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The Contribution of Adapted Physical Activity in Improving the Psychosocial Aspects of Children with Autism Spectrum Disorder

مساهمة النشاط البدني الرياضي المكيف في تحسين الجانب النفسي الاجتماعي لأطفال ذوي طيف التوحد

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Abstract

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Key words:

Adapted physical activity

The psychosocial aspect

Autism spectrum.

This article aims to identify the importance of adapted physical activity in enhancing the psychological and social aspects of children with autism. In line with the objectives and nature of the subject of the study, it relied on the application of the descriptive approach, and we used a questionnaire that was distributed to a purposive sample of 21 educational supervisors in Pedagogical Rehabilitation Center in the state of Ain Defla. This study reached a set of results, the most important of which was that adapted exercise enhances the self-confidence of a child with autism, which helps him communicate and integrate with others.

الكلمات المفتاحية: ملخص

يهدف هذا المقال إلى التعرف على أهمية النشاط البدني الرياضي المكيف في تعزيز الجانب النفسي والاجتماعي لأطفال المصابين بالتوحد. وتمشيا مع أهداف وطبيعة موضوع الدراسة فقد اعتمدت على تطبيق المنهج الوصفي، واستخدمنا استبيان تم توزيعه على عينة قصدية مكونة من 21 مشرفا تربويا في مركز إعادة التأهيل البيداغوجي بولاية عين الدفلى، وقد توصلت هذه الدراسة إلى مجموعة من النتائج كانت من أهمها هو أن التمارين الرياضية المكيفة تعزز الثقة بالنفس لدى الطفل المصاب بالتوحد مما يساعده على التواصل والاندماج مع الآخرين.

النشاط البدني الرياضي المكيف
الجانب النفسي الاجتماعي
طيف التوحد.

1. Introduction

According to “Chalzer Biotcher,” adapted physical activity is an integral part of general education and an experimental field aimed at fostering good citizenship through various forms of physical activity. The goal is to achieve physical, mental, emotional and social development. Referring back to this definition, the psychological, social and human dimensions of adapted physical activity are clearly evident, as it aims to nurture the individual and promote comprehensive development by combining motor exercises with psychological methods to achieve psychosocial growth. The growing interest among researchers in this field highlights that adapted physical activity is a distinct form of physical activity specifically designed for a particular group. It plays a unique role in restoring psychological balance and providing necessary rehabilitation for individuals with special needs who have lost cognitive, psychological, sensory or physical abilities, either congenitally or acquired. (Mohammed Khattab, 1965, p. 79).

Adapted physical activity is an effective educational method for individuals with special needs. It involves developing and modifying sports activities according to the needs of children with disabilities, taking into account the type, category and degree of their impairments. Given the educational dimensions of adapted physical activity, this is particularly pertinent for children with autism, who are at a developmental stage where the first outlines of their personality and future are formed. Children with autism are among those with special needs who require attention and care. Mohammed Abdel Halim Al-Bawaliz defines adapted physical activity as various developmental programmes and games that align with the interests and abilities of disabled children and the limitations imposed by their disability. (Helmy Ibrahim and Leila Said Farhat, 1998, p. 223).

The term ‘autism’ derives from the Greek word ‘autos’, meaning ‘self’. It is a developmental disorder that becomes evident within the first three years

of a child’s life, characterised by a lack of social interaction and communication. (Ibrahim Abdullah Ziqat, 2004, p. 24).

Children with autism exhibit distinct characteristics that set them apart from others. Their behavioural patterns often involve emotional responses, difficulty with social interactions and rapid reactions. The aim of engaging children with autism in sports is to address the psychological and social aspects by absorbing their aggressive behaviours, reducing their anxiety and tension, dissipating their negative energy and integrating them into the community through physical activity. Children with autism require special attention, making their cases particularly challenging. This disability was first identified around 60 years ago and is associated with difficulties forming social relationships.

Doctors have made efforts to understand the causes of this condition; however, a specific cure has not yet been identified. Although the reasons remain unclear, positive results have been achieved in advancing progress with these children through medical, behavioural and educational studies. The most effective approach is to integrate these individuals into their family environment rather than isolating them, as this will undoubtedly aid the development of their cognitive abilities and enable them to learn from others (Al-Rifai, 1987, p. 217).

Studies and research in this field have confirmed the importance of adapted physical activity for children with autism, as well as the interest of scientists and researchers in this area. This is because adapted physical activity facilitates communication and expression and reduces aggressive behaviours exhibited by individuals with autism through play, dissipating the negative aggressive energies displayed in their behaviour. The activities in which they engage have improved their psychological state and alleviated aggressive energy, highlighting the importance of sports practice in modifying their behaviours.

This issue arises from the need to alleviate the

challenging symptoms of autism spectrum disorder, which pose significant difficulties for affected individuals and their families, as well as for specialists in this field. This study aims to investigate whether adapted physical activities can improve symptoms such as shyness, loss of interest, weak social communication and delays in motor and cognitive development. The study is expected to provide valuable insights and contribute to enhancing the quality of life for this important group of children.

One of the studies that addresses our research topic is Latifa Sahli's (2012) study titled 'The Role of Activities in Developing Verbal Communication Skills in Children with Autism'. This study employed a clinical approach and observational tools to reveal the role of play activities in developing non-verbal communication skills in children with autism. It concluded that physical activity through play helps children engage with others and develop alertness and awareness.

The current study aims to emphasise the importance of adapted physical activity in improving the psychosocial well-being of children with autism, thereby addressing the following questions:

1- Main question:

In what ways does adapted physical activity contribute to improving the psychosocial well-being of children with autism spectrum disorder?

1.1 Sub-questions:

- Does adapted physical activity contribute to improving the psychological well-being of children with autism spectrum disorder?
- Does adapted physical activity contribute to improving the social aspect of children with autism spectrum disorder?

2-Objectives of the study:

The current study aims to achieve the following objectives:

Understanding the importance of adapted physical activity in improving the psychological well-being of

children with autism spectrum disorder.

- Understanding the importance of adapted physical activity in improving the social aspect of children with autism spectrum disorder.

- Previous studies:

-the first study : by researcher Qaddour Bay Belkhair(2016): The effect of a psychomotor education program on some cognitive-motor abilities among the mentally disabled. The researcher used the experimental method to suit the research problem to test the hypotheses and confirm or deny their validity. Therefore, the pre-test and post-test method was applied to a sample of (20).) A mentally disabled child capable of learning, aged 9-11 years, was divided into two equal and equivalent groups in terms of intelligence quotient and chronological age, one of which was a control group and the other an experimental group. The researcher used the "Bordeaux" tests to measure cognitive-motor abilities. We used arithmetic means and standard deviations.

-the seconde study :by researcher Tamer Mohammed. Saghiri Rabeh. Natah Kamal (2020): Adapted sports activities and their impact on modifying aggressive behavior in autistic children. This current study aimed to determine the extent of the impact of adapted sports activities in modifying some aggressive behaviors in children with autism.

The researchers used the experimental method, which is considered the most appropriate for such topics. The study sample consisted of 16 autistic children, divided into two groups, one experimental and the other control. The sample of each group was estimated at 8 children. The researchers concluded that practicing these activities is very effective, and among these behaviors we find social behavior and some verbal and non-verbal communication skills.

3- Definition of Terms:

- Adapted Physical Activity:

Stour defines 'adapted physical activity' as activities and exercises practised according to the capabilities

of individuals with limitations in motor, mental and sensory aspects (Marwan Abdel Majid, 2002, p. 194).

- Autism:

According to Kreek, it is a disorder that affects children's mental, cognitive and verbal skills. (Naif bin Aaid, 2012, p. 84).

4- Methodology and research tools:

4-1 Research community and sample:

The study community consists of 12 supervisors at the rehabilitation centre in Ain Defla, based on information obtained from the exploratory study. Due to the small size of the research community, the researcher used a comprehensive survey method and took the entire community as the sample for the study, comprising 12 individuals.

4-1-1 Study sample:

The research sample consisted of 12 individuals.

4-2-Research procedures:

2-2-1 - Research method:

The descriptive method was adopted. This is a research approach that describes phenomena and problems as they exist in reality without the researcher intervening to change or influence them. The aim is to collect, analyse and interpret data in order to gain a full understanding of the phenomenon and provide an accurate description of it. (Marwan Abdel Majid Ibrahim, 2000, p. 157).

4-2-2 Research variables:

- Independent variable: Adapted physical activity.
- Dependent variable: The psychosocial aspects of children with autism.

4-2-3- Research Fields:

- **Human field:** Supervisors at the rehabilitation centre in Ain Defla (totalling 21).
- **Spatial field:** Rehabilitation centre in Ain Defla.
- **Temporal field:** The researchers conducted the study between 2023 and 2024.

5- Research tools:

Due to its suitability for the research topic, a questionnaire was used, containing a set of questions related to the themes associated with the study. The form was divided into two main themes, as follows:

First Theme: Questions regarding the positive contribution of adapted physical activity to improving the psychological well-being of children with autism spectrum disorder (7 questions).

Second Theme: Includes questions regarding the positive contribution of adapted physical activity to improving the social aspect of children with autism spectrum disorder. This section also consists of seven questions

6- Psychometric properties of the study tools (validity, reliability and objectivity):

6-1 Validity:

In scientific research, validity refers to a measurement tool being considered valid if it measures what it was designed to measure.

A. Face validity: We presented the questionnaire to a group of professors for evaluation, both to ensure the validity of the research tool's content and to gather their opinions on the phrasing of the statements and how well they align with the themes.

B. Criterion validity: We calculated this using the square root of the Cronbach's alpha reliability coefficient, as shown in the table. We found that the research tool's overall validity coefficient was 0.962, which is very high and suitable

for the research's purposes and objectives, meaning we can conclude that all the tool's statements are valid for what they were designed to measure.

C. Internal consistency validity: We used Pearson's correlation coefficient to confirm structural validity, internal consistency, and the degree of internal homogeneity, as illustrated in the following tables.

6-2 Reliability:

Table 01: This represents the correlation coefficient between the statements of the theme..

Number of items	Number of phrases	Correlation coefficient with the total score of the _questionnaire
First	07	972**
second	07	916**

Table (02): Represents the reliability of Cronbach's alpha

Number of items	Cronbach's alpha coefficient
First Axis 07	0.830
Second Axis 07	0.850
Total Questionnaire	0.927

Table (03): Represents the correlation coefficient with the total score of the questionnaire.

Axis First			Second Axis		
Phrase number	Correlation coefficient	Probability	Phrase number	Correlation coefficient	Probability
01	-.498*	0.049	01	.818**	0.000
02	.891-***	0.000	02	.954**	0.000
03	.744**	0.001	03	.905**	0.000
04	.844**	0.000	04	.905**	0.000
05	.974**	0.000	05	.790**	0.003
06	.964**	0.000	06	.722**	0.001
07	.921**	0.000	07	.905**	0.002

7- Statistical methods:

We used the arithmetic mean, the correlation coefficient and Cronbach's alpha.

8- Analysis of the first hypothesis:

Adapted physical activity has a positive impact on the psychological well-being of children with autism spectrum disorder.

Table 04: This table represents the results related to the first hypothesis

	Arith metic Mean		Standard Deviation			
01	1	5	10	2.56	0.62 9	High
	6.3	31.3	62.3			
02	00	6	10	2.63	0.50 0	High
	00	37. 3	62.5			
03	1	1	14	2.81	0.54 4	High
	6.3	6.3	87.5			
04	5	5	37.5	2.72	0.58 5	High
	34. 5	31. 3	10			
05	3	3	62.3	2.56	0.81 4	High
	18. 8	18.8	11			
06	2	3	68.4	2.33	0.72 4	High
	12. 5	5	8			
07	2	3	68.4	2.33	0.72 4	High

-Discussion of the Results of the First Hypothesis:

From the results obtained, we conclude that adapted physical activity is an effective means of helping children with autism to improve their behaviour by managing anger, satisfying psychological needs

and controlling fears through sports activities. This aligns with the study by **Rahli Mohammed (2022)** titled The Impact of Modified Physical Activities on Enhancing the Mental Health of Children with Autism, which emphasised the importance of adapted sports in promoting the mental health of children with autism. This study also agrees with the study of **Jabouri (2014)** that there are many studies and research in the field of sports that have proven that sports practice in its various types and activities is individual in developing the individual's physical and psychological abilities, and it also has great importance in preventing some psychological diseases such as anxiety, fear, depression, and introversion, in addition to other behavioral disorders.

Table (05): This table represents the results of the second hypotheses

	Statement		Alternatives			Arithmetic Mean	Standard Deviation	
			Always	Sometimes	Never			
01	1. He shares playtime with his peers.	T	1	5	10	2.56	0.629	High
			6.3	31.3	62.3			
		%						
02	2. He communicates with his peers.	T	00	6	00	2.63	0.500	High
			00	37.3	00			
		%						
03	3. He shares sports games with his peers.	T	1	1	1	2.81	0.544	High
			6.3	6.3	6.3			
		%						
04	4. Finds it difficult to socialise.	T	5	5	37.5	2.72	0.585	High
			34.5	31.3	10			
		%						
05	5. Refuses to join a group. 6. Becomes angry quickly when spoken to.	T	3	3	62.3	2.56	0.814	High
			18.8	18.8	11			
		%						
06	6. Becomes angry quickly when spoken to.	T	2	3	68.4	2.33	0.724	High
			12.5	5	8			
		%						
07	7. Dominates games alone.	T	2	3	68.4	2.33	0.724	High

9- Analysis of the Results of the Second Hypothesis:

-Discussion of the Results of the Second Hypothesis:

From the results obtained, we can conclude that physical activity helps children with neurodevelopmental disorders, such as autism spectrum disorder, to socialise and adapt to their environments. Specialists state that physical activity helps children with autism to handle physical, cognitive and behavioural challenges simultaneously, thereby enhancing their motor skills and increasing their independence.

Sports play a significant role in the lives of individuals with autism, as they provide an effective and beneficial outlet for energy. It also encourages them to integrate into society and respond to guidance from people outside their families. Furthermore, it plays a role in helping them to overcome anger outbursts and enables

them to express their feelings, substantially improving their behaviour.

Participating in team sports helps children understand the meaning of participation and social interaction, accept the presence of others around them, and grasp the concepts of taking turns, winning, and losing. This also enhances their communication skills, helping to increase their focus and attention and deepening their awareness of their surroundings." The primary goal is to develop the skills of children with neurological disorders appropriately, especially visual-motor coordination, which can be a challenge for those on the autism spectrum.

This is what was confirmed by the study of **Tamar Muhammad, Saghiri Rabah, and Natah Kamal (2020)**, which states that group play plays a role in reducing aggressive behaviors in autistic children, both toward themselves and toward others.

as well as self-directed and other-directed aggression. **Ibrahim Mahmoud Badr (2003)** states that adapted physical activity develops self-confidence and cooperation in individuals with disabilities, as well as a sense of joy, belonging and communication. Such activities

enable individuals with disabilities to approach and interact socially, enhancing their inclination towards the group and regulating their emotions.

We conclude that adapted physical activity plays a crucial role in reducing selfishness in children with autism. This prominent and effective role encourages children to consider sharing with others and helps them to adapt and understand others, even if only visually rather than cognitively. Play is the only way to channel their mental and physical energy, enabling them to understand various behaviours and perceptions.

10- Conclusion:

In conclusion, it is important to emphasise the role of adapted physical activity in achieving school integration for children with autism. It effectively addresses various developmental deficiencies faced by autistic children from psychological, social and emotional standpoints. It improves communication and cooperation, fosters acceptance of others and reduces withdrawal from social situations. It also alleviates aggressive behaviour, tension and anxiety resulting from misunderstanding their surroundings. From a social standpoint, it facilitates interaction between autistic and neurotypical children, fostering a sense of participation and cooperation in various sports activities. Furthermore, adapted physical activity provides an important avenue for utilising free time and is a factor of active positive comfort. It also contributes to improving the health and physical well-being of individuals with disabilities and helps to improve their posture. Therefore, based on our study

Our strong belief in the importance of programming physical and sports activities for private school students within specialized institutions prompted us to conduct this study. Since adapted physical and sports activities constitute an educational and recreational approach for ordinary students, it is more appropriate for them to be so or more so for the category of students in these schools in particular

We have conducted this research. It is the fruit of efforts in the field of education and care of students within specialized educational institutions, through which we have demonstrated the effectiveness

of practicing within adapted physical and sports activities in achieving social interaction among students in schools some dimensions such as acquiring cooperative behavior.

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