



## THE IMPACT OF TRAINING PROGRAM BASED ON LOVAAS' APPROACH IN ENHANCING OF CHILDREN'S AUTISM SPECTRUM DISORDER INDEPENDENCE SKILLS

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### **Abstract:**

Children's Autism Spectrum Disorder suffers from independence skills' problems. Hence, this research is to design a training program based on the Lovaas' approach to develop the Children's Autism Spectrum Disorder Independence skills and to measure its effectiveness. To achieve the objective of the study, the researcher used the semi-experimental method based on the training program and the independence skills. The research population consists of Children's Autism Spectrum Disorder, ages 4 to 8 years, who were in the special education centers in Irbid governorate from the Hashemite Kingdom of Jordan for the year 2018/2019. The sample of experimental and control group consisted of 30 Children's Autism Spectrum Disorder who were purposively selected and divided into two groups: 15 experimental and 15 control students. The post-test results showed statistically significant differences between experimental and control groups at the level of  $\alpha = 0.05$  while the mean scores (32.00) indicated significantly for the experimental group of independence skills in post-test. Moreover, the results showed that there were no statistically significant differences at the level of  $0.05 = \alpha$  in the post and delayed test in the experimental group. In light of the results of the research, the researcher recommended the need to take advantage of the training program and the implementation program. One of the researcher's suggestions is to

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conduct a similar research on the Lovaas' approach for different age groups and different skills in the Hashemite Kingdom of Jordan.

**Keywords:** Lovaas' approach, Jordanian Children's Autism Spectrum Disorder, independence skills

## 1. Introduction

The study of the characteristics of autistic children in a scientific way dates back to 1943 when Kane Leo studied a group of eleven children with similar, similar characteristics called "Autistic Childhood". He noted that these children They have been abnormal since early childhood (Pearce, 2005) and exhibit unusual reactions to the environment that include stereotypical movements, resistance to change, and insistence on similarity. In addition to the presence of abnormal characteristics in communication such as: Reverse pronouns, verbal repetition or so-called Echolalia, weakness in social interaction, weakness in visual communication, attention, imitation and unusual behaviors, Kanner suggested genetic causes, Wrong formation of this disorder (Awegan, 2012; Klin, 2006).

The autistic child has obvious deficiencies in the independence skills that appear in the child early in life and severely. The development of independence skills is an important part of the development of a child with Autism Spectrum Disorder, and independent skills help the child to rely on himself in various life matters. [Www.heagth.wa.gov](http://www.heagth.wa.gov). The lack of independence skills is a clear challenge for children with autism spectrum disorder (Bultas et al., 2016).

The independence skills of an autistic child are self-care, protection, feeding, dressing and taking off, dressing or taking off, handling the toilet, as well as the risk of being exposed to it, cleaning the teeth, arranging the room and bed, and using Telephone, street-cutting incidents and traffic lights (Al-Muhairi, others 2014; Northern, 2012, Daradkeh and Khazala, 2017). Lack of overall appearance skills, security and safety skills, bathing and hair care (Martha, Fredda, 2013, Qarqesh, 2017).

It lacks proper independence behaviors, for example, it may drink contaminated water and eat edible plants (Dagestani, 2011; Aqeel, 2015). Which leads to a lack of performance of independent skills that help people with autism spectrum disorder to perform other skills appropriately, including social skills, which also negatively affects their families because of their need to depend on a family in the performance of those skills (Hassan, 2016).

The lack of independence skills in children with autism spectrum disorder is markedly marked in the early years of the child, and they are clearly manifested in the inability to take care of themselves, such as eating and drinking. They need to continuously help others in implementing their basic daily life skills. The skills of independence are a great burden for parents as a result of doing all the daily duties required of their children and not relying on themselves.

The problems mentioned above and the work of the researcher with children with autism spectrum disorder in the master stage. During the study of the researcher of the records of the Department of Special Education in the Supreme Council for the disabled, the researcher noted that there is an increasing number of children with autism spectrum disorder enrolled in special education institutes and programs in the Hashemite Kingdom of Jordan. This leads to the need to develop programs and increase their numbers in order to pick up these numbers which are in continuous progress. These programs also help children to adapt socially and communicate with others in their daily lives. In this study, the researcher designed a training program based on the "Lovaas" curriculum in the implementation of the program to develop social skills and independence in children with autism spectrum disorder. Lovaas is one of the leaders of the behavioral school and agrees with Skinner, the founder of the Behavioral School, and relies on behavioral theory through the committed reinforcement of the child when the child has desired behaviors and discourages the child from undesirable behaviors (Abdullah, 2001). Where through the method of "Lovaas" Develop independence skills for children with autism spectrum disorders through intensive training programs based on motivation, response, and empowerment (Al Qahtani, 2015; Khatib, 2011; Zureiqat, 2004). In implementing the program, Lovaas relies on applied behavioral analysis techniques (Warren et al., 2011).

## **2. The importance of independence skills**

The development of independent skills has long-term consequences for both ordinary and non-ordinary children. Individuals with social competence and self-help skills are the most integrated into society and have greater relationships. Acquiring these skills is one of the most important areas of expanding social skills for students with special needs. With an increasing focus on community integration for children with autism spectrum disorders, it is important that parents and teachers focus on skills that promote individual independence and independence in everyday life activities to improve the quality of life for individuals with autism spectrum disorder (Lewis, Iselin, 2002).

The absence of self-help skills may have long-lasting effects on many aspects of an individual's life. Parents and teachers often do not spend much time talking about the child's vulnerability to self-help skills until people reach school age. Even then, there seems to be little emphasis on teaching self-help skills until early adolescence (customer, 2012).

### **2.1 The concept of independence skills**

The field of independent skills consists of basic tasks of personal hygiene such as: going to the bathroom, eating, dressing, and hygiene. There are many students who do not master self-care skills in early childhood years. These skills remain a priority for the education of individuals and families. Participation in self-care in personal

happiness and emotional self-determination, and requires the evaluation and development and implementation of programs (Zureiqat, 2016).

There are a number of principles for the development of teachers' independent skills in cooperation with family members, relevant service personnel, the general educator and the student themselves. In selecting these skills, close attention should be given to the social aspect, age and cultural characteristics of the teaching process from the perspective of peers. These principles are as follows:

Collaborate with team members, use socially, culturally appropriate and peer-friendly actions, peer participation, use of partial participation carefully, carry out meaningful evaluation, use results, identify appropriate settings and schedules for education, and focus on instructional skills (Martha, Fredda, 2013).

## **2.2 Lovaas**

One of the most important pillars of the Lovaas program is continuous measurement of child progress in each skill, through continuous recording of the child's attempts at success and failure in Lovaas focus areas (attention, tradition, reception, expression, pre-academic, self-reliance). As the child progresses and develops his abilities, the objectives of each of the previous journals become more difficult and add to the goals of the social and academic fields (the Lebanese Association of Autistic Children - Autism, 2006). Brooks et al. (2003) defines behavioral behavior as a practical system based on the study of behavior modification observed by addressing the environment around the child.

Bambara et al. (1995) noted that behavioral behavior analysis includes experimental ways of addressing the environment, conducting delayed-test tests of behavior and allowing the identification and treatment of functional relationships between behavioral and environmental variables surrounding the child. In this context, the analysis of applied behavior, as Muhammad (2012) suggests, predicts individual behavior and control. It focuses on the observable relationship between behavior and the environment, ie, the relationship between behavior and the environment, which is determined according to the model of applied behavior analysis based on motivations and behavior, And the consequences of different consequences, rather than attention to hypotheses hypothesis of behavior where it is completely rejected.

Suizer et al. (1991) finds that applied behavior analysis is the process of applying intervention programs that focus primarily on the principles of behavioral theory in order to reach a reasonable degree of improvement in those behaviors, which are considered socially meaningful, which are socially desirable behaviors, as well as ensuring that the intervention programs used in this framework are responsible for achieving the desired improvement in behavior.

## **2.3 Results of the first question**

To ascertain the effectiveness of the Lovaas training program in developing the independence skills of children with disorders.

**Table 1:** Results of pre-test of groups (experimental and control)

Pre-test	N	Mean Rank	U value	Z value	P value	r value
Control group	15	10.50	92.5	-0.853	0.512	-0.158
Experimental group	15	19.66				
Total	30					

Table 1 shows no statistically significant differences between the average grade of the two groups (control and experimental) in the pre-test. The average grade of the children of the experimental group in the pre-test (19.66) and the average grade of the children (control group) (0.508 = p) and (0.158- = r). This means that there were no statistically significant differences at the level of significance (0.05 = a) between the group's average (experimental and control) on the independence skill of children with autism spectrum disorder. The same table shows that the mean of the experimental and control averages of the pretest is "constant", as shown by the average grade of the two groups on the scale of independence skills in the pre-test "was weak".

**Table 2:** The results of pre and posttests of the control group

Control group	N	T	Z value	P value	r value
Pre-test	15	0.000	-0.166	0.541	-0.030
Post-test	15				
Total	30				

Table 2 shows that there are no statistically significant differences between the mean of (control group) in the **pre and posttests**. The value of (0.000 = (T) and the value of (0.166- = z) and the value of (0.541 = p) (0.030- = r), which means that there are no statistically significant differences from the mean level (0.05 = a) between the average grade of the control group on the independence skills scale of children with autism spectrum disorder in the **pre and posttests**. The value of the two averages (for the group and the control) in the **pre and posttests** is "convergent", as shown by the average grade of the control group the skills of independence in pre-test measurement were "weak".

**Table 3:** Results of post-measurement of the two groups (experimental and control)

Post-test	N	Mean Rank	U value	Z value	P value	r value
Control group	15	14.78	22.50	-3.829	0.000	-0.711
The experimental group	15	32.00				
Total	30					

Table 3 shows statistically significant differences between the mean scores of the two groups in the post-measurement on the independence skills scale. The average grade of the children of the experimental group in the post-test (32.00) and the average grade of the children of the control group (14.78). The value of Mann Whitney test was 22.50 = u and the value of (3.829 = z) was 0.000 = p and the value was 0.711 - r. This means that there were statistically significant differences from the mean (0.05 = a) Grade

(experimental group and control group) on the independence skill scale in children with autism spectrum disorder in post-test (for the benefit of the experimental group). The same table shows that the value of the average for the two groups (experimental and control) in the "spaced" distance measurement, as shown by the average grade level (experimental group) on the independence skill scale, it was "greater" than the average grade level (control group) in the post-test. The evolution of the independence skills of the experimental group is attributed to the training program.

**Table 4:** Pre-test and post test of experimental group

Control group	N	T	Z value	P value	r value
Pre-test	15	0.000	-3.417	0.001	-0.634
Post-test	15				
Total	30				

Table 4 shows statistically significant differences between the mean scores of the experimental group in the pre-measurement and the post-measurement. The value of (0.000 = T) and the value of (3.417 = z) and the value of (0.001 = p) - = r) This means that there are statistically significant differences at the level of significance (0.05 = a) between the mean grade of the experimental group on the independence skills scale in children with autism spectrum disorder in the pre-test and post-test. (Experimental group) in the post-test and post-test were "spaced out", as evidenced by differences in mean scores (experimental group) Endodontic on the scale of independence skills in delayed-test "was very large" for the benefit of delayed-test. Attributed the development of independence skills (experimental group) to Altdrebe program.

#### 2.4 Results of the second question

To ascertain the impact of the continuing training program based on the Lovaas program in developing the independence skills of children with autism spectrum disorder in delayed-test measurement.

**Table 5:** The results of the post and delayed test of the control group

Control group	N	T	Z value	P value	r value
Post-test	15	0.000	-1.967	0.548	-0.365
Delayed-test	15				
Total	30				

Table 5 shows no statistically significant differences between the mean (control group) in the post-test, the measurement and the delayed-test, where the value of (0.000 = (T) and the value of (1.967 = z) and the value of (0.548 = 0.365 = r) This means that there are no statistically significant differences at the level of significance (0.05 = a) between the mean scores of the control group on the independence skills of children with autism spectrum disorder in the pre-test and delayed-test measurement. (Control group) in the post-test and the delayed test are "convergent." As shown by the average score of the control group Yas autonomy skills in the delayed-test Delayed-test "was weak."

**Table 6:** The results of the Post –test and delayed-test of the experimental group

Control group	N	T	Z value	P value	r value
Post-test	15	0.000	-3.427	0.521	-0.636
Delayed-test	15				
Total	30				

Table 6 shows that there is no statistical difference between the mean of the experimental group in the post-test, the measurement and the delayed-test, where the value of (0.000 = T) and the value of (3.423- = z) and the value of (0.521 = p) = r) This means that there are no statistically significant differences at the level of significance (0.05 = a) between the mean of the experimental group on the scale of the independence skills of children with autism spectrum disorder in the post-test and delayed-test measurement. The experimental group (in the post-test and delayed-test measurement) was close. The development of independent skills in the delayed-test measurement of children with autism spectrum disorder is due to the LOVAAS training program in the development of independence skills.

### 2.5 Summary of the results of the first question

The aim of the first question from the current study is to develop the skills and independence of children with autism spectrum disorder from children aged 4 to 8 years who have mild autism disorder. Al-Mujajidi in special education centers in Irbid Governorate. To investigate the goal of the second question, the researcher designed a set of tools to achieve the objective of the question. The study tools consisted of a scale of independence skills (researcher preparation) and a Lovaas-based training program to develop the independence skills of children with autism spectrum disorder.

The results of the pre-test showed no statistically significant differences between the mean scores of the two groups (experimental and control) in the pre-test scale on the independence skill scale. The mean value of the two groups was shown to be "convergent," and the average achievement of children with autism spectrum disorder in the experimental and control groups Weak performance in skills of independence in pre-test measurement. The researcher attributed this to the fact that the two groups were not trained in the independence skills contained in the pre-test measurement on the independence skill scale.

This result suggests that the two groups (experimental and control) are equal in their level of independence skills before starting the Lovaas training program in developing independence skills. Demonstrate the integrity of experimental settings before applying experimental treatment. What makes the researcher reassure the results of the application of the experiment.

Jaradat (2016) conducted a study to identify the effectiveness of a program in developing self-care skills in autistic children in the kindergarten stage. The Zeid study (2016) aimed to reveal the effectiveness of the Titch program in developing the independence skills of autistic children. The Egyptian study (2017) aimed to identify the effectiveness of an instructional program for the completion of some self-development

skills in a sample of autistic children using toys. A 2017 study aimed at verifying the effectiveness of a training program for mothers to develop motor visual aches and improve the self-care skills of their children.

The results of the pre and post test showed no statistically significant differences between the mean scores of the control group in the pre-test and post measurement on the independence skill scale. The average of the control group showed a "convergent" and the average achievement of children with autism spectrum disorder (Control group) on their poor performance in the skills of independence in pre-test measurement and post-measurement on the scale of independence skills (researcher's preparation). The usual method of training children with autism spectrum disorder is not effective in developing independence skills in children with autism spectrum disorder.

In addition, Jaradat (2016) conducted a study aimed at identifying the effectiveness of a program in developing self-development skills in autistic children in kindergartens. A 2017 study aimed at verifying the effectiveness of a training program for mothers to develop motor visual aches and improve the self-care skills of their children. The Egyptian study (2017) aimed to identify the effectiveness of a training program to complete some of the skills of self-identification in a sample of autistic children using toys.

The results of the measurement revealed significant differences between the mean scores of the experimental group and the control group in the post measurement on the skill scale for the benefit of the experimental group. This results in the effectiveness of the Lovass training program in developing the independence skills of children with autism spectrum disorder in the experimental group, where the high level of performance on the scale of independence skills after the application of the training program, emphasizes the effectiveness of the training program in developing the skills of independence in children.

The results showed that there were statistically significant differences between the mean scores of the experimental group in the pre-measurement and the post-measurement on the independent skills scale for the benefit of post-measurement. This result indicates the effectiveness of the Lovaas program in developing the independence skills of children with Autism Spectrum Disorder, where their level of performance on the independence skills scale has increased after the implementation of the training program, emphasizes the effectiveness of the program in developing children's independence skills.

In addition, Ramadan (2016) conducted a study to identify the effectiveness of the formation and training strategies in the development of self-skills in children with autism spectrum disorder in Jordan. The Hanafawi study (2016) was designed to reveal the effectiveness of a training program in developing the skills of (imitation and independence) in children with autism spectrum disorder. Jaradat (2016) conducted a study to identify the effectiveness of a program in the development of self-care skills in autistic children in the kindergarten stage. The Egyptian study (2017) aimed to identify the effectiveness of a training program to complete some of the skills of self-



identification in a sample of autistic children using toys. The results of their studies showed no statistically significant differences between the mean scores of the two groups on the scale of independence skills in pre-test measurement. The results of their studies showed that there were no statistically significant differences between the average score of the control group on the scale of independence skills in the pre-test and the post-test. A 2017 study aimed at verifying the effectiveness of a training program for mothers to develop motor visual aches and improve the self-care skills of their children.

## **2.6 Summary of the results of the second question**

The second question of the study aims at finding out the following in the course of the training program in developing the independence skills of children with Autism Spectrum Disorder in the delayed-test measurement of the experimental group on the independent skill scale. To achieve this goal, the researcher is determined by a set of procedures, which is the comparison of the results of the post-test and the delayed-test measurement of the two groups (control and experimental) to ascertain the level of autonomy of children with autism spectrum disorder in the experimental group of the independence skills gained through the application of the training program.

The results of the post-test and the delayed-test measurement showed no statistically significant differences between the mean (control group) in post and delayed test on the independence skills scale. The average value of the control group was similar and the average achievement of children with autism spectrum disorder control for their poor performance in independent skills in post-test and delayed-test measurement.

The results of the post-test and the delayed-test showed no statistically significant differences between the mean (experimental group) in the post-measurement and delayed-test measurement on the independent skill scale. The mean value of the experimental group showed that the average of the children with autism spectrum disorder (Experimental) on the rise in the level of performance in the skills of independence in the measurement of the dimension and delayed-test.

These results agreed with the results of many studies, such as the study of Da'dani (2011), which aims to propose a program based on the schedules of the activities of the picture, the wave of the kindergarten children, to acquire some daily life skills and to know the effectiveness of the proposed program. Al-Shamali (2012) conducted a study to identify the effectiveness of TEC's structured education in improving the life skills of autistic children. Ali (2017) study aimed at ascertaining the effectiveness of a training program for mothers to develop motor visual aches and improve the self-care skills of their children. In the governorate of the experimental group to possess independence skills in children with autism spectrum disorder. The results of their studies showed that there were no statistically significant differences between the mean scores on the independent skill scale in the post-test and the delayed-test measurement.

## References

- Aboziton, Solomon. (2017). The effectiveness of the promotion in the development of the skills of self-control and social interaction in children with autism spectrum disorder in Jordan. *Master Thesis unpublished University of Jordan*.
- Abu Assaad, Ahmed Abdullatif. (2011). Modifying human behavior theory and practice. *Oman. House of facilitation*. 4(3), 147-158.
- Abu Gharbia, Sumaya Mohammed. (2006). Behavior Modification. Oman. Jaffa House Practical. 1(4), 122-136.
- Abu Hassan, Fadia. (2018). Sensory processing difficulties in children with autism disorder at age variance and severity of disturbance. *Tishreen University Journal of Research and Scientific Studies - Arts and Humanities Series*. Volume 40. Issue 2. pp. 421-441.
- Abu Humaidan, and Saf. (2003). Modified theoretical behavior and application. Oman. Dar Yazid for Publishing and Distribution. . 2(3), 99-124.
- Abu Mansour. Hanan Khader. (2001). Emotional Sensitivity and Social Affair for the Hearing Impaired in Gaza Governorate. Master Degree, Islamic University.
- Abualam, Raja; Ali; Mahmoud; Ibrahim, Amani. (2015) The effectiveness of a sensory-based program to improve social interaction in autistic children. *Journal of Educational Sciences*. Volume 23. Issue 3.
- Ahmed, Heba Saad. (2008). Effectiveness of a training program to modify the behavior of self-harm in children who are not published, Faculty of Arts, Ain Shams University.
- Ahmed, Iman. (2018). The effectiveness of a program based on the treatment of music in improving the level of verbal and nonverbal communication of children with autism spectrum disorder in the light of action research. *Master Thesis, Assiut University*.
- Ahmed, Nadia. (2017). The impact of a CMU-assisted training program on improving social skills in children with autism spectrum disorder in light of the theory of mind. *Master Thesis, Assiut University*.
- Al-Jabri, Mohamed Abdel Fattah. (2013). Students with autism spectrum disorder. I. Oman. Dar Al Fikr. . 3(3), 147-158.
- Al-Jarjawi, Ziad Ali; Al-Homs, Abdul Fattah Abdul-Ghani. (2012). A critical evaluation study of the programs presented by the Association of the right to life of Palestinian children with autism in the governorates of Gaza. A study presented to participate in the Fourth International Educational Conference Contemporary Trends in Education and its applications in the Faculty of Educational Sciences at Tafila Technical University. Jordan.
- Al-Jarwan, Fathi. (2013). Students with Special Needs, Introduction to Special Education. Oman. Dar Al Fikr. . 1(2), 188-210..
- Al-Matar, Fayez. (2001). A Comparative Developmental Study of Adaptive Behavior in a Sample of Autistic Children and Mentally Disabled Children in Saudi Arabia. Unpublished *Master Thesis, University of Jordan*.

- Al-Thaqafi, Talal Abdulrahman. (2014). Effectiveness of a program based on common attention to the development of verbal communication among autistic children in Taif Governorate. *Master Thesis, Umm Al Qura University*.
- Badr, Ismail Ibrahim. (2010). Adaptive Behavior Skills for Persons with Mental Disabilities. Riyadh. House of Zahra. . 1(1), 147-158.
- Batayneh, Osama Mohammed, Arnous, Hani Ahmed. (2011). The effect of a proposed behavioral modification program on reducing patterns of behavior in autistic children. *Journal of Educational Sciences*. Volume 12. Issue 3. p
- Habib, Sally. (2016). Effectiveness of a training program to develop the phonological awareness skills of children with autism spectrum disorder. *Journal of Special Education and Rehabilitation*. Vol. 3. No. 10. pp. 81-124.
- Hafnawi, Aisha (2016). Development of some behavioral skills (imitation - and independence) as a model for the autistic child applied previously by Titch according to the skills of the therapeutic program TEC. Clinical study (case study) for one case - Pescara State. *Master Thesis, Mohammed Khudair University*.
- Hassan, Walid Juma. (2016). Develop and measure a self-esteem assessment scale for children with autism spectrum disorder. *Journal of Faculty of Education - University of Banha*. Volume 1. Issue 27. Pp. 315-333.
- Hussein, Taha Azim. (2008). Behavioral modification strategies for ordinary and people with special needs. Egypt. *New University Publishing House*.
- Ibrahim, Ola Abdel Baki. (2011). Autism disorder and its methods of treatment with teaching and therapeutic programs to develop the abilities of children infected with it, 1, Egypt, Cairo: *World of the Book*. . 4(3), 155-177.
- Jaradat, Ahmed. (2016). The effectiveness of a program in developing self-sufficiency skills in autistic children in the kindergarten stage. *Journal of childhood and education*. Volume 27. Issue 8. pp. 119-167.
- Jazazi, Jalal. (2011). Instructing people with special needs and their families. *Oman. Dar Al Hamed Publishing & Distribution*.
- Lebanese Association for Autism - Autism (2006). Comprehensive rehabilitation of the autistic child - me and the rehabilitation team. Beirut, Lebanon.
- Mountain, Sawsan Shaker. (2005). Childhood autism causes its characteristics to be diagnosed. I. Damascus. *Aladdin Press*. 4(3), 44-70.
- Peter, Peter. (2010). Modify and build children's behavior. *Oman. House of the march*.pp. 625-650.
- The bar, Rowan Aideros. (2016). The effectiveness of an early intervention training program based on verbal behavior in developing communication skills among children with autism in Saudi Arabia. *Master Thesis, United Arab Emirates University*.
- The doorman, statement. (2016). Learning through play was instrumental in developing life skills and basic motor skills in autistic children. *Dissertation thesis unpublished, University of Jordan*.

The lawyer, Adnan. (2007). *Mental disability, teachers and parents' guide. Oman. Dar Al Fikr.*

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