



The Effect of Perceptual-Motor Activities Training on Adaptive Behavior of Autistic Children

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ABSTRACT

The aim of this research work is the effect of perceptual-motor activities training on adaptive behavior of autistic children. This semi-experimental research and pre-test-post-test considered by using of control group. The study sample are all autistic children in Mashhad. This semi-experimental and pretest-posttest control group considered. In this study, purposive sampling method is used. This means that of all children with autism, 30 children were selected and randomly divided into two experiment groups ($n = 15$) and control ($n = 15$) groups. Moreover the children conditions were assessed using a Weiland adaptive behavior questionnaire and before the implementation of the program no difference between the groups was confirmed. Then the students in the experimental group participated in the perceptual - motor activities training sessions during 12 sessions of 45 minute. Furthermore post-test was performed and the results were assessed using SPSS software and analysis of covariance and two independent samples were analyzed by using of T test. The results showed that, perceptual-motor activities training has a positive effect on the adjustment of autistic children.

Keywords: Autism, Adjustment, Perceptual-Motor Activities

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INTRODUCTION

The Adaptive behavior of routine skills in the social and practical areas to gain an understanding of people with developmental disorders, including autism is vital (Wells, Condillac, Perry, & Factor, 2009). Various measures of adaptive performance are available and choose among them can be difficult for doctors. Conceptually, between adaptive behavior and other structures, including the assessment of people with autism there is an overlap. The previous research has found moderate correlation between adaptive performance, cognitive level and severity of autism has found. These concepts overlap and overlap them with each other related with the understanding and measures effectiveness. In general, cognitive skills are measured directly by testing a person. Test taker confronted with a series of tasks and questions that have been presented in order to understand cognitive performances. On the other hand, adaptive

performance normally will be measured through interviews and questionnaire respondents who are familiar with the test taker. Skill in the area of adaptive performance is something that a person usually show during the period.so, these skills directly for an external receiver without significant and long term influence in one's life is not visible .As a result, people who have close knowledge of these skills, including family members, caregivers and educators, will be questioned through interviews and questionnaires about test taker adaptive skills. Although a range of impact factors affect's on the results of autism spectrum disorders, adaptive skills are one of the aspects of development that will assist strongly prognosis (Gillham, Carter, Volkmar, & Sparrow, 2000).

Adaptive skills are the skills that include the use of person capacity in individual activities in the faced with everyday environment. These skills, especially in people with autism spectrum disorders (ASD) are important because they strongly

contribute to the ability to perform successful work and independent in the world (Hall, 2008). The word autism was first used in 1912 by a scientist named Eugen Bluler. Before that he had coined the term schizophrenia to express a psychological problem. Of course, the first mention to the autism as a disorder in the writings of Leo Kanerz from Baltimore in 1943 can be seen as "effective contact Autistic disorders". A year later, Hans Asperger Venetian medical wrote subjects about the disease, that its symptoms are similar to those described by Conner and Later this type of disorder called Asperger's syndrome that is a type of autism. Several decades later, Bettelheim's theories about refrigerator mothers be substitute Bernard Rilmand theories who had a biological origin for this disorder. Today, scientists know that autism has no relationship with the mother and the child's behavior. They have been able to identify chromosomal mutation as an origin of autism. Motor defects in Autism spectrum disorders can be caused by the underlying neurobiological changes in functional anatomy and brain regional. FMRI studies have earned adjustment evidence to increase the size of brain regions, including brain hemispheres, the cerebellum and the caudate nucleus and also reduce the size of the corpus callosum in patients with autism. Also Motor deficits can be caused by dysfunction in Fronto-Astriatal route and or according to Antict theory possible sources of motor defects in autism can be disorder in basal ganglia, thalamus and the motor complementary region. Several studies abnormal chemical neurotransmitters, especially in the serotonergic

systems, dopaminergic and Gabargic in these patients have shown that this can affect a person's motor performance.

The main purpose in this study is the effect of perceptual-motor activities training on the adjustment and examined the following hypothesis: Perceptual-motor activities training has an impact on the adjustment of autistic children.

RESEARCH METHOD

The method of this research is semi-experimental studies and in which the pretest and post-test design with control group is used. The research statistical population are all autistic children in Mashhad. In this research, purposive sampling method is used. This means that of all children with autism, 30 children were selected and randomly divided into two experiment groups ($n = 15$) and control ($n = 15$) groups. To evaluate perceptual-motor activities training of intervention sessions in 12 sessions of 45-minute over two months and is done individually and before and after sessions of both control and experimental groups carried out the necessary tests. In order to collect information from Weiland adaptive behavior test was used. For data analysis SPSS20 software used and to analyze the data from two independent group t-test formula and analysis of covariance is used. This study examines the research hypothesis. The Table 1 show the mean and standard deviation in two pretest group close to each other and in post-test the experimental group increased.

Research Hypothesis: Perceptual-motor activities training has an impact on the adjustment of autistic children.

Table 1. Descriptive statistics of testing times group type

Group Type	Testing Times	Max	Min	Mean	SD
Control group	pretest	77	0	46.60	2.36
	posttest	100	0	3.15	
	Pretest	79	0	71.46	2.66
	posttest	80	0	45.86	2.70

Based on The results of Table2 , it can be concluded that the adjustment scores distribution is not normal in variables distribution pretest and posttest.

Table 2. Kolmogorov Statistics of variables

Variable	Test Type	Mean	SD	Kolmogorov Statistics	Sig
Adjustment Variable	pretest	46.23	2.47	0.83	0.49
	posttest	58.96	3.15	0.77	0.58

in accordance with the information of T-test , given that a Levin test significant level, is more than 0.05, the so variances between the two groups is equal and from the second row use to interpret t-test results with two independent samples. Based

on t-test significance level of 0.027 is smaller than 0.05, it can be said that between adjustment mean between two experimental and control groups there is statistically significant difference.

Table 3. Independent samples test

	Levin's test for equality of variances		t-test value		
	F	Sig	t	df	Sig(2-tailed)
Assuming equal variances	0/10	0/74	2/32	28	0/027
Assuming unequal variances			2/32	27	

The results presented in the above table shows that the assumption of variances not homogeneity to Improve adjustment ($F=5.86$, $P=0.011$) has been achieved.

Table 4. Levin test

Variable	Levin index	Significance
Adjustment	5.86	0.011

According to ($P=0.011$, $F=10.47$) variable effect is significant, namely the difference between pretest and posttest scores is significant.

Also the group effect considering ($F=6.88$ and $P = 0.001$) is significant, namely the difference between experimental and control groups in terms of increasing adjustment is significant.

Table 5

Changes sources	df	Squares mean	F	Sig
Variable (pretest scores)	19	1218.66	10.47	0.001
Group effect (experiment –control)	1	800.83	6.88	0.028
Error	9	116.32		
Total modified	29			

As the above table shows the modified mean of experimental group is significantly more than the control group which means perceptual-motor activities training has an impact on adjustment of autistic children.

DISCUSSION AND CONCLUSION

Research Hypothesis: perceptual-motor activities training has an impact on adjustment of autistic children. Covariance analysis was used to examine the validity of this hypothesis. The results showed that, according to ($P = 10.47$, $F = 0.001$) variable effect is significant, namely the difference between pretest and posttest scores is significant. Also group effect considering ($F = 6.88$, F and $P= 0.001$) is significant, namely the difference between experimental and control groups is significant in terms of increasing adjustment. The adjusted mean of experimental group was significantly higher than the control group. The results obtained are consistent with Afroz et al (2009) in the research examined the effect of exercise practices on students aggression took slow steps. The findings suggested that the experimental group had increased adjustment and reduced aggression for the experimental group, so regular physical exercise may lead to reduce aggression and increase student's adjustment to be slow-paced.

Although motor experiences in regular programs of physical education that defined with general perceptual motor activity, focus on strengthening the quality of perceptual motor skills, but apparently are emphasized on the issues related to strengthening the quality. in Health and fitness programs, emphasis is on strengthening certain components of perceptual-motor, so the motor activities grouped based on the desired qualities of perception-motor, such as body awareness, spatial awareness, time knowledge, direction knowledge . Activities designed to promote these abilities are used in regular exercise programs, but the first goal , more motor skills learning and increase physical activities to perceptual-motor learning. Growth and purification of space and time world both have fundamental and original contribution in perceptual and motor programs. The term used in South America programs is highly variable. However, there seems to be a general

consensus that the following perceptual-motor qualities have the highest amount of importance to the growth and purification in children. Unfortunately, the complexity of modern society today often prevents the growth of many perceptual motor abilities. An environment that today Children grow up in that, so complicated and dangerous that touching denied and the situations that puts them a lot of movement and perceptual information can be prevented. They lose a lot of experiences that should have for their motor abilities growth. Lack of motor diverse experiences can delay motor development. Generally, a child who is backward in terms of perception has a major problem in perceptual ability and interpret and stimuli data and compare them with the original data. Perceptual motor abilities for effective and efficient performance of individual in the areas of mental learning, motor, cognitive and emotional is essential. Today, education experts believe that these motor and kinetic activities must be included in obligatory courses especially in preschool and elementary school levels. Success in mathematics learning and reading of the areas that are affected by the fine motor skills. If the activities to be performed correctly and systematically in fine skills, lead to growth and skills promotion in the children. These findings , in addition to the widespread prevalence of mental retardation (75% prevalence) in the autistic people, regardless of the fact that autism is the primary or secondary illness in these peoples, will necessitate motor and kinetic interventions in their individual educational programs.

Especially in the early years of motor skills, provides the setting for growth other important learnings, such as academic and social skills. Therefore, motor skills improvement and promotion should be considered in their training programs and in the services provided to them. On the other hand, motor skills in autistic children lead to predict receptive and expressive skills as well as game skills in the children that this subject for use in training programs and future research is very important. A deficiency or absence of empirical data does not mean the lack of effectiveness of a therapeutic approach, but may not yet determined its effectiveness. On the other hand, in all cases, perceptual motor skills training does not lead to an

increase in basic academic skills. This trainings will increase the perceptual-motor functions; but alone cannot improve reading skills, learning.

Motor and Physical activities play a very important role in people's health throughout life, but mostly about people with severe disabilities, including autistic children are ignored. Adolescents and Kids familiarity with the various programs and methods of sensory and motor activities is not only to strengthen their mental actions, but also lead to mental freshness and vitality, strengthen their self-esteem and as a result increasing mental health. By strengthening perceptual motor skills and cognitive development, will be disappear many of the issues that because of misunderstanding of others behavior have adversely impact on social interaction. Adjustment Possibility and people success with learning disabilities to be more in the difficult living conditions. Therefore, perceptual motor cognitive skills development

programs leading to the growth and self-concept development and body image in children , As a result arises in the child a sense of confidence, will try to accomplish to works harder. If it is established that perceptual-motor skills training is effective in reduction or improvement of educational problems and behavioral of autistic children. Therefore, this method can be used as an educational approach-empowering in education centers and treatment of this children in relation to special education, well-being and usual education. According to the research results, it is recommended that: Compare the effect of this model with other forms of intervention on social adjustment improvement. Repeat this research for children with parents and using different tests to assess their status. Implement the game intervention sessions and music therapy with different approaches, including improving interpersonal skills and adjustment.

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