

The Impact of Colour-Drawing in Reducing Behavioural Disorders for Autistic Children: An applied study on a Sample of Autistic Children

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This study aims at realising the influence of using colours in drawing and its role in reducing the behavioural disorders for autistic children while merging them with their peers. The paper used 50 autistic children whose ages range from 5-14 years old including both males and females. The researcher employed certain measurements to gauge the behavioural disorders and considered the autism list of American Association of Psychiatry focusing on the fourth edition from the statistical guide to diagnose the mental diseases (DSMIV) for the year 1994. This list is concerned with diagnosing autistic cases and is composed of four main fields and 15 chapters: the first field is the typical shortcoming of social communication, while the second field is the linguistic shortcoming and the third is samples of redundancy in behaviours, whereas the fourth one is the shortcoming of growth. The outcomes of statistical tests applied on hypotheses have concluded that there is a statistical difference between the ranges of the two groups in which the experimental group takes the lead in reducing the behavioural disorders in the samples under review, with relevance to the first hypothesis and the same is true with the second hypothesis.

Key words: *Drawing and autism, children, colours, reducing behavioural disorders.*

Research Problem

Autism has been a major concern for the researcher while conducting her Masters' studies. She found that children infected with this disease are increasing especially among children and those who need special care and concern from government facilities and civil society organisations as they comprise a significant part of the society they belong to. A child with autism definitely lacks the qualities and abilities a normal child has. This disease is one of the

many diseases that expose the subject to psychological disorders which impact their growth and consequently render them more complicated and introvert, which gradually leads them to withdraw from the society and become an introvert and ban any contact with others. An autistic child can be described as “I look like a normal human being but most people do not understand me, so I am not deaf as such I do not deal with what I hear in a correct way. I am not blind even though I do not understand what I see. I am isolated from the world because of my inability to recognise it, so help me be connected with world again” (Abu Halawa 2017).

Autism is considered one of the complicated problems challenging human societies in contemporary world. This trouble is present in every society and region in significant ratios from different races and sects. So, this disease infects children regardless of their cultural, social and environmental conditions (Aarons, 1992:p.17).

It is understood that a child with autism has few means of contact with the outside world (Sadiq and Alkhamisi 1425 A.H: 3). Hard work is required to merge this slice with society and help them out to recover from this disease and employ their abilities in developing society. This is the basic idea from which this research starts, which embodies the problem of the research. Ongoing negligence of those children might lead the autistic child to be aggressive for their feeling of being different from others because of lack of self-confidence and inability to adapt; which others have. As such, we need to realise the impact of drawing with colours and it's workability in helping autistic children to fix the behavioural disorders they have.

Significance of the Study

The researcher hypothesises that drawing has a noticeable importance in enhancing autistic child skills as far as it is a sensible learning experience by which the child can learn. It grants the child many chances to satisfy their ego and decrease their feeling of being inferior. It also grows the feelings of accomplishment through means of expression and performing these technical tasks. Accordingly, the sensual and tangible harmonisation increases through grabbing the tools of drawing which push them to express themselves and contact the surrounding people without stating it verbally, which consequently helps the child to reject the pressures and stress. These steps achieve balance to the child and develops the physical preparations which finally contribute in developing sensual-physical control. It also helps in training the mental functions for the child and grow the social and lingual community chances through paying attention to the figures, colours and performance. Hence, it is the child's means of expressing his being which improves his chances of success. The significance of this paper can be summed up in:

1. Therapy through drawing for autistic children may contribute in achieving emotional and social growth.
2. There are hardly any Arabic studies that deal with this type of therapy for its recent advent in the Arabic environment.
3. Drawing therapy might embody an experimental and training therapy as well as a basic strategy in decreasing the side effects that come out of autism, basically the behavioural disorders which may influence his life.

Hypotheses of the Study

This paper is based on one hypothesis as solutions for the problem which refers to: 'behavioural disorders can be lessened for autistic children through drawing in colours'.

There are other branches from the main hypothesis:

- A. First branch hypothesis: there are no statistical differences at the level (0.05) between the averages of experimental and disciplined groups in the prior and later measurements for the level of behavioural disorders.
- B. Second branch hypothesis: there are no statistical differences at the level (0.05) between the degrees of the experimental group in the prior and later measurements of behavioural disorders.

Objectives of the Study

This paper aims at achieving some goals, besides the main the purpose represented in measuring the impact of drawing in colours in decreasing the behavioural disorders for autistic children. The objectives include:

1. Identifying autism and what children suffer from closely.
2. Contributing in integrating the autistic children with the surrounding world by using drawing and helping them to leave their solitude and making them more confident and expressive.
3. Employing drawing to decrease the autistic children's solitude, integrating them with the world and establishing relations with other people around.
4. Identifying tendencies and desires that could help in achieving desired goals.

Definition of Terms

- Child drawing: it is a product of one of the arts which is classified recently as one of the styles that reflect the character structure and can express whatever is non-verbal. It is considered a mirror for the way life is going by which pros and cons can easily be identified through drawing (Rasheed 2008, 182).

- Behavioural disorders: are a pattern of thoughts and behavioural bursts which belong to normal behaviours. It is accompanied by bad adaptations that cause stress and the disorder is identified with repetition of the behaviour. It able to change the routes of people about the different aspects of life (Aljuboori 1996, 52). Behavioural disorders express unwanted behaviour and it surfaces in the child's relation with itself and others and might be indicated through aggression, extra-activity and non-cooperation (Blan 2011, 184).
- Autism: a disorder that occurs in the child's early years which results in a defect of psychological, lingual and social growth which hinders the psychological stability of the child. This widens the obstacle of growth as long as they get old (Catherine, 2007, 31).

Procedural Definitions for Research

- Children's drawing: The unique artistic characteristics of children with autism within the age group (11-13) years and of both sexes according to the results of the research tool.
- Behavioural Disorders: Any behaviour seen by autistic children is socially unacceptable, makes them unable to adapt or integrate with their community, and makes them in isolation from interacting with their peers.
- Behavioural Disorders: Any behaviour noticed by autistic children is socially unacceptable, makes them unable to adapt or integrate with their community, and puts them in isolation and from interacting with their peers.
- Autism: A clear deficit in non-verbal communication skills identified by mutual attention, visual communication, imitation, listening and understanding, indicating what is desired, and identifying, as well as comprehending facial expressions and voice tones, as measured by the list of skills of non-verbal communication prepared in this paper.

Research Framework

The first to describe autism was John Langdon Down in 1887, which called the disorder 'Down syndrome'. However, the first doctor who named the disorder of Downs' syndrome as autism was the prominent doctor of psychology, Eugen Bleuler in 1911 (Alkubaisy 2017, 132). It was accredited to Kanner who was able to diagnose autism in a practical way (Arafat 2011). He said that autism disorders were defined at the end of the 20th century by the scientists Leo Kanner and H. Asperger in 1943 through a study they conducted. They were precise in their study of this disease as they published a study in which they described 11 children who shared certain behaviours that were not similar to any known symptoms at that time. It is therefore suggested that these behaviours be included under a new and separate diagnostic description called 'child autism' and this was the beginning of autism (Arons 2008).

The Concept of Autism and its Causes

Autism as a term, is derived from the Greek word (aut) meaning self or ego and the word (ism) means closure, the term as a whole can be translated as self-closure or introverted. Children often merge or unite with themselves, and have little interest in the outside world (Crepueau et al. 2003; 2005.). There is a definition of the British Society for Autistic Children in the United Kingdom, through which it sought to set goals for a social policy to deal with this category as mentioned by (Alzaraa 2005, 17).

However (Aljawhari 2011) defined Autism as "one of the cases of disability that impede the brain's absorption of information and how to process it, and leads to problems in the child's ability to contact those around him, disorders in the acquisition of behavioural and social education skills".

Diagnosis of the causes of such disorders may vary, so we find it difficult to modify the behaviour or social and professional rehabilitation in which it occurs. This is because many researchers believe that so far there has been no complete knowledge or general consensus on the factors that cause this type of disability: genetic, environmental, social, or epidemiological. Whereas it may not be a result of any of these factors, it may be attributed to other unknown factors (Sulaiman 2000).

Types of Autism, Phases and Features of Every Phase

Mary Coleman (1976), director of the Pediatric Brain Research Clinic in Washington, has proposed a classification system for autistic children that puts them in three basic groups. Her work has shown that autism is not a single syndrome, as Kaner confirmed (Lameya, 2012) and these classifications are:

1. Class one: Classic Autistic Syndrome. Children of this type exhibit early symptoms, no apparent neurological disabilities, and the children in this group begin to improve gradually between the ages of five and seven (Nasr, 2002: 24).
2. Class two: Childhood schizophrenic syndrome with autism symptoms. Similar to the children of the first group, but the age at the injury is one month delayed. Coleman says that children in the second category show other psychological symptoms in addition to the classic autism syndrome presented by Kaner.
3. Class three: Autistic Syndrome with a neurological disorder. The children of this disease have an organic brain disease including metabolic disorders and viral syndromes such as measles and sensory deprivation syndrome (deafness and blindness). While Sevin, Matson, Coe, Fee & Sevin, 1991 have categorised four groups:

1. Anomalous group: The individuals exhibit the least number of autistic characteristics and the highest level of intelligence.
2. Simple autistic group: The members of this group appear to have social problems, a strong need for things and events, and they also suffer from simple mental retardation and functional commitment.
3. The middle autistic group: The members of this group are characterised by limited social responses, and severe patterns of typical behaviours (such as swing and hand waving) a limited functional language and mental retardation.
4. Severe Autistic Group: Individuals are socially isolated, lack functional communication skills, and mental retardation at a marked level (Zureikat, 2004: 48-49).

Methods of Teaching with Autistic Patients

The term "techniques" is a term used for the Greek word "technology" and consists of two syllables, "techno" which means "art", and the second is 'logy' which means "art of education". So, the skill of art education means the systematic application of knowledge in order to achieve educational goals and purposes.

There are a variety of techniques used to teach autistic children such as education by music and games. They are not only ways of teaching but can be considered therapeutic methods, and because music can have a sedating effect on autistic children, psychologists today recommend using music to supplement psychotherapy, because of its positive effect on mood, which reduces anxiety and tension in the body (Schoenfeld, 2017). When listening to music autistic children are liable to be closer with other people and they may have visual contact with the surrounding people for the performance of movements. Also, music prepares the child for the process of social interaction, by encouraging visual communication and through imitation and applause near the eye, perhaps an attempt to attract attention to what is happening around them and push them to integrate. The child's favourite music can be used to teach social and behavioural skills such as sitting on a bench or mingling with a group of kids in a circle. Whereas the use of toys in the treatment of some behavioural disorders in the self to alleviate the feelings of anxiety, can be executed, by discharging the emotional energy of situations of concern, resulting from the problems faced in his/her life, and helps to develop basic motion skills, mental and social skills and language of the autistic child (Saad, 1998).

If music and toys are used in the teaching of autistic children, why is drawing not used as a treatment for autistic patients, as autistic drawings and their works are an important source of psychological research?

Using Drawing to Teach Autistic Patients

It is said that it is not possible to separate art from the life of the individual because of its positive effects on the psychological state of the natural individual, which is confirmed by Henidi (2012: 13). She said, "It is not possible to separate art from the life of the individual in education, art exists in children to varying degrees from adults". So, it is not exclusive to children or natural beings, it is permissible for all as it is an innate energy of its knowledge and can only be known through harnessing and employing it to achieve certain purposes and objectives. Among these goals is education, where both (Hillat and Al-Khasawneh) confirm "art has recently entered the field of education and considered part of it as it seeks to achieve what is sought by education which is achieving the integrated growth of the individual, so it is highlighted and considered one of the greatest achievements of modern education". Through art we can express our feelings and surface them. So, (Ayesh, 2008) confirms that "Artistic expressions are one of the sound methods that allow emotions to appear, and also facilitate the opportunity to satisfy the desires that did not find a chance to be satisfied in reality and thus helps the child to reflect his image and image of the surrounding world. Therefore, drawing requires technical abilities that help children in general, whether they are normal or with special diseases, on organised thinking, which is indicated by (Mustafa Sherbini, 2011) who claims that "drawing helps autistic patients to get used to thinking by playing with colour and expressing his/herself with drawing. There is no doubt that the impact will be clear in the future and the development of capacity in childhood is definitely better than post-childhood, or adolescence and post-adolescence, because art is very useful in improving sensory integration, as it can provide a tactile and Optical alert through its use in enhancing hand and eye coordination through drawing in crayons and pencils, since "art helps to grow the senses and gain new experiences and contact with the outside world" (Ayesh, 2008). We seek to help the child of autism to be able to express him/herself because he/she possesses a high symbolism that differs from what we know in our world. And this makes his/her works of art carry completely different meanings than what we perceive, as such drawing helps in expressing him/herself even if he draws in a symbolic rather than verbal way (Cambion Quinn, 2006) mentioned in (Mustafa, Sherbini, 2011).

Previous Studies

- Chio (2000) study: This study aimed to identify the "influence of activities in the development of communication in autistic children" through the study of children with autism and their partners in play, through the participation of the natural child with the autistic child in a group of games, where the sample of autistic children consisted of 5 children ranging in age between 4-6 years, and the sample of ordinary children participating in the game of 11 children, ranging in age between 4-7 years. The results indicated the



positive impact of play on the development of visual communication among autistic children through the participation of ordinary children in play.

Bayoumi Study (2008): This targeted the effectiveness of a training program to develop some self-care skills in autistic children. It was applied to 12 autistic children aged between 9-12 years who were in the Islamic Intellectual Education Society in Ismailia. The sample is divided into two equal groups. One control group and the other is experimental and the researcher used observation and reached results of positive effects on the activation of the program on the experimental group, through the repetition of the program for a period, which urged autistic children take care of themselves unlike the control group.

Brittel Study (2017): This aimed at the extent of the effectiveness of a training program based on plastic art for the rehabilitation of children of autism in order to provide them with some skills (linguistic, cognitive, emotional, social and physical). This study was implemented in the city of Ouargla, on a 3 autistic children sample at Basma Mental Health Clinic. Their age ranged between 5-6 years. The study found differences between children before and after the training program.

Research Procedures

- Research Community

This study was applied to the autistic children community in the specialised centre for the care of autism, where the number of sample was 50 children.

Methodology

The experimental approach was adopted because of its priority in the study of research methods of human sciences. The empirical research was used as a research conducted under specific conditions through the use of two groups. The first one was an experiment being exposed to the independent variable, and the other controlling, eclipsed from the independent variable. The variance between the two groups can be attributed to the independent variable and the use of experimental design, which is defined as a deliberate and precise change of the specific conditions of a particular event. The resulting changes in the same incident (Kandilji, 2013, p. 108) were observed and interpreted.

Therefore, the experimental approach was adopted as it suits the research. and the effect of follow-up of autistic children's drawings was applied and directed them in reducing behavioural disorders of isolation and aggression toward self and others. It also can be used to trace the hyperactivity in autistic children. A sample is taken from the centre; the first

group is experimental of 25 children and a control group of 25 children as well. The chart (1) represents the pilot design.

Table 1: The independent and dependent variables of experimental and controlled groups.

Group	Parity	Variable	
		Independent	Dependent
Experimental	Age in months Parents educational status Pre-behavioural disorders measure	Follow and direct drawing	Dimensional measure of behavioural disorders
Controlled		Method followed in the centre	

In order to verify the internal integrity of the experimental design, the researcher, prior to the experiment, set some of the external variables that may affect the dependent variable other than the independent variable. The variables that are thought to affect the program experience were controlled. Among these variables were age by month, the measure of pre-behavioural disorders, and the proportion of autism, as shown in the table below:

Table 2: Some of the external variables affected the dependent variable other than the independent variable.

No	Dimensions	Experimental Group (25)		Controlling Group (25)		Value Degree of Freedom (48)		Statistical Significance
		Medium	Parity	Medium	Parity	Calculate	Tabular	
1	Pre Behavioural Disorder	380.12	20.21	379.8	18.13	0.253	2.01	Insignificant At 0.05
2	Age	131.31	17.87	132.9	18.35	1.294		
3	Autism Percentage	56.32	18.14	55.92	20.64	0.315		

It is clear from Table (1) above that the calculated values of the variables are less than the numerical value of (2.01) at the level of statistical significance of (0.05) and freedom degree of (48), that is, the two groups were equal in both variables under study.

As for the data on the educational level of both parents, a questionnaire was distributed to the supervisors to confirm the data based on the records of the Institute, in order to perform the parity between them in the mentioned variable. For this purpose, the statistical method (K2) was used to determine the equivalence. The results of the data showed that the calculated K2 value of the parents was (0.623), which is smaller than the tabular value of (9.49) at the level of (0.05) and the degree of freedom (4), while the results of equivalence of mothers (0.848) calculated is the smallest tabular value.

In order to measure the degree of behavioural disorders of autistic children under study from the age of 10-12 years, the measure (Khatab 2004) was used. The measure consists of four dimensions: self-harming behaviour, anger fits, hyperactive activity, distraction and aggressive behaviour, and each dimension consists of 25 distributed paragraphs in front of four substitutes: Always take 4 degrees, sometimes take 3 degrees, rarely take 2 degrees, do not occur take one degree. In order to verify the internal integrity of the experimental design, the researcher has adjusted some of the extraneous variables that affect the dependent variable unlike the independent variable.

The extraneous variables, which are believed to affect the program's experience (the sample age by months, the measure of pre-behavioural disorders, and the percentage of autism) were determined as shown in Table (3).

Table 3: The selected extraneous variables affected program's experience.

No	Dimensions	Experimental Group (25)		Controlling Group (25)		Value Degree of Freedom (48)		Statistical Significance
		Medium	Parity	Medium	Parity	Calculated	Tabular	
1	Pre Behavioural Disorder	380.12	20.21	379.8	18.13	0.253	2.01	Insignificant At 0.05
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From Table 3, it is clear that the calculated values of the variables are less than the value of the tables (2.01) at the level of significance of 0.05 and the degree of freedom of 48, that is the two groups are equal in the variables under study.

As for the educational level of the parents, a form was distributed to the supervisors of the children to know the educational level of their parents from the records of the institute to equalise them in this variable. Then the statistical means K^2 was used to realise the equivalence for fathers (0.623) smaller than the tabular value K_2 which is (9.49) at the level (0.05) with a freedom degree (4). While the mothers (0.848) are less than the K_2 tabular value, which consequently means that equivalence between parents is achieved.

Pilot Sample for Application of Behavioural Disorders' Measure

The measure was exposed to an exploratory experiment with the aim of identifying the validity and veracity of the measure of behavioural disorders and its clarity by the supervisors, through the application of a random sample of autistic children. The sample consisted of 12 children randomly selected from the original study sample. The measure was applied individually through supervisors on children in the presence of the researcher, and the clarity of the measure and its procedures have been authenticated.

Validity of Measure

In order to verify the validity of the measure, the researcher presented the measure to a group of arbitrators in the field of psychology, mental health and special education mentioned above, in order to express their opinions and observations on the clarity of the paragraphs and their good formulation and measurement of the purposes for which they were set. Their opinions on the measure paragraph were positive and there was a consensus with 80 %; hence all items of measure are considered authentic.

Stability of the Measure

The measure stability of the behavioural disorders was calculated by applying it to a group of autistic children of a different group other than the main sample, 12 children in the presence of supervisors and researcher. The measure was re-applied two weeks later on the same group.

The coefficient of correlation between the two applications and the coefficient of stability used was 0.85. Thus, the measure was ready to apply in four areas and 100 items and the measure degrees ranged from 400-100 degrees and with a hypothetical average of 250 degrees.

Autism Measure

The Autism List of the American Psychiatric Association was adopted in the fourth edition of the Diagnostic Guide to Mental Illness (DSMIV) 1994. This list deals with the diagnosis of autism and contains four main areas, as well as 15 chapters:

- The first area: qualitative deficiencies in social communication.
- The second field: language deficiencies.
- The third field: repetitive models of behaviour
- The fourth area: lack of growth.

The list is corrected by giving grades (1, 2, 3, 4) depending on the degree of severity of the deficiency, whereas in cases where there is no deficiency, the score is given 0. This means that the higher the degree, the greater the autism (Alsayed., 2005: p. 55).

In order to prove the validity of the apparent measure, the measure was exposed to some arbitrators in psychology, psychiatry and special education to reveal their opinions and notes about the items and the way they were written, and their opinions came to comply positively with a percentage of 80%; hence the measure items were considered valid.

The coefficient of stability of the autistic scale was calculated by applying it to a group of autistic children of the non-main sample, 12 children in the presence of supervisors and the researcher. The measure was re-applied two weeks later. The method of re-measurement is one of the most common methods used to extract stability. It is executed by checking the stability of the measure through time by applying it twice to the sample at an appropriate time interval and is called the coefficient of stability. Thus, the stability coefficient used is 0.88.

Statistical Processes

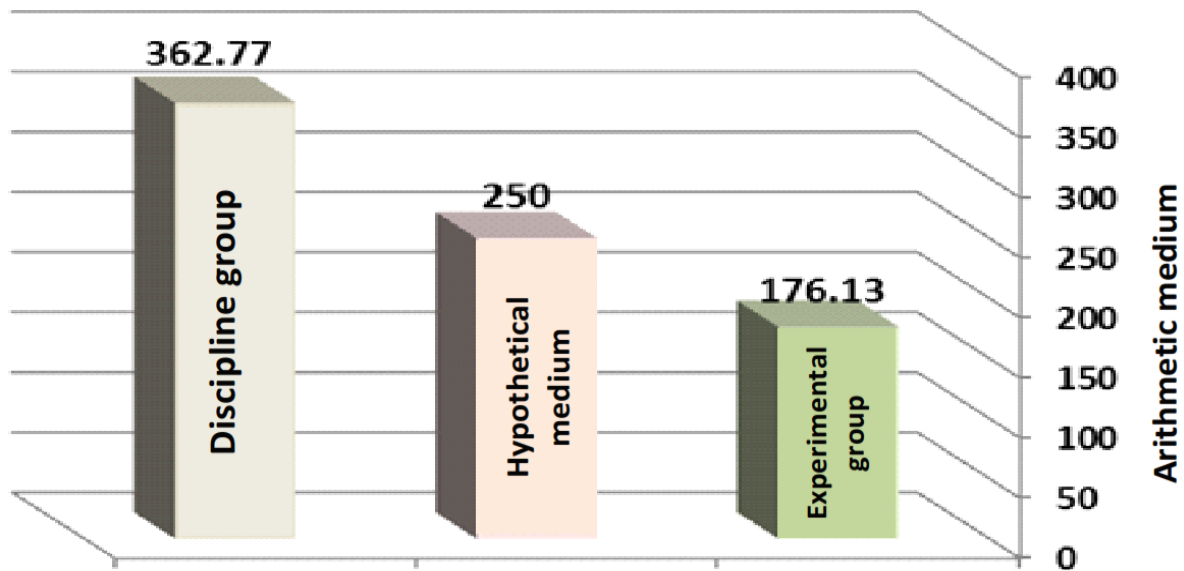
The numerical averages and standard deviations of the degree of individual response to the items associated with each area of the tool were extracted. The value of t was also extracted, and K^2 was used as well in order to extract the results related to the educational level of both parents.

Axis IV - Testing the Hypothesis of Research

A. Research Results

The first hypothesis confirms that there are no statistically significant differences at 0.05, between the average of degrees between the experimental and control groups in the post-measurement of the level of behavioural disorders. When correcting the measure of post application for the two groups, we found that the statistical average for the experimental group was 176.13 and the control group was 362.77. There seems to be an apparent difference as shown in the following chart 2:

Chart 2: Differences between average of groups of research in behavioural disorders.



To determine the statistical significance of the difference between the two previous arithmetic averages, the t-test was used to calculate the differences between the arithmetical averages of the two groups, Table 4.

Table 4: The t-test value of the differences between the arithmetical averages of the two groups.

Group	Number	Statistical Average	Parity	Freedom Level	T-Test Value		Significance Level
					Calculated	Tabular	
Experimental	25	176.13	33.86	58	96.369	2.01	Significant At (0.05)
Controlling	25	362.77	56.16				

Table 4 shows the calculated value (96.369) greater than the tabular (2.01) at the level of (0.05). The decision becomes (rejection of the zero hypothesis and acceptance of the alternative hypothesis), which necessitates a statistically significant difference between the two groups and in favour of the experimental group, in lessening the behavioural disorders of the survey sample.

Impact Size

Is a statistical term that indicates a set of statistical measures that can be used by the researcher in the educational, social and psychological sciences to identify the practical importance of the results of his/her research and studies. He/she is particularly interested in measuring the effect of independent variables (experimental treatments) on the dependent variables on which the design of the paper depend. (Asr 2003,646) the impact size was calculated according to the test formula T-Test:

- Calculated value of t-test.
- Degree of freedom

In order to judge the impact size Table 3 is the reference (Afana 2000, 24).

Table 5: Reference to determine the magnitude of impact levels according to the triple classification of mental sciences.

Impact Size	Small	Medium	Large
Impact Value	0.01	0.06	0.14

In comparison to Table (4), the magnitude of the effect of (0.99) has a significant impact.

The second hypothesis: There are no statistically significant differences at (0.05) between the experimental group degrees in the pre- and post-behavioural measurement of behavioural disorders level.

When reviewing the arithmetic medium of the pre-behavioural disorders, it was (380.12) and the average degree of post behavioural disorders is (176.13), which seems to have differences between them as shown in Figure (3)

To determine the statistical significance of the difference between the arithmetic averages, the t-test was used for two interrelated samples as shown in Table 6.

Table 6: The t-test value for the difference between the average degrees of pre and post measures of experimental group.

Measure	Number	Arithmetic Average	Standard Deviation	Freedom Degree	T-Test Value		Significance Level
Pre	24	362.77	7.49	24	32.63	2.06	Significant At 0.05
Post	25	176.13	5.82				

From Table (6), the calculated value (32.63) is greater than the measure (2.06) at the level of (0.05) and the decision is the rejection of the zero hypothesis and acceptance of the alternative hypothesis, which necessitates a statistically significant difference between the average of the pre and post application.

Thus, a decrease occurs in the level of behavioural disorders on the dimensions of the measure compared to the normal mean (250).

C. Interpreting Results

The researcher attributes behavioural disorders reduction to:

1. Children's drawings is a means or a special language that can be employed in the study of the child's personality. Directing and correcting the drawings have led to a kind of calmness, hence the children started to express their thoughts and feelings so that they gained a kind of balance leading to the acquisition of psychological health. Art succeeded in uncovering many psychological cases especially in children. Art provides man with a space to vent his unconsciousness, which is a fertile source for the embodiment of his emotions and needs. In this case, his desires and internal secretions rush to satisfy the desires he has failed to achieve (Rachid, 2008: 182).
2. Free children's drawings are the most accessible areas to express many of their psychological characteristics or abilities. It is sufficient to have a child telling his stories to transcribe what he feels on paper. The child through these drawings expresses his happiness, sadness and whatever he/she feels. It is not about his/her ability to draw but in their own capacities of realising the basic mental concepts and reconstituting new ideas to express their being.
3. Drawing tests are appropriate instruments for measuring various aspects of children's behaviour, because they transcend the language barrier, and the verbal technique that produces impersonal connotations of the child, the individual differences in expressive fluency from one child to another at an early age. As well as the difficulties of the

standardised test position, which confuses the child and makes him a different person (troubled, afraid, anxious). The drawings make the child immersed in extreme spontaneity with his imagination and lines that reflect much of his tendencies, his imagination and his way of understanding the variables of reality.

Conclusions

The researcher concluded:

- When testing the first hypothesis, the researcher found that there is a difference of statistical significance between the averages of two groups in favour of the experimental group in reducing behavioural disorders in the survey sample.
- As for the second hypothesis, the results found that there is a difference of statistical significance between the average of pre and post application and in favour of the post-application.
- There is a decrease in the level of behavioural disorders on the dimensions of the measure compared to the hypothetical medium which is (250).
- While being at the Centre and when this research was applied, the researcher noticed that there was some openness in some children of autism through their contact with their peers and they tried to imitate each other in drawing shapes or using colours and tried to repeat some words with the researcher.
- Also, the researcher noted the existence of some autistic children of young ages, especially females who wanted to take their own photos before drawing with the use of colours, or embrace them, and this indicates that autistic children need good treatment, which helps them integrate with society to be considered natural people and grant them the opportunity to express themselves.
- As for those over the age of ten, they are characterised by some shyness or nervousness and this might be attributed to lack of care of this category before entering the centre.

Recommendations

Through the researcher's findings, some recommendations can be drawn:

1. Increasing interest in such a group of autistic children through the opening of some special governmental centres to receive such cases and not to marginalise them and open more governmental centres.
2. Considering this category within the financial allocations of the government in most of the developed country provides assistance to the people in order to pay attention to the children with autism, and provide them with salaries.
3. Paying attention to graduates of special education colleges and opening the doors for them to take care of these children through employing them in private or governmental centres.



4. Holding workshops in order to acquaint the specialists with the latest scientific knowledge to help autistic children and integrate them into society.



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