurement
13.7				Homogeneity coefficient for C_V dimensional measurement	

Presentation and Interpretation of Results: It is evident from Table No. (02) the value of the mean scores of observed behavior before and after applying the proposed program with small games that aims to increase attention among primary school students, with a standard deviation of $SD = 6.78$. And the value of the homogeneity coefficient in the pre-measurement was equal to 7.3, which is a strong homogeneity, while in the post-measurement it was equal to 13.7, which is an average homogeneity. And the calculated student value was equal to $T_{cal} = 6.33$ and the theoretical value $T_{th} = 2.201$. By comparison, it is clear that at the two levels of significance $\alpha = 0.05$, $T_{cal} > T_{th}$, which is significant. Thus, we can reject the null hypothesis H_0 , which states that there are no statistically significant differences between the pre and post measurement of individuals with regard to increased attention to the phrases of the first axis about the inability to pay attention to details, and makes mistakes indicating negligence, that is, most of the behaviors are related to his inability to manage his affairs. Or focus and pay attention when performing the tasks required of him, meaning that most of the behaviors are related to his inability to manage his affairs, or focus and pay attention when performing the tasks required of him, and from it we can accept the alternative hypothesis H_1 that there are statistically significant differences between the pre and post measurement, which is in favor of the post measurement, that is, after applying The program, which indicates that the program applied in play therapy was effective in increasing the attention of the respondents, that is, they became more attentive to details, and their errors decreased, and this is evidence of interest. Accordingly, we say that the application of the program was effective and is in favor of the telemetry in increasing attention.

View and analyze the results of the second axis to verify the second hypothesis: "There are no statistically significant differences between the mean scores of the pre and post measurement of the respondents after applying the proposed program with small games to reduce hyperactivity." View and analyze the results of the second axis according to each statement

Table No. (03): shows the results of all students' answers On the phrases of the second axis

Statistical significance	$t_{cal} = \bar{D}/S_{\bar{D}}$	C _v		$S_{\bar{D}} = S_D/\sqrt{n}$	S _D standard deviation	\bar{D}	ferries
		for telemetry	for pre-measurement				
دال	5.38	46.4	22.3	0.31	1.07	1.6 7	10
دال	9.43	47.3	8	0.30	1.03	2.8 3	11
دال	8.34	37.5	15	0.23	0.79	1.9 2	12
دال	3.55	41.2	21.5	0.40	1.38	1.4 2	13
دال	5.96	36	17.2	0.28	0.98	1.6 7	14
دال	6.42	55	18.7	0.26	0.89	1.6 7	15
$t_{th} = 2.201 ; \alpha = (0.05) ; d_f=11$							

which is a significant function. We also note that the coefficient of homogeneity for the study sample for tribal measurements was confined between the intensity of strong and medium homogeneity, which suggests that the sample was suffering from the same disorder occurring or close at the level after hyperactivity in the various phrases. After applying the program, it was noticed that there was a change in the two levels of homogeneity of the sample with a weak coefficient of homogeneity, which is an indication that there is an effect of the program on the various behaviors of the axis statement in the hyperactivity dimension that was experienced by the different members of the study sample.

Presentation and analysis of the results of the second axis according to each student:

**Table No. (04): shows the differences between the mean scores
Measuring the observed behavior of the second axis phrases.**

	D ²	D	The degree of observed behavior		Pupil number
			remote	tribal	
Statistical significance	169	13	13	26	1
	169	13	13	26	2
	144	12	11	23	3
	196	14	10	24	4
	100	10	16	26	5
	16	4	21	25	6
	144	12	12	24	7
	144	12	15	27	8
	64	8	17	25	9
	256	16	12	28	10
	64	8	17	25	11
	169	13	10	23	12
D morally	1635	135	167	302	the total
	11.25				\bar{D}
	3.25				standard deviation S_D
	0.94				$S_{\bar{D}} = S_D/\sqrt{n}$
	11.96				$t_{cal} = \bar{D}/S_{\bar{D}}$
	2.201				$t_{th} (\alpha=0.05 ; d_f= 11)$
	6.07				Homogeneity C_V coefficient for pre- measurement
	24				Homogeneity C_V coefficient for dimensional measurement

Presentation and interpretation of the results: In Table No. (04), we note the value of the mean scores for measuring observed behavior before and after applying the proposed program with small games in order to reduce hyperactivity among primary school students, with a standard deviation of $SD = 3.25$. And the value of the homogeneity coefficient in the pre-measurement was equal to 6.07, which is a strong homogeneity, but in the post-measurement, it was equal to 24, which is an average homogeneity. And the calculated student value was equal to $T_{cal} = 11.96$ and the theoretical value $T_{th} = 2.201$. By comparison, it is clear that at the two levels of significance $\alpha = 0.05$, $T_{cal} > T_{th}$, which is significant. Thus, we can reject the null hypothesis H_0 , which states that there are no statistically significant differences between the pre and post measurements of the respondents with regard to limiting the hyperactivity of the phrases of the second axis after he was often fidgeting and moving his hands and feet or tossing and turning in his seat, that is, he finds it difficult to remain seated, difficult Playing quietly, talking excessively, and from it we can accept the alternative hypothesis H_1 that there are statistically significant differences between the pre and post measurement, which is in favor of the post measurement, i. They became more balanced, calm, and behaved calmly. Accordingly, we say that the application of the program was effective, and it is in favor of the telemetry, that is, after applying the program, in reducing hyperactivity.

View and analyze the results of the third axis to verify the third hypothesis:

"There are no statistically significant differences between the mean scores of the pre and post measurement of the respondents after applying the proposed program with small games to alleviate post-impulsive symptoms among pupils." View and analyze the results of the third axis according to each statement.

Table No. (05): shows the results of all students' answers On the phrases of the third axis

Statistica l significa nce	$t_{cal} = \bar{D}/S_{\bar{D}}$	C_v		$S_{\bar{D}} = S_D/\sqrt{n}$	S_D standard deviation	\bar{D}	ferries
		for telemetry	for pre- measure ment				
دال	6.70	30.6	10.5	0.31	1.08	2.08	16
دال	10.22	45.3	6.86	0.22	0.75	2.25	17
دال	6.95	25.7	13.9	0.24	0.83	1.67	18
$t_{th} = 2.201; \quad \alpha = (0.05); \quad d_i = 11$							

which is a statistical function. As we note, the coefficient of homogeneity for the study sample for tribal measurements was confined between the intensity of strong and medium homogeneity, which suggests that the sample was suffering from the same disorder occurring or close at two levels after hyperactivity in the various phrases, and after applying the program, it was noticed that there was a change in the two levels of homogeneity of the sample with a coefficient of homogeneity Weak, which is an indication that there is an effect of the program on the various behaviors of the axis statement in the dimension of impulsivity, which was suffered by the different members of the study sample.

Presentation and analysis of the results of the third axis according to each student:

Table No. (06): shows the differences between the mean scores of measurement The observed behavior of the third axis phrases.

	D ²	D	The degree of observed behavior		Pupil number
			remote	tribal	
Statistical significance	49	7	8	15	1
	49	7	7	14	2
	49	7	7	14	3
	64	8	6	14	4
	36	6	7	13	5
	1	1	11	12	6
	49	7	4	11	7
	16	4	9	13	8
	49	7	5	13	9
	4	8	6	14	10
	64	8	6	14	11
	64	8	6	14	12
	ōD morally	494	72	82	161
6.5				\bar{D}	
2.37				standard deviation $S_{\bar{D}}$	
0.68				$S_{\bar{D}} = S_D / \sqrt{n}$	
9.56				$t_{cal} = \bar{D} / S_{\bar{D}}$	
2.201				$t_{th} (\alpha=0.05 ; d_f = 11)$	
8.05				Homogeneity coefficient for pre- Cv measurement	
27.08				Homogeneity coefficient for Cv dimensional measurement	

Presentation and interpretation of the results: In Table No. (06), we note the value of the mean scores for measuring observed behavior before and

after applying the proposed program with small games in order to reduce hyperactivity among primary school students, with a standard deviation of $SD = 3.25$. And the value of the homogeneity coefficient in the pre-measurement was equal to 8.05, which is a strong homogeneity, while in the post-measurement it was equal to 27.08, which is an average homogeneity. And the calculated student value was equal to $T_{cal} = 11.96$ and the theoretical value $T_{th} = 2.201$. By comparison, it is clear that at the significance level $\alpha = 0.05$, $T_{cal} > T_{th}$, which is significant. Thus, we can reject the null hypothesis H_0 , which states that there are no statistically significant differences between the pre and post measurements of the respondents regarding the reduction of impulsiveness of the third axis phrases after he was interrupting others and intruding on them during conversations or games, he finds it difficult to wait until his turn comes, he rushes to answer Before the questions are asked, and from it we can accept the alternative hypothesis H_1 that there are statistically significant differences between the pre and post measurement, which is in favor of the post measurement, i.e. after applying the program. Which indicates that the program applied in play therapy was effective in reducing the impulsiveness of the sample and they became less impulsive, and therefore we say that the application of the program was effective and is in favor of the post-measurement, that is, after applying the program in reducing impulsiveness.

Discussing the results and comparing them with the hypotheses: After the results of the study have been presented and analyzed, in the following we will discuss the results of the hypotheses, relying on the results reached in previous studies, and with the theoretical side, highlighting the points of difference, agreeing with the current study and providing explanations for the results reached.

Discuss the results in the light of the first hypothesis, which states: "There are no statistically significant differences between the mean scores of the pre and post measurement of the sample members after applying the proposed program with small games in increasing attention among primary school students." It is evident by tracking the development on the level of change in the indicators, the behavior in the attention variable of the sample according to each of the axis phrases as shown in Table No. (01), where the results of the (T) student scale confirmed that the results of the tabular values of the calculated (T) value are greater From the tabular (T) value, meaning $T_{cal} > T_{th}$, where the T_{cal} value ranged between (3.12 and 8.03), while the tabular (T) value was equal to 2.201, at the significance level ($\alpha = 0.05$), which led to the rejection of the zero hypotheses for each of the axis statements and acceptance The

alternative hypothesis is in favor of the dimensional measurement, i.e. after applying the program, which are significant differences. Also, the results shown in Table No. (02), the change in attention deficit disorder among the sample members according to each student, showed that the calculated (T) values for all sample members were equal to 6.33, which is greater than its tabular value, which leads to the rejection of the null hypothesis H_0 and acceptance The alternative hypothesis is that there are statistically significant differences, which are significant in favor of the post-measurement. The researcher attributes these differences to the extent of the effectiveness of the proposed program with small games in increasing the attention of the study sample, depending on the mental abilities of focus, attention, response speed, and motor skills such as maintaining balance, reaction speed, and accuracy in motor performance to increase their skills, and express their abilities and conscience. In view of the results of previous studies, which in turn also emphasize the importance of such programs and specialized care for children who suffer from attention deficit and hyperactivity disorder, we find that the current study agreed with many of them: Study: (Zakaria Riyad Al-Minshawi 1999), which aimed to design a program to reduce some manifestations of attention deficit disorders accompanied by hyperactivity in children. Overall score and attention. And the study (Sahar Mustafa Al-Bab, 2014), through which it aimed to know the impact of a proposed training program during the lesson of physical education in developing the focus of attention among students of the basic education stage. This indicates initially the effectiveness of the proposed program with small games as a model for reducing the behavioral symptoms associated with attention difficulty, and the student attributes this to the feasibility of the content of small games that includes various techniques and methods, and the interaction and cooperation shown by the sample members during the programmed sessions, and within the framework and limits of the objectives of this study. From our observation we can say that the first hypothesis has been fulfilled.

Discuss the second hypothesis which states that There are no statistically significant differences between the mean scores of the pre and post measurement of the respondents after applying the proposed program in reducing the symptoms of hyperactivity among primary school students. By tracking the evolution in the level of change in the behavior of the sample according to each of the axis phrases as shown in Table No. (03), the results of the tabular values showed that the calculated (Tcal) value is greater than the tabular (Tth) value, meaning $T_{cal} > T_{th}$, as it ranged The Tcal value is between (3.55 and 9.43), while the tabular (Tth) value was equal to 2.201, at the significance level ($\alpha = 0.05$), which led to

the rejection of the zero hypothesis for each of the axis expressions and the acceptance of the alternative hypothesis, which is in favor of the post-measurement, that is, after applying the program, which are differences Significant function. Also, the results shown in Table No. (04), the change in hyperactivity disorder among the sample, showed that the (Tcal) values calculated for all sample members were equal to 11.96, which is greater than the tabular value for it, which leads to the rejection of the zero hypothesis and the acceptance of the alternative hypothesis H1, which says that "There are statistically significant differences between the pre and post measurement, which is in favor of the post measurement in reducing hyperactivity, and this is after applying the program." The researcher attributes these differences to the extent of the effectiveness of the proposed program with small games in reducing hyperactivity among the study sample, which relied when designing on several methods of teaching the child targeted activities, appropriate positive reinforcement, repeated training to play games that increase concentration and perseverance, positive reinforcement.. and others. This is consistent with the findings of (Barzegary et al, 2011) in his study of the effect of play therapy on male children with attention deficit hyperactivity disorder, as the results resulted in a decrease in the level of excessive motor behaviors in children of the experimental group. It also agrees with the findings of (Assaad, Hussein Abdel-Razzaq, 2009) in his study entitled The Effect of Kinetic Games for Children of the Age (7-8 years), which sees that the use of small games that are characterized by the nature of fun and pleasure have a positive and significant impact on the effectiveness of students' performance. Which led to the development of physical and motor abilities. Accordingly, and through the results obtained in analyzing the data of the second axis of the second hypothesis, which states that "there are statistically significant differences between the pre and post measurement scores of the sample members after applying the proposed program with small games in reducing hyperactivity among primary school students in favor of the post measurement." " We accept the alternative hypothesis H1 that there are differences between the scores of the pre and post measurement in favor of the post measurement. Hence, and within the framework of the limits and circumstances of what this study aims at, and according to our observation, we can say that the second hypothesis has been fulfilled.

Discuss the third hypothesis which states that "There are no statistically significant differences between the pre and post measurement scores of the sample members after applying the proposed program with small games to reduce impulsiveness among

primary school students''. It is evident by tracking the evolution of the level of change in the behavior of the sample according to each of the axis statements as shown in Table No. (05). The results of the tabular values showed that the calculated (Tcal) value is greater than the tabular (Tth) value, meaning $T_{cal} > T_{th}$, where The Tcal value ranged between (6.7 and 10.22), while the tabular (Tth) value was equal to 2.201 at the significance level ($\alpha = 0.05$), which led to the rejection of the zero hypothesis for each of the axis statements and the acceptance of the alternative hypothesis, which is in favor of the post-measurement, that is, after applying the program, which is Significant differences. The results shown in Table No. (06) also showed the change in hyperactivity disorder among the sample, and that the (Tcal) student values calculated for all sample members were equal to 9.56, which is greater than the tabular value for it, which leads to the rejection of the zero hypothesis and the acceptance of the alternative hypothesis H1, which says That “there are statistically significant differences between the pre and post measurement, which is in favor of the post measurement, that is, after applying the program.” The researcher attributes these differences to the extent of the effectiveness of the program based on small games in reducing the impulsiveness of the respondents by using various techniques and techniques of control, and the persistence that emerges after tracking the personality of the child who produces excessive excitement and exaggeration in his reactions towards his surroundings, and this is what Dabrowski (1960) defined.) in a theory known as the “dissociation theory”. This is consistent with the results of previous studies, including a study (S.Janatian et al, 2009), on the effectiveness of play therapy based on cognitive behavioral orientation in reducing hyperactivity associated with attention deficit among male primary students between the ages of 9-11 years, which resulted in improvement results. In the severity of the symptoms of attention deficit hyperactivity disorder in these children, the researcher noticed a decrease in the number of errors, an improvement in response time, and their achievement of socially acceptable behavior. Accordingly, and through the results obtained in analyzing the data of the third axis of the third hypothesis, the zero hypothesis H0 was rejected and the alternative hypothesis H1 was accepted as “there are statistically significant differences between the pre and post measurement scores of the sample individuals after applying the proposed program with small games in reducing impulsiveness among pupils The primary stage in favor of the post-measurement.” Within the framework and limits of the objectives of this study, and according to our observation, we can say that the third hypothesis has been achieved. Discuss the results and compare them with the general hypothesis Through commenting, discussing and interpreting the

results of the hypotheses for the three axes, it was found that there are statistically significant differences in favor of the telemetry, which means that the proposed program with small games has an effective effect in increasing attention, reducing hyperactivity, and reducing impulsivity. The researcher attributes this improvement at the level of modifying the disturbance to the style and nature of the games, the level of response and the good relationship between the student and the students, and the method of reinforcement in cases that required that. On this basis, it can be said that the proposed program was effective in achieving the objectives of the study and is consistent with most of the previous studies and their results in using play as a natural means to alleviate the severity of attention deficit hyperactivity disorder among primary school students. The results of the current study and in the light of its outputs and the interpretation of its hypotheses showed the effective role of small games in the development of different attentional processes such as selection and tracking. And the associated hypotheses are verified. The main question about the effectiveness of the proposed program with small games can be answered in increasing attention and reducing excessive and impulsive movement. In increasing attention and reducing hyperactivity and impulsivity among primary school students in favor of telemetry. General conclusion: The current study reached a set of results as follows: With regard to the first hypothesis, the study showed that there were statistically significant differences between the mean scores of the group members, between the pre and post measurements, in all scores of the observed behavioral measure, represented by increased attention, in favor of the post measurement. As for the second hypothesis, it was found through the results of the study that there were statistically significant differences between the scores of the group members between the pre and post measurements in all degrees of the observed behavior measurement, which is represented in reducing hyperactivity in favor of the post measurement. As indicated by the results of the third hypothesis, it was found through the study results that there are statistically significant differences between the scores of the group members between the pre and post measurements in each of the measurement scores of the observed behavior, which is represented in reducing impulsivity in favor of the post measurement.

General summary The importance of treatment with small games for children suffering from hyperactivity disorder accompanied by attention deficit and impulsivity appears through the results of many Arab and foreign studies that have proven its effectiveness in improving the symptoms of this disorder, and the current study is a new contribution in this field as it

searched for the effectiveness of the program A proposal for small games to increase attention and reduce hyperactivity and impulsivity among primary school students, and after presenting the results of the study hypotheses, it was found that there were statistically significant differences between the pre and post measurements of the experimental group in favor of the post measurement. On this basis and based on the results reached, and after statistical treatment, the following has been established: There are statistically significant differences between the pre and post measurement scores of the sample after applying the proposed program with small games in increasing attention, reducing hyperactivity, and impulsiveness among primary school students in favor of the post measurement.

Conclusion During childhood, the individual encounters many problems and disorders resulting from psychological and physical changes and transformations, where he experiences some fluctuations and a state of instability, and he becomes characterized by a kind of aggressiveness and excessive movement, which affects him and the society in which he lives. It may also affect important aspects of his life in a relapse such as ADHD, so it is necessary to eliminate such negative behaviors or at least reduce their symptoms, through the concerted efforts of all society, starting with the family and ending with specialists and teachers, and several researches have proven, including the current study Play or small games have an important role in alleviating this disorder that affects children at an early stage of their lives and may continue with them for a long time if these cases are neglected. Therefore, attention must be directed to this subject first, its objectives should be outlined according to its requirements, and the energies of these children should be directed to what benefits and comforts them. Through our study, we concluded that the proposed program is effective to an acceptable degree in alleviating the symptoms of this disorder if it is applied according to the principles on which it is determined and applied in an organized and continuous manner. The child is one of these activities in satisfying his needs, and benefits society by being a good and beneficial individual for his society and country.

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