

The Effectiveness of a Program Based on the Pivotal Response Treatment in Improving Social Initiative in Children With Autism Spectrum Disorder

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Abstract

The current study aimed to identify the effectiveness of the Pivotal Response Treatment program in improving social initiative among children with autism spectrum disorder in the post-measurement, and to identify the continuity of the effect of the Pivotal Response Treatment program on the targeted skill. The quasi-experimental approach with an experimental design with two equal groups (experimental and control) was used in the research sample. The research sample includes children with mild autism spectrum disorder between the ages of (6-9) years in the Hana and Kashebin Autism Centers, Erbil. The number of children was (12) male and female, (9 males and 3 females), and they were distributed into two groups: one experimental and the other control. Equality was conducted for the two groups in terms of (chronological age, degree of autism, educational level of parents, and social initiative). The researcher built a social initiative scale and verified its validity and reliability. The program was implemented for three months, with (20) sessions per month and (5) sessions per week. The session duration lasted (25-30) minutes, so the number of program sessions reached (60). The results indicated that the children of the experimental group improved compared to the children of the control group in the post-measurement of the social initiative scale for all sub-dimensions and the total score. The study recommended the necessity of using pivotal response therapy in treating children with autism spectrum disorder, using other variables, and targeting older ages.

Key words: Pivotal response treatment; Social initiative; Children with autism spectrum disorder; Erbil

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INTRODUCTION

Autism spectrum disorder is one of the neurodevelopmental disorders that is characterized by a deficit in communication skills, social interaction, and repetitive and stereotyped behaviors. Its severity is determined in light of levels of support, and its symptoms appear in the early childhood period from birth to the age of eight (El-Zraigat, 2020; Gardener- Hoag, 2019).

The Diagnostic and Statistical Manual of Mental Disorders, Text Revision (5th Edition) issued by the American Psychiatric Association (APA) (2022) also described autism spectrum disorder as a neurodevelopmental disorder characterized by persistent deficit in communication and social interaction, which is evidenced by an inability to establish and maintain relationships with other individuals, repetitive behavioral patterns, and restricted interests. As for the eleventh edition of the International Classification of Diseases, autism spectrum disorder is defined in ICD-11 as a disorder characterized by a persistent deficit in the ability to initiate and sustain mutual social interaction and social communication, and by a group of restricted, repetitive, and inflexible patterns of behavior, interests, or activities that are considered significantly atypical. Clearly speaking, these deficits are a widespread feature of an individual's performance and can be observed in all settings, although they may vary according to the social, educational, or other context (World Health Organization (WHO), 2022). In the DSM-5 as well as in the ICD-11, autism spectrum disorder is classified

under the category of “neurodevelopmental disorders,” which are characterized by impairments in cognition, communication, behavior, and/or motor skills resulting from abnormal brain development. The main features of these disorders are that they appear in early childhood, are associated with impairment in personal, social, educational, and vocational development, and that they tend to co-occur (Kamp-Becker, 2024).

Social initiative means the ability to initiate a task or activity independently, and also the ability to produce and present new ideas, responses or strategies to solve problems. Weak initiative does not necessarily reflect a lack of interest in the task at hand, as Gioia, Isquith, Guy, & Kenworthy (2000) see that children with weak initiative want to complete the task, but are unable to begin it. They have problems in starting assignments or Tasks in addition to the need for repeated prompts. Children on the autism spectrum are characterized by their low and limited social initiative. Initiative is one of the dimensions of executive functions, which means the ability to plan, organize, manage time, save information in working memory, stop responding, regulate emotions, maintain attention, take initiative (initiating tasks, flexibility, and goal orientation) (Dawson & Guare, 2012).

Nowadays, many evidence-based practices (EBPs) have been developed to teach functional skills to children with autism spectrum disorder and to reduce challenging behaviors. So, many practices and training have been implemented, and perhaps the most important of them is pivotal response therapy, which is based on a natural intervention, and applying principles of applied behavior analysis that targets pivotal skills (such as motivation, social initiative, and responding to multiple signals). Studies have indicated the effectiveness of Pivotal Response, with studies reporting positive outcomes for children with autism spectrum disorder as a result of Pivotal Response Therapy (PRT), including increases in initiative and lateral improvements in a variety of language, communication, play, and challenging behavior skills (Verschuur, Huskens, & Didden, 2020).

Pivotal response therapy includes providing repeated behavioral experiences consisting of previous stimuli, behavior, and results. Previous stimuli provide clear opportunities that motivate the child to achieve the desired behavior. Pivotal response therapy also reinforces both correct behavioral responses and correct attempts made by the child on his way to acquiring skills. Thus, increasing the frequency of exposure to enhanced opportunities to respond in order to help maintain and increase the child’s motivation throughout the intervention period. Recommunication therapy also focuses on “pivotal” points in the child’s development that can cover a wide range of interactions and responses rather than focusing on learning one new thing. Each time, rewards for positive behaviors should be linked to what the therapist needs from the interaction (Bruinsma & Mc Nerney, 2012).

Boudreau, Lucyshyn, Corkum, Meko, & Smith (2021) indicated an increase in the averages of social initiation performance after training the four children with autism spectrum disorder on the pivotal response. Also, As indicated by the study of van den Berk-Smeekens et al. (2020) there were general benefits in self-initiation among participants in the two pivotal response therapy intervention groups, and with greater benefits in functional self-initiation in children receiving robot-assisted pivotal response therapy. On the other hand, Wichnick-Gillis, Vener, & Poulson (2019) confirmed that pivotal response therapy contributed to improving social initiative in the three autistic children after a period of post-measurement.

Proponents of pivotal response therapy believe that improvements in more complex skills (such as social skills, communication skills, play, and behavior) will follow if children with ASD can first learn and develop in these basic areas (Raising Children Network, 2021). Therapists consider pivotal response therapy (PRT) to be an effective treatment for children with autism spectrum disorder (Ona, Larsen Nordheim, et al., 2020).

RESEARCH PROBLEM

Autism spectrum disorder is one of the developmental disorders that is currently on the rise, which calls for the necessity of early diagnosis and the provision of early treatment and intervention services with the aim of preventing negative effects on growth and encouraging development and acquiring the skills necessary for daily life (El-Zraigat, 2020). Therefore, the increase in the prevalence of autism spectrum disorder in recent years rings the alarm, as the statement issued in (2023) by the Centers for Disease Control and Prevention (CDC) in the United States indicated that the percentage of autism spectrum disorder is increasing as The ratio was (36:1) cases.

Many studies have shown that a deficiency in social initiative is linked to a deficiency in social interaction, such as the study (Loukas et al. 2018; Ali 2019; Salman, 2020; & Abu Hassouna, 2021). Thus, it is important to provide therapeutic services with the aim of acquiring the necessary skills, encouraging growth, and reducing symptoms. Currently, there are many treatments that can help children with autism spectrum disorder acquire new skills and overcome a variety of developmental challenges. Perhaps the most prominent of these treatments is the axonal response treatment. PRT is a play-based approach that follows applied behavior analysis practices rather than focusing on specific behaviors, and treatment focuses on targeting broader areas, including motivation, self-management, responding to multiple cues, and initiating social interactions. By focusing on these pivotal areas, therapy helps children make wide-ranging improvements in social skills and communication (HelpGuide.org., 2024).

The current study sought to answer the following two questions:

- What is the effectiveness of the pivotal response program in improving social initiative among children in the experimental group with autism spectrum disorder?
- What is the continuity of the effectiveness of the pivotal response program in improving social initiative among children in the experimental group with autism spectrum disorder?

Importance of the study

- Preparing a diagnostic tool for social initiative that is appropriate for children with mild autism spectrum disorder and later helps specialists determine the level of social initiative, and in light of it, develop training or treatment programs that contribute to raising its level.
- Providing a program prepared on an accurate, evidence-based scientific basis, which is the pivotal response in improving social initiative among children with autism spectrum disorder.

RESEARCH OBJECTIVES

- Identifying the effectiveness of the pivotal response program in improving social initiative among children with autism spectrum disorder.
- Identifying the continuity of the impact of the Pivotal Response Program in improving social initiative among children.

RESEARCH METHODOLOGY

To answer the questions of the study, the researcher relied on the quasi-experimental approach, where he used a two-group design (experimental and control) with the aim of investigating the effectiveness of the pivotal response program in improving the social initiative among children with autism spectrum disorder.

Participants

The number of the sample consisted of (12) male and

female children, (9) males and (3) females, in the two centers (Kishbin - Hana). They were distributed into two groups: one experimental and the other control, so that the experimental sample included (5 males - 1 female), and the control sample (4 males - 2 females).

Social Initiative Scale

It was built with reference to the specific theoretical literature. Its construct validity implications were also verified. The correlation coefficients between the dimensions of the social initiative scale ranged from (0.404) to (0.661). While the correlation coefficients between the dimensions of the social initiative scale and the total score of the scale ranged from (0.794) to (0.921). The reliability of the social initiative scale was calculated through internal consistency and it reached .69 overall.

Pivotal Response Program

It was built based on related literature review. To verify the validity of the program, it was presented in its initial form to the experts and specialists in the field of mental health - psychology - special education), who agreed on the content of the program by 80%, with a number of amendments and additions to it and linguistic modification of some activities and techniques. Take all these notes into consideration when configuring the program before final implementation.

THE RESULTS

The results are organized according to the questions:

- What is the effectiveness of the pivotal response program in improving social initiative among children in the experimental group with autism spectrum disorder?

To answer this question, non-parametric statistical methods were used: the Wilcoxon test and the Z value, in order to calculate the significance of the differences between the average ranks of the scores of the post and follow-up measurements for members of the experimental group (an interconnected sample) on the social initiative scale. The following table shows that:

Table 1
Wilcoxon results (W) and the value of (Z) and its significance for the difference between the average ranks of the experimental group's scores in the post and follow-up measurements on the social initiative scale n=6

Dimensions of the social initiative scale	Rank direction	n.	Means of rank	Sum of rank	Z value	Sig.
initiating with peers in a social context	Negative ranks	0	0.00	0.00	-2,014	0.04
	Positive ranks	5	3.00	15.00		
	Equivalent ranks	1				
	Total	6				
Responding to the initiative of others	Negative ranks	0	0.00	0.00	-2.041	0.04
	Positive ranks	5	3.00	15.00		
	Equivalent ranks	1				
	Total	6				
Conversation etiquette	Negative ranks	0	0.00	0.00	-1.633	0.10
	Positive ranks	3	2.00	6.00		
	Equivalent ranks	3				
	Total	6				
The total score of the scale	Negative ranks	0	0.00	21.00	-2,207	0.02
	Positive ranks	6	3.50			
	Equivalent ranks	0				
	Total	6				

It is clear from the table that the assumption has been partially fulfilled, as:

- There are statistically significant differences at the level of significance (0.05) between the post and follow-up measurement in both the dimension of initiating with peers in the social context and the dimension of responding to initiation from others, and the total score of the scale is in favor of the follow-up measurement.- There are no statistically significant differences between the post and follow-up measurements in the conversation etiquette dimension.

• What is the continuity of the effectiveness of the pivotal response program in improving social initiative among children in the experimental group with autism spectrum disorder?

Table 2
Arithmetic means and standard deviations in the post and follow-up measurements for the experimental group for the social initiative scale and the total score, n=6.

Dimensions of the social initiative scale	Groups	Means	S.D.
initiating with peers in a social context	Follow up	19.500	1.0488
	post	17.66	1.211
Responding to the initiative of others	Follow up	21.500	1.7606
	post	19.66	2.503
Conversation etiquette	Follow up	23.500	0.547
	post	22.33	1.211
The total score of the scale	Follow up	64.500	1.974
	post	59.66	3.502

It is clear from the data in the table above that the improvement continues in the follow-up measurement, which reflects the effectiveness of the treatment program.

RESEARCH LIMITATIONS

Children with mild autism spectrum disorder aged (6-9) years in the Hana and Kishbin Autism Center in the Erbil Governorate Center / Iraq.

DISCUSSION AND CONCLUSIONS

The pivotal response program helped teach the child appropriate behaviors and functional skills that helped him adapt to the surrounding environment. The content of the activities was based on motivation to learn, and this helped make the program a success. The variety of techniques used and their employment in achieving the program's goal contributed to its success, as appropriate reinforcement was provided to each child, which led to the child improving, increasing his motivation for management, and encouraging him to participate in

the program's activities. The variety of reinforcers also helped, as each child received the preferred and desired reinforcer. It motivated the child to repeat the activity, agree with the researcher, and perform what was asked of him. Also, the use of modeling techniques helped the child to acquire desirable behaviors and achieve the goals of the program. These results agreed with studies of Boudreau, Lucyshyn, Corkum, Meko, & Smith, (2021) van den Berk-Smeekens et al. (2020), and Wichnick-Gillis, Vener, & Poulson, (2019).

Based on the findings of the research, the researcher recommends the following:

• Holding periodic training and guidance courses for parents to demonstrate how to deal with their children with autism spectrum disorder and follow up on them.

• The need for parents to participate in training and treatment programs for their children with autism spectrum disorder has a significant impact on spreading positive behaviors among children.

• It is necessary for all special education centers in the Kurdistan Region to adopt the Pivotal Response Program because of its significant impact in improving communication and social interaction among children with autism spectrum disorder.

• Using the current study as a starting step and paving the way for other educational programs.

• Applying the pivotal response program to larger samples and comparing its results with the current study.

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