

Autism Spectrum Disorder and Relationship it's with Electronic Games for Children

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Introduction

The researches in the fields of mental health, as well as clinical psychology and psychiatry indicate that autism spectrum disorder is one of the most common mental disorders in our world today, and is a form of disability that affects children from a young age [1]. This is because having a child suffering from autism is a problem in itself that makes parents feel sad and frustrated for their sons and daughters [2]. It should also be noted that the incidence of this disorder increases among males by (1-4) compared to females [3]. Although autism disability has become a significant proportion of our Iraqi environment, it has not received its right to care and attention compared to developed countries [4]. Therefore, those afflicted with autism make them and their families a double pain in this country.

On the other hand, the excessive practice of electronic games has become one of the most prominent threats to societies all over the world in all live aspects as health, primarily the sense of vision, and the weakness of mental energy, and psychologically due of loneliness and splitting, sociality weak familial warmth... else. Until became a common term is (gaming addiction) [5].

Recent studies have repeatedly revealed the presence of evidence to effect between electric games and autistic appearances as in UAE and in Romania, it was reported that those with autistic predispositions rush to play these games [5, 6].

So the both researchers had initiated with the current research, wondering whether there is a relationship to autism spectrum disorder with playing electronic games or not? And the extent and nature of that relationship, if any?

Objectives of the Research

The current research aims to identify:-

1. The level of autism spectrum disorder in children.
2. The relationship of autism spectrum disorder to playing electronic games.

3. The differences in the relationship between autism spectrum disorder and playing electronic games according to the gender variable (male - female).

The significance of the difference in the number of hours of play and the level of autism spectrum disorder according to the variable of age

Limitations of the Research

1. Autism spectrum disorder and playing electronic games.
2. Intended sample selective of Autism institutes located within Wasit Governorate amount (35) (18)male,(17)female, and ages from (5- 10)year.
3. The current research was implemented in the year 2019-2020.

Definitions of Terms Autism Spectrum Disorder

1. The definitions of autism varied due to the multiplicity of scientific and theoretical trends that try to explain this anatomical psychological complex, and one of the most important definitions that researchers looked at in this field is the definition of Autism Spectrum Disorder in the American Diagnostic Statistical Manual of Mental and Mental Disorders DSM-5 in its latest edition, issued in 2014 as :-
2. "A qualitative deficiency in the psychological and social capabilities is evident in a number of manifestations, the most prominent of which is the lack of social interest and the inability to communicate and interact with the surroundings, including the material and social stimuli. In addition to the repetition of strange motor behaviors, with the absence of typical play known in children and preoccupation with oneself (APA, 2014: P.315-39)."
3. The researchers adopted it as a theoretical definition, as they defined it procedurally as the degree that the

respondent gets from the ASD scale used in the current research.

4. Playing electronic games
5. The researchers also mentioned a number of definitions for playing electronic games, including the definition of (5), as: -
6. The kind of play that is concerned with games that are in a digital form and play in any electronic device that contains a screen. These include internet, computer and mobile games, which are usually exceptionally attractive and exciting for children.

The two researchers adopted it as a theoretical definition of the current research, and defined it procedurally as the degree to which the respondent would get as a result of calculating practice hours in electronic games.

Theorizing

The both researchers also adopted Zamfir’s 2018 model in explaining the causality of autism and the virtual electronic environment, as it collected his observations of children. In addition to private clinics, he found that there is a strong trend indicating that children suffering from autism spectrum disorder in the first years of life do not need a close relationship with parents or family members, but rather need care, guidance, support and learning.

In the event that there is a deficiency in these needs from the family or educational environment, they resort to behaviors that are characterized by self-centeredness as a sign of separation in finding solutions to the conflicts that occur to them, because of their lack of gratification, which Zamfir asserted that a large percentage of him is an emotional deficiency that concentrates in the child’s self and does not appear after that as his normal peers.

It appears that these consequences are inevitable as a result of childish emotional and material deprivation, and that there is an imbalance in children’s psychological functions, so they resort to searching for an alternative in their isolation, where the virtual environments are the broad field for expressing these incompatible psychological components and absorbing their autistic world in this electronic atmosphere, especially with the entry of these technologies into all homes, and they became accessible to everyone.

Therefore, the researchers indicated that children with autism have become almost always associated with these games, but other studies in the framework of Theoretical Etiology in the United States recently indicated the opposite, which is that these fun techniques that have become inherent to everyone, especially children, can be the causal factor in the growth and manifestations of autism originated even in the birth of normal children .This is because the practice of electronic play by children can lead to

them developing autistic symptoms, the most prominent of which is the tendency to isolation, and the lack of sense of the external environment.

Thus, the research team came to the conclusion that children, as they continue to play electronic games, can melt with it to a point that makes it difficult to leave its virtual world and keep up with the outside world . As a result o these results, centers were established in the United States to treat virtual autism resulting from electronic games, then Europe, and so on, Russia, China and Japan.

Psychologists in Romania also conducted an in-depth study of a disorder with indications of autism manifestations, and they found a common point among the children involved in the study, which is playing electronic games or the so-called virtual environment at a rate of (1-4) hours or more per day, from which the largest causal factor in the occurrence of these manifestations arises. This led to theorizing in the field of autism the shift to environmental factors in the causation and development of autism symptoms, or that they may exacerbate autism symptoms in individuals who already suffer from it (6).

Methodology:

The current research follows the relational descriptive approach, which is the method that relies on studying reality according to the relationship approach, and expresses it quantitatively to provide us with a numerical description to clarify the amount of this phenomenon or its size and its relationship to various other phenomena [7]. The research community was represented by children diagnosed with autism spectrum disorder in autism centers located in Wasit Governorate in Iraq, and their number (80) children of all ages for the year 2019-2020. The two researchers selected a sample of (35) children, ages (5-10) years, (18) males, and (17) females. After investigating the parents, it was found that autistic children practicing electronic games reached (19), and the males were (12) and females (7). The autism spectrum disorder scale was applied in a corresponding way to the parents of the children, because the children are mentally and psychologically not qualified to answer the scale because of their autism, and table (1) illustrates that.

S	Institute name	Gender		Beneficiaries
1	Wasit Autism	Male	9	16
		Female	7	
2	Al-Yasameen	Male	6	12
		Female	6	
3	Al-Noor	Male	3	7
		Female	4	
Total				35

Table 1: The research sample for those who suffer from autism spectrum disorder ranges from 3 to 5 years

INSTRUMENTS

The both researchers also prepared instrument to measure the main research variable represented by the Autism Spectrum Disorder Scale, while the electronic play variable measurement was determined by the time spent by the autistic child in his practice, which was determined according to the Zamfir standard(2018) with a time ranging from (1-4) hours or more[8].

The Autism Spectrum Disorder Scale:

In building the main research instrument, the researchers relied on the definition written in the American Diagnostic Manual of Mental and Mental Disorders(DSM-5) in its latest edition, 2014, which consisted of four main areas that included sub-dimensions, as follows:-

First Area: A persistent qualitative deficit in communication and social interaction, which included three dimensions:-

1. Deficiency in emotional and social interaction, ranging from abnormal social interaction to the inability to have a normal discussion.
2. Deficits in nonverbal communication behaviours used, ranging from impaired integrity in verbal and non-verbal communication to abnormalities in visual communication and body language or inability to use gestures, to a complete lack of facial expressions and non-verbal communication.
3. Failure or inability to develop, maintain and understand relationships, and it ranges from difficulties in modifying behaviour to suit different social contexts, to difficulties in sharing play or in making friends, to a lack of interest in peers.

Second Area: Patterns of limited and repetitive behaviors, interests, and activities, and consists of four dimensions:

1. Repeated stereotypes of movement or use of objects or speech (for example, simple movement patterns, describing games and turning things around, verbal echo, and idiosyncrasy of phrases).

2. Insistence on resemblance, monotony, inflexible adherence to routine, and ritual patterns of verbal and nonverbal behavior (for example, extreme distress at partial changes, rigid thought patterns, greeting rituals, the need to go the same way every day, or eat the same food every day).
3. Interests specific to intensity and concentration (for example, attachment and preoccupation with unusual things).
4. Excessive or reduced response to sensory input or unusual interest in the surrounding environment (for example, apparent indifference to temperature, negative response to surrounding sounds, excessive smelling and touching of objects, fascination with lights and movement).

Third Area : Symptoms must appear at an advanced stage, but they may not, in turn, reach a clear and integrated form, unless it exceeds some social situations, or the symptoms may fade away in the future, due to some of the strategies that he received through education and training.

Forth Area: These symptoms may result in deficits with clear clinical indications in current performance, aspects of social or professional interaction, or any other important areas. (DSM 5, 2014: P.28-29).

The items amounted to (40) items, in addition to instructions that were formulated by reviewing previous measures of autism, and because they were naturally presented to those with disturbed subjects, since the disordered were not qualified to answer due to their autism condition, the instructions took into account that matter that they will be presented to individuals with different academic achievements. And alternatives were: (does not apply, applies to a simple degree, applies to a moderate degree, applies to a severe degree), and weights ranged from (0, 1, 2, 3).

The apparent validity index was extracted by presenting the items to a number of experts, whose number reached (10) evaluators, and the researchers adhered to the acceptance criterion, the item reached (80%), that is, the item agreed upon by (8) of the total of (10) evaluators, so all the items obtained the approval of the evaluators is (100%), and as shown in table (2). **DISCRIMINATION**

S	Area	Number of the items	Item No.	The acceptors		Non-Acceptors	
				No of iterations	Percentage	No of iterations	Percentage
1	First	15	1,2,4,5,6,8,9,10,11,12,14,15	10	100%	~	~
			3,7,13	9	90%	1	10%
2	Second	20	16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35	10	100%	~	~
3	Third	3	63,67	10	100%	~	~
			38	8	80%	2	20%
4	Forth	2	39,40	10	100%	~	~

Table 2: The percentages of arbitrators' opinions regarding the validity of the autism spectrum disorder items

DISCRIMINATION

Discrimination was calculated using the method of the two terminal groups of the (30) research questionnaires. After determining the upper 50% of the (15) forms, and the minimum 50% of the (15) forms. By using the method (chi- square) and the value of (P-probability) to demonstrate the significance of the discriminatory power of each of the items, it was found that items (1, 5) of the first dimension of the first area , and items (7, 9) of the second dimension of the first area, item(14) of the third dimension of the first area, item (19) of the first dimension of the second area, item(36) of the third area, and item(39) of the fourth area . Therefore, the items that did not obtain the necessary value for discrimination amounted to (8) items, as they are not statistically significant because the value of (P) probability is greater than the level of significance (0.05), as shown in table (3).

1 st area	Item	The group	Z.		Degree-1		Degree-2		Degree-3		Calculate d -chi	P-probability value	Significance
			degree		1		Degree-2		Degree-3				
			C o u n t e d	e x p e c t e d	C o u n t e d	e x p e c t e d	C o u n t e d	e x p e c t e d	C o u n t e d	e x p e c t e d			
	1	Lower	1.5	0	3.5	2	4	5	3	5	7.452	0.059	Non-function
		Upper	1.5	3	3.5	5	4	3	3	1			
1st dimension	2	Lower	3	0	3.5	2	4.5	8	1	2	14.73	0.002	Function
		Upper	3	6	3.5	5	4.5	1	1	0			
	3	Lower	2.5	0	2	0	5	8	2.5	4	14.4	0.002	Function
		Upper	2.5	5	2	4	5	2	2.5	1			
	4	Lower	0.5	0	5	2	5	8	1.5	2	8.533	0.036	Function
		Upper	0.5	1	5	8	5	2	1.5	1			
	5	Lower	2.5	1	2	2	5.5	6	2	3	2.891	0.409	Non-function
		Upper	2.5	4	2	2	5.5	5	2	1			
	6	Lower	3.5	0	2	1	5	9	1.5	2	14.733	0.002	Function
		Upper	3.5	7	2	3	5	1	1.5	1			
2nd dimension	7	Lower	2.5	1	3.5	3	5	6	1	2	4.343	0.227	Function
		Upper	2.5	4	3.5	4	5	4	1	0			
	8	Lower	1.5	0	4	2	4	7	2.5	3	9.7	0.021	Function
		Upper	1.5	3	4	6	4	1	2.5	2			
	9	Lower	1.5	0	5	4	5.5	8	0	0	5.673	0.059	Non-function
		Upper	1.5	3	5	6	5.5	3	0	0			
	10	Lower	3.5	0	2	1	5	8	1.5	3	14.6	0.002	Function
		Upper	3.5	7	2	3	5	2	1.5	0			
	11	Lower	3.5	0	2.5	1	3.5	6	2.5	5	17.371	0.001	Function
		Upper	3.5	7	2.5	4	3.5	1	2.5	0			
3rd dimension	12	Lower	3.5	0	1.5	2	7	10	0	0	9.905	0.007	Function
		Upper	3.5	7	1.5	1	7	4	0	0			
	13	Lower	3	0	4	3	4.5	8	0.5	1	12.944	0.005	Function
		Upper	3	6	4	5	4.5	1	0.5	0			
	14	Lower	3	1	5.5	5	1.5	2	2	4	7.091	0.069	Non-function
		Upper	3	5	5.5	6	1.5	1	2	0			
	15	Lower	4	2	2	0	6	10	0	0	11.333	0.003	Function
		Upper	4	6	2	4	6	2	0	0			
	16	Lower	3	0	2.5	1	5	8	1.5	3	14.4	0.002	Function
		Upper	3	6	2.5	4	5	2	1.5	0			

2 nd Area - 1st dimension	17	Lower	2.5	0	3	2	5	8	1.5	2	9.6	0.022	Function
		Upper	2.5	5	3	4	5	2	1.5	1			
	18	Lower	1	0	5.5	3	5	9	0.5	0	11.673	0.009	Function
		Upper	1	2	5.5	8	5	1	0.5	1			
	19	Lower	2	0	3	2	4.5	6	2.5	4	7.467	0.058	Non-function
		Upper	2	4	3	4	4.5	3	2.5	1			
	20	Lower	2	0	3.5	2	5.5	8	1	2	9.558	0.023	Function
		Upper	2	4	3.5	5	5.5	3	1	0			
	21	Lower	2	0	3.5	1	6	10	0.5	1	13.905	0.003	Function
		Upper	2	4	3.5	6	6	2	0.5	0			
	22	Lower	3.5	0	2.5	3	4.5	7	1.5	2	10.311	0.016	Function
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2nd dimension	23	Lower	2	0	4	1	xxxx;x	(x):1-7	1.5	3	16.944	0.001	Function
		Upper	2	4	4	7	4.5	1	1.5	0			
	24	Lower	3.5	0	3.5	3	4	7	1	2	13.643	0.003	Function
		Upper	3.5	7	3.5	4	4	1	1	0			
	25	Lower	3	0	3	1	4.5	8	1.5	3	17.111	0.001	Function
		Upper	3	6	3	5	4.5	1	1.5	0			
	26	Lower	4	1	2	1	4.5	8	1.5	2	11.278	0.01	Function
		Upper	4	7	2	3	4.5	1	1.5	1			
3rd dimension	27	Lower	2.5	0	3.5	3	4	6	2	3	8.143	0.043	Function
		Upper	2.5	5	3.5	4	4	2	2	1			
	28	Lower	4	0	3.5	3	2.5	5	2	4	17.143	0.001	Function
		Upper	4	8	3.5	4	2.5	0	2	0			
	29	Lower	2.5	0	4	1	3.5	7	2	4	20.5	0.001	Function
		Upper	2.5	5	4	7	3.5	0	2	0			
	30	Lower	3	0	2	1	3.5	5	3.5	6	11.857	0.008	Function
		Upper	3	6	2	3	3.5	2	3.5	1			
	31	Lower	4	0	2	1	4.5	8	1.5	3	17.444	0.001	Function
		Upper	4	8	2	3	4.5	1	1.5	0			
4th dimension	32	Lower	2	0	4.5	2	4	7	1.5	3	14.278	0.003	Function
		Upper	2	4	4.5	7	4	1	1.5	0			
	33	Lower	2	0	1.5	0	5.5	7	3	5	10.485	0.015	Function
		Upper	2	4	1.5	3	5.5	4	3	1			
	34	Lower	3	0	2	3	6	7	1	2	9.333	0.025	Function
		Upper	3	6	2	1	6	5	1	0			
	35	Lower	2.5	0	3	2	4.5	8	2	2	11.111	0.011	Function
		Upper	2.5	5	3	4	4.5	1	2	2			
3 rd Area	36	Lower	3.5	2	2.5	2	5.5	7	0.5	1	3.304	0.347	Non-Function
		Upper	3.5	5	2.5	3	5.5	4	0.5	0			
	37	Lower	2	0	2.5	0	7	11	0.5	1	14.571	0.002	Function
		Upper	2	4	2.5	5	7	3	0.5	0			

	38	Lower	2	0	3	2	6.5	10	0.5	0	9.436	0.024	Function
		Upper	2	4	3	4	6.5	3	0.5	1			
4th dimension	39	Lower	2	1	3	2	6	8	1	1	3	0.392	Non-Function
		Upper	2	3	3	4	6	4	1	1			
	40	Lower	2	0	5	4	4.5	7	0.5	1	8.178	0.042	Function

Table 3: The discriminatory power of the two-terminal autism spectrum disorder scale

Scale- Item Relationship (Internal Consistency)

To extract this important psychometric index for the Autism Spectrum Disorder Scale, Pearson Correlation Coefficient was used to verify the extent of the correlation between the scores of the items and the total scores of each dimension with the total score of the field, and it was found that all the correlation coefficients are statistically significant at the significance level (0.05), except for the items that fell in discrimination and the indicator in the previous table as it indicated weak correlation coefficients on the scale at the level (0.05), and table (4) shows that :-

Set degrees of scale			Set degrees of areas			Set degrees of dimension			Items	Area
Sig	P	R	Sig	P	R	Sig	P	R		
									1	1st area- 1st dimension
Function	0	0.785	Function	0	0.752	Function	0	0.734	2	
Function	0	0.776	Function	0	0.744	Function	0	0.795	3	
Function	0.004	0.561	Function	0.002	0.578	Function	0	0.652	4	
									5	
Function	0	0.732	Function	0	0.79	Function	0	0.82	6	1st area 2nd dimension
									7	
Function	0.003	0.563	Function	0.003	0.565	Function	0.001	0.634	8	
									9	
Function	0	0.804	Function	0	0.824	Function	0	0.802	10	
Function	0	0.8	Function	0	0.762	Function	0	0.797	11	1st area 3rd dimension
Function	0	0.708	Function	0	0.749	Function	0	0.788	12	
Function	0	0.828	Function	0	0.855	Function	0	0.84	13	
									14	
Function	0	0.7	Function	0	0.772	Function	0	0.794	15	
Function	0	0.825	Function	0	0.792	Function	0	0.751	16	2nd area - 1st dimension
Function	0	0.657	Function	0.002	0.582	Function	0	0.679	17	
Function	0.01	0.506	Function	0.005	0.543	Function	0.001	0.624	18	
									19	
Function	0	0.691	Function	0	0.7	Function	0	0.808	20	
Function	0	0.69	Function	0	0.743	Function	0	0.766	21	2nd area - 2nd dimension
Function	0	0.741	Function	0	0.777	Function	0	0.809	22	
Function	0	0.798	Function	0	0.841	Function	0	0.885	23	
Function	0	0.766	Function	0	0.785	Function	0	0.836	24	
Function	0	0.83	Function	0	0.85	Function	0	0.853	25	

Function	0.02	0.461	Function	0.004	0.554	Function	0	0.697	26	2nd area 3rd dimen sion
Function	0.004	0.558	Function	0.002	0.587	Function	0	0.742	27	
Function	0	0.811	Function	0	0.796	Function	0	0.828	28	
Function	0	0.788	Function	0	0.815	Function	0	0.836	29	
Function	0	0.858	Function	0	0.821	Function	0	0.743	30	
Function	0	0.918	Function	0	0.932	Function	0	0.871	31	2nd area 4th dimen sion
Function	0	0.75	Function	0	0.748	Function	0	0.814	32	
Function	0	0.647	Function	0	0.667	Function	0	0.771	33	
Function	0	0.647	Function	0	0.691	Function	0	0.766	34	
Function	0.002	0.586	Function	0	0.645	Function	0	0.722	35	
									36	3rd Area
	0	0.717		0	0.791				37	
	0.001	0.643		0	0.691				38	
									39	4th Area

Table 4: Correlation coefficients to identify the correlational relationship between the item, the scores of the sum of each dimension, the total score for the first, second, third, and fourth areas, and the overall score for the Autism Spectrum Disorder Scale.

Construct Validity: Construct validity is one of the most prominent indicators of validity in psychological tests and measures, and it has been extracted through the indicators of discrimination and internal consistency as it is one of the most important indicators of this type of validity according to the majority of sources in the field of psychological testing, including what Anastasi indicated [9].

Reliability: The researchers extracted this index for the Autism Spectrum Disorder Scale by the method of internal consistency by applying the Cronbach alpha equation to the stability test scores of (10) clients from the research sample , the Alpha Cronbach coefficient reached (0.87) and this coefficient of stability is high according to the standard Nunnaly,1978 and the scale is also internally consistent because this equation reflects the consistency of the scale's items internally, as the stability coefficient ranges between (0.70 - 0.90). It is a good indicator of a static scale [10-11].

The final version of the Autism Spectrum Disorder Scale

After extracting most of the basic psychometric conditions for the autism spectrum disorder scale, the scale was completed with (32) items distributed into four main areas consisting of sub-dimensions , where the first area is of three dimensions and the second area is of four dimensions, while the third area and the fourth area are limited to their content only, as for the alternatives to the answer are (do not apply, apply to a simple degree, apply to a moderate degree, apply to a severe degree) .The weights of the alternatives for the answer are (0.1.2.3), respectively, so the upper limit is (96) and the lower limit is (0), and the hypothetical (theoretical) mean is (48), which represents the scale in its final form, ready to be applied to the research sample represented by children marked with autism spectrum disorder.

The Statistics ways

The researchers relied in his current research on the Microsoft-Excel program prepared by Microsoft, and the statistical package (SPSS), from which the following statistical methods were derived:-

1. Chi-square method to identify the differences between the upper and lower groups to extract the discriminatory force.
2. Pearson correlation coefficient (to extract the correlational relationships between the variables and to show the correlational relationship between the item score, dimension, and area by the total degree of the scale).
3. T-test for one sample (to extract the significance of the difference between the theoretical and calculated averages).
4. Analysis of variance (to find out the significance of the difference in the number of hours of play and the level of autism spectrum disorder according to the variable of age).
5. Alpha Cronbach coefficient to know the value of the reliability coefficient.
6. The Z-test to find the differences in the relationship between autism spectrum disorder and playing electronic games according to the gender variable (male - female).

7. Scheff's test for dimensional comparisons to identify the significance of the difference in age levels.

Presentation and Interpretation of Results

First: The level of Autism spectrum disorder for children

The autism spectrum disorder scale was applied to the research sample, and the results of the research showed that the arithmetic mean of the individuals' scores reached (50.48) degrees and a standard deviation of (8.15) degrees. Upon knowing the significance of the difference between the arithmetic mean and the hypothetical average of (48) degrees, it is found that the difference is not statistically significant. The calculated T-value was (0.56), which is close to the value of (P), the probability of (0.58), which means that the level of autism spectrum disorder is average among the clinic sample members, and the autistic grouping is relatively one, which means that there are no differences between the research sample of children Autistic individuals, and table (5) show that.

The theoretical mean	The arithmetic mean	Standard deviation	Standard mean error	T- Value	P- probability value	Significance
48	50,48	8,15	4,43	0,56	0,58	Non- function

Table 1: Results of the T-test for one sample to identify the significance of the difference between the theoretical and calculated averages of autism spectrum disorder for the research sample

Second: The relationship of autism spectrum disorder with playing electronic games

The scores of the individuals of the sample described with autism spectrum disorder were calculated with a gradient of the hours of playing electronic games, and those who practiced electronic games were (18) individuals, (14) of whom were males and (4) females. The hours of practice were calculated against their score on the scale, and by using the correlation coefficient (Pearson), the correlation coefficient was (0.90), which is a high positive correlation, indicating that there is a steady increase between hours of playing electronic games, and an increase in the severity of autistic symptoms. This result is in agreement with the study which indicated that the environment surrounding the child and external factors have a hand in developing autism, including direct exposure to smart devices for long periods at an early age [12]. I also agreed with (Zamfir's model), which indicates that if environmental factors did not play a role in the causation of autism, then they play a role in increasing its severity and exacerbation or not.

The autistic child who lives in an inactive environment differs from his peer who lives in an exciting environment, in addition to the excitement provided by electronic technologies to the autistic child, even if they trigger the state of sensory interaction, which is the required thing to happen, but at the same time it may isolate it from the surrounding world (6) the figure below illustrates this.

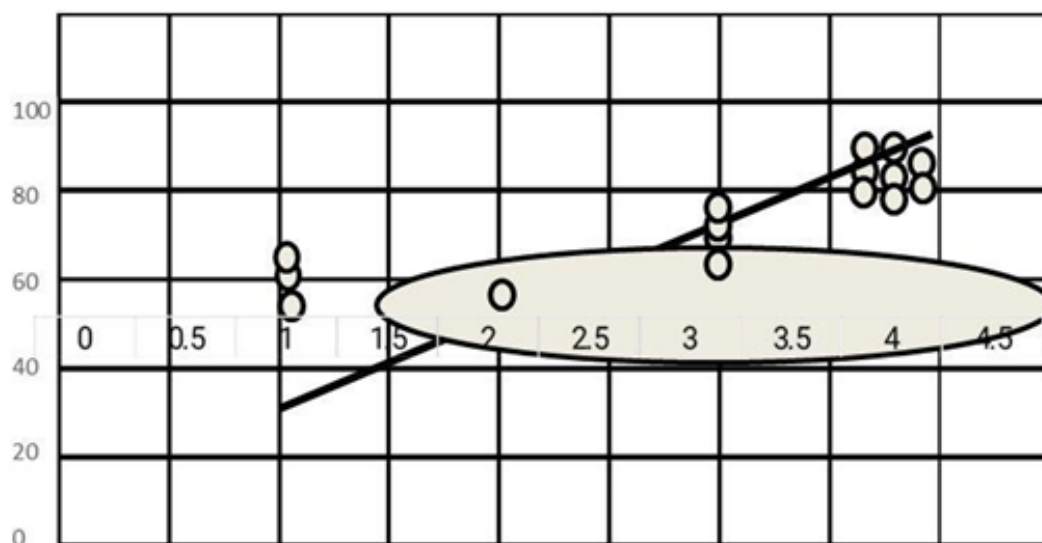


Figure: This figure shows distribution of scores of the research sample on the axis of correlation between the number of hours of playing electronic games and autism spectrum disorder

Third: The differences in the relationship between autism spectrum disorder and playing electronic games according to variable of gender, males, females

After obtaining the scores on the autism scale by comparison with the number of hours of playing electronic games, the (Z-test) was

used to find out the significance of the differences in the relationship, and the correlation value for males was (0.89), while the females reached (0.95), and the calculated Z-value is (1.35) indicating the differences in the correlation coefficients are statistically significant and in favor of females, that they are more affected by electronic play on the one hand, and the effect of this increased the momentum of autistic symptoms on the other hand. This result differed with a study of Hasan & Hasoun which indicated that playing games for males more than females [13]. It also disagreed with a study which showed no differences between males and females in this area [14].

The researchers believe that this can be explained by the fact that females are less free to move and less diversified in activities, so they continue to practice electronic play compared to males who are relatively more spacious and diverse in playing, and table (6) illustrates that.

	Correlation coefficient	The sample	Logarithmic contrast	Counted value
Male	0,89	14	1,42	1,35

Table (6): Z-test results to identify the differences in the relationship between autism spectrum disorder and playing electronic games according to the gender variable (male - female)

Forth: The significance of the difference in the number of hours of play and the level of autism spectrum disorder according to the variable of age.

When applying the analysis of variance test, the F-value of autism spectrum disorder was (2.59), and the value (P) of (0.108), and since the value of (P) is smaller than the level of significance (0, 05) .This means that there is a statistically significant difference due to the age variable for the relatively studied sample, with the increase in the number of hours of play with age, and this result is in agreement with the study of Baker, which stated that the more people age, the higher the level of playing games they have, since when individuals reach the age of (18), their games increase by (29%) [15]. Table (7) illustrates that.

Variable	The source	Sum of squares	Temperatures	Average	F-	P-	Significance
	of the contrast			of squares	value	probability value	
Autism spectrum Disorder	Among Groups						Function
		3710,67	2	855,33	2,59	0,108	
	Within groups	4957,33	15	330,49			
	Total	8668,00	17				
Hours of play	Among groups	8,69	2	4,35	4,58	0,028	Function
	Within groups	14,25	15	0,95			
	Total	22,94	17				

Table 7: Table of variance analysis to find out the significance of the difference in the number of hours of play and the level of autism spectrum disorder according to the variable of age

Conclusion

1. The level of playing electronic games varies among children with autism spectrum disorder, some of them play and others do not.
2. The symptoms of autism spectrum disorder vary according to the hours of playing electronic games in intensity accordingly.
3. The symptoms of the autism spectrum are exacerbated by playing electronic games in females than in males.
4. The level of autism spectrum disorder due to electronic play varies according to the variable of age.

Recommendations

Holding seminars to educate parents about the dangers of electronic games and their health, psychological and social consequences.

1. Not giving children, aged between (3-5), any electronic device, because this helps stimulate undesirable behaviors
2. Directing the Ministry of Higher Education on the necessity of providing autism institutes with graduates of mental health and educational psychology to implement high-quality professional training programs through which to see changes in children with autism.
3. The necessity to develop a national program to find out the cases of autism for our country, and to establish centers with a high level of requirements for this group, similar to the countries of the world.
4. The necessity of developing legislation to appoint graduates of the psychological departments specialized in autism institutes, as well as establishing a national financial fund to support autistic people.

Suggestions

To complete the current research, the researcher suggests conducting some future studies and research, such as:-

1. Conducting a study of the autism spectrum disorder variant with different psychological and educational variables, such as (emotional deprivation, the mother's nervous state, previous history of family psychiatric illness, parental abuse, and situational trauma).
2. A study of autism spectrum disorder with several demographic variables, including: (standard of living, environmental pollution, and housing type).
3. Studying electronic games with several psychological and educational variables, such as: (imitation of the model, family education style (introverted- extrovert), cognitive style, avoidance - adventure, personality type (A - B)).
4. Study games with demographic variables, such as: (income level, family cultural level, simple - medium - high, level of achievement, type of achievement (literary- scientific)).

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