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### RESEARCH ARTICLE

# The Effects of Rhythm and Dance Training on the Levels of Daily Living Activities in Trainable Mentally Handicapped Children

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### Abstract

The aim of this study was to investigate the effects of 8-week rhythm and dance training on the ability of training mentally handicapped children to perform activities of daily living. A total with 32 volunteers mother were interviewed in private rehabilitation centers in Mersin. The study included 32 training mentally handicapped children, including 20 males and 12 females. Rhythm and dance training continued for 8 weeks, 3 days a week, hour a day. This research measures the adequacy of daily living activities in children with disabilities (self-care skills). A 32-point evaluation form was developed by the author to measure this adequacy. The form is scored between 0% and 100 % This research measures the adequacy of daily living activities in children with mental retardation (self-care skills). A 32-matter evaluation form was developed by the author to measure this adequacy. The form is scored between From 0 % to 50 % (Absolutely not do), 50 % to 100 % (Can definitely do) It scales up to 100 with 10 unit intervals. According to findings; Anneler thinks that way of movement, developing rhythm in depth emotionally provides development in our child. It has been reported by the mothers that their children begin to express themselves better and their level of perception improves to keep the names, movements and events in memory better after the rhythm and dance training. After eight weeks of education, the rate of mothers who said that there were positive changes in my child's rough and fine motor skills was quite high. As consequence; it is suggested that the eight-week rhythm and dance education has positive effects on the children's ability to perform their daily activities

### Keywords

Mentally Handicapped, Family, Rhythm, Dance, Daily Life Activity

## INTRODUCTION

In the American Mental Retardation Association (AAMR), the training mentally retarded child, defined as a mild mental disability, has been identified as those whose mind development is below normal and therefore cannot adequately benefit from the normal primary school program. If these children are provided with appropriate training, they will be able to adapt themselves socially in society. It is stated that they have the potential for development if supported in the areas of professional competence (Sinclair and Forness, 1983; İlhan et al., 2015). If these children have provided with appropriate training, they will be able to adapt themselves socially in society. It is

stated that they have the potential for development if supported in the areas of professional competence (Sinclair and Forness, 1983; İlhan et al., 2015). At times left from academic training, well planned and organized activities should be organized to provide movement training and motor development for children in this group. With these well-planned activities, these children can gain skills that contribute to social, emotional and cognitive development, in particular motorsal (Aral and Gürsoy, 2007; Demirci and Toptaş Demirci, 2016).

Although the development of a child has evaluated separately in mental, affective and motor areas, it should be noted that development has a whole (Gallahue and Ozmun, 1995). In all other areas of development (social, emotional,

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psychological) of educable mentally handicapped individuals, inadequacy in motor (movement) development has also observed. Inadequacies in the area of motor development may be caused by the negativity of other development areas as well as the inadequacy of physical fitness (Bağdatlı and Deliceoğlu, 2014; Demirci and Toptaş Demirci, 2014). In the studies conducted (Ertürk, 2010) physical fitness levels and long reaction times of mentally disabled people have important problems preventing their independence in daily living activities. It has not correct to link low levels of physical fitness of mentally retarded children to the fact that only cognitive abilities have limited. The absence of appropriate physical education programs for these children and the lack of appropriate teaching techniques and practices can be counted among other important reasons.

Rhythm education; It has an important education that enhances the individual's body, mind and spirit interaction, combining movements with music in appropriate ways and providing a holistic education through movement. Rhythm has a process that has characterized by repeated and repeated characterization with regular and interrelated movements having a normal shape. With heart beat and breathing, the human comes to the world with rhythm. The movement of the universe is rhythm. Rhythm has the expression of movement with numbers. It has a number language. (Morgül, 2004). With the expression of Özkan, rhythm is the current of movements (Özkan, 2006).

Health-related quality of life can be expressed as the individual response given in daily life to the physical, mental and social impacts of the disturbances that affect the individual satisfaction under certain life conditions (Demirci et al. 2017). The necessity of providing body and motor development in education is reported in studies. In the process of education, the body has become a part of learning. The child, who is active during learning, learns better by doing and applying, and learning is permanent. According to Gardner, each individual has different learning, problem solving skills and abilities with the intelligence he has (Gardner, 2010).

In this study, it was aimed to investigate the effects of 8-week rhythm and dance education on the level of daily living activities of educable mentally handicapped children.

## MATERIALS AND METHODS

### *Research Group*

In this study; In the 2017-2018 academic year, there are 32 training mentally disabled children (32 mothers) including 20 males and 12 females who are educated at a Special Education and Rehabilitation Center (ages 8-15) in the province of Mersin. Before the program started, a meeting was held with the families of the children and information about the study was given and children participated voluntarily.

### *Research Design*

In the study, single group pre - test - post - test experiment design was used.

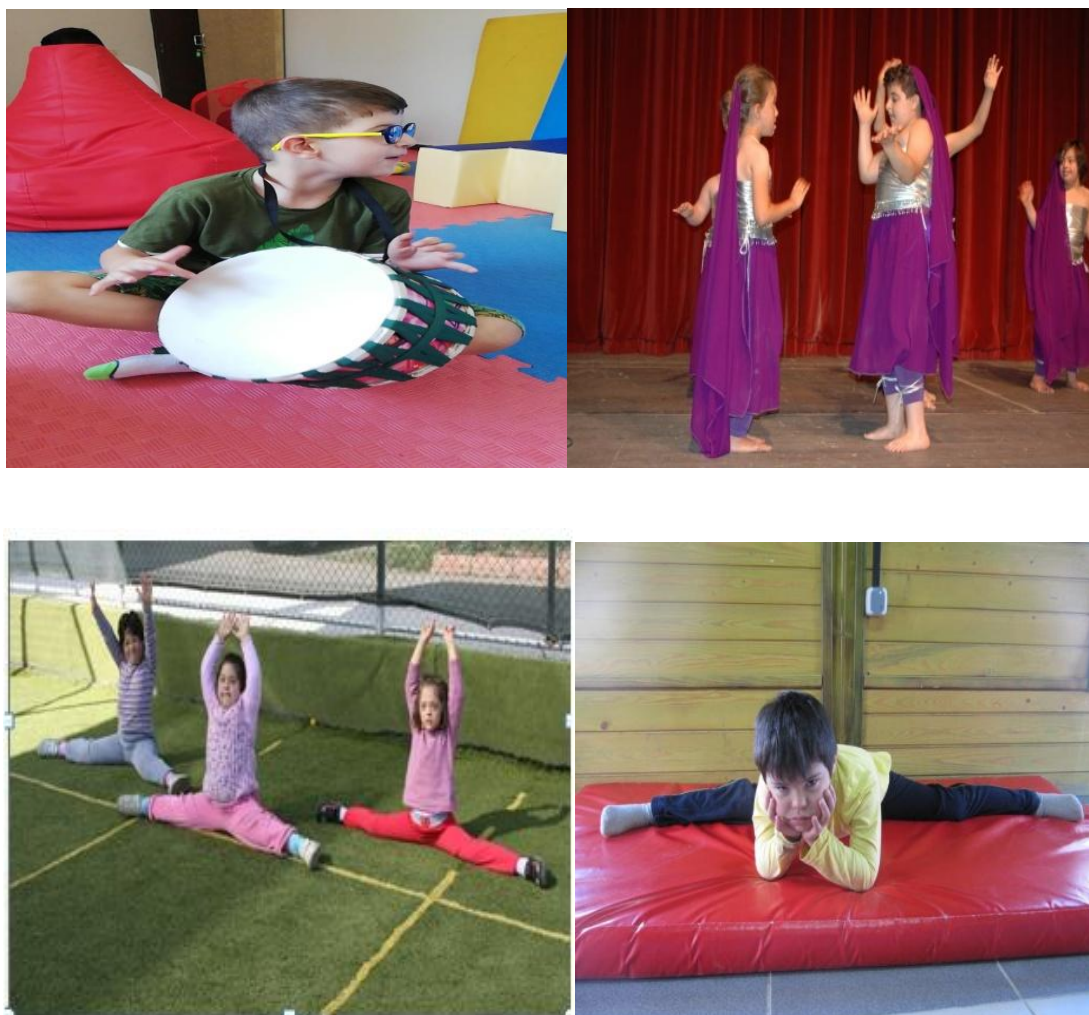
### *Data Collection Tools*

In this study, a 32-item evaluation form was developed by the author in order to measure the adequacy of daily life activities of mentally handicapped children (self-care skills). The interview form was formed by taking the opinion of three academicians who are experts in their fields. In order to ensure reliability and validity, 10 families were applied and finalized. The prepared questions were applied to mothers before and after 8 weeks of rhythm and dance training. The questions were asked about the effects of rhythm and dance education on the children's daily activities. The form developed by the author is scored between 0% and 100%. According to the level of being able to self-care skills or daily living activities; children from 0 to 30 (Certainly not does), 40% to 60% (can do moderate) and 70% to 100% (Certainly can do), It is rated up to 100 in 10 unit intervals. 20 male and 12 female participants at Mersin Special Education and Rehabilitation Center were given basic training which includes rhythm and dance movements lasting by researcher for 8 weeks 3 days a week and 1 hour a day. During the first 6 weeks, the studies were performed as individual, twos, and triple groups. The last 2 weeks were completed with the of all participants.

8 weeks of rhythm keeping, perception ability, movement training and movement skills, movement and rhythm, movement diversity, different rhythm studies, self-expression ability, dance and health relationship, dance and information recall relationship, paired studies,

different movement studies and group Activities activities were carried out (Altay and Bulca 2006). Recognize rhythm, perceive rhythm, recognize independently, adaptability, self-confidence, adaptation, social cohesion, calmness, happiness, remembering information, concentration, imagination. Various applications have been planned with the aim of applying the techniques independently, being able to do with teacher and

basic dance techniques, apply together with instructor. Self-sufficiency, ability to perform movements that require basic motor skills peer, perception, self-control, self-care, accomplishment, self-control in front of the audience.



**Figure 1.** Rhythm and Dance Education of Trainable Mind Disabled Children

**Analysis**

All statistical analyzes were performed with SPSS version 20.0. In this study, the results of descriptive statistics are presented as mean, standard deviation rates. The Paired Sample t-Test was applied to the data for a single group pre-test-posttest experimental design. P was less than 0.05 was considered significant.

**RESULTS**

According to the results of pre-test and post-test measurements of trainable mentally handicapped children about their level of daily living activities; There was no statistically significant difference between pre-test age and body height values. However, there was a significant decrease in body weight and body mass index among the final test values ( $p < 0.05$ ) (Table 1), (Table 2).

**Table 1.** Comparison of Physical Characteristics of Trainable Mind Disabled Girl Children

Variables	Tests	N	Mean	Sd.	t	Sig.
Age	Pretest	12	7,16	0,91	-,160	,651
	Posttest	12	7,38	0,91		
Height (cm)	Pretest	12	126,16	5,30	1,442	,152
	Posttest	12	126,15	4,60		
Weight (kg))	Pretest	12	27,08	4,01	1,190	,005*
	Posttest	12	24,91	5,25		
BKI	Pretest	12	17,00	2,32	,374	,018*
	Posttest	12	15,70	2,07		

Sd: Std. Deviation, (p <0.05)

**Table 2.** Comparison of Physical Characteristics of Trainable Mind Disabled Male Children

Variables	Tests	N	Mean	Sd.	t	Sig.
Age	Pretest	20	7,10	0,89	-,220	,751
	Posttest	20	7,27	0,89		
Height (cm)	Pretest	20	129,55	6,20	1,365	,174
	Posttest	20	130,02	5,30		
Weight (kg))	Pretest	20	29,85	4,60	1,155	,005*
	Posttest	20	28,05	5,15		
BKI	Pretest	20	18,00	2,45	,280	,015*
	Posttest	20	16,60	2,15		

Sd: Std. Deviation, (p <0.05)

According to the findings, mothers reported that their children were willing to participate in rhythm and dance training and they were more cheerful. It was argued that by mothers played an important role of instructor in the positive changes in their children. Mothers suggested that developing motor skills such as skill, strength, flexibility, body control, balance and coordination are important in doing daily tasks. After the rhythm and dance training, they stated that their children had better communication and interaction and that they were better conformity to the group. In addition, self-confidence and adaptation also reported that the children responded to education. All mothers are of the opinion that moving has led children to gain experience, to develop the rhythm

in depth and to provide emotional development in my child (Table 3).

In addition, it has been identified by the mothers that the children were expressing themselves better and that their perception levels improved and the names, movements and events were kept in memory after the rhythm and dance training. It is among the other positive changes that have been reported that their children focus on a situation in general, and their concentration and imagination increase. After the rhythm and dance training, mothers who said that my child had received instruction and obeyed the instruction suggested that they had improved in their children's visual, auditory and tactile perceptions (Table 3).

While the skills such as button up, tooth brushing, belt and shoe connect were weak before training, the rate of mothers who said that after the rhythm and dance training had positive changes in the rough and fine motor skills of my child is very high. Mothers who stated that they were more learning and adaptation in social exercises jointly with the group stated that their children were physically better and they were more calm in the spiritual sense. (Table 3). High-low, front-back, up-down, right-left, long-short and warped-flat, round-cornered, big-small, slow-fast, strong-weak,

hard-soft, tense-relaxed concept It has been suggested that it is better perceived. During the 8 weeks of training, it has been suggested that educable mentally disabled children who meet with rhythm instruments such as def, drum, drums, bell, triangular castanets and bumps develop their level of use in a harmonious way after training. After the Rhythm and Dance Education, mothers who said that the desire of my child to learn in academic sense increased, and they think that their children will participate continuously in such activities (Table 3).

**Table 3.** Comparison of Pretest and Posttest Measurement Results of Mothers Attending the Research

Variables	Tests	N	Mean	Std. Deviation	t	Sig.
1. My Child Can Attend Rhythm and Dance Education	Pretest	32	1,11	0,27	2,013	,043*
	Posttest	32	1,44	0,89		
2. My Child is Happy in Rhythm and Dance Education	Pretest	32	1,21	0,38	1,356	,047*
	Posttest	32	1,47	0,83		
3. My Child Enjoys Moving	Pretest	32	1,17	0,54	1,105	,032*
	Posttest	32	1,43	0,82		
4. Rhythm and Dance Education May Make Changes in My Child's Skill	Pretest	32	1,32	0,80	1,049	,027*
	Posttest	32	1,57	1,02		
5. My child may be sufficient to provide coordination and balance	Pretest	32	1,42	1,13	-1,245	,040*
	Posttest	32	1,84	1,30		
6. Rhythm and Dance Education Can Improve My Child's Strength	Pretest	32	4,34	1,12	-1,065	,165
	Posttest	32	4,41	1,28		
7. Rhythm and Dance Education Can Improve My Child's Flexibility	Pretest	32	4,11	1,34	-1,179	,044*
	Posttest	32	4,65	0,67		
8. My Child Can't Control His Body Well So He Can Fall Frequently	Pretest	32	1,52	1,13	-1,225	,035*
	Posttest	32	1,78	1,28		

**Table 3.** Continued

9. Rhythm and Dance Education Can Make a Positive Change in My Child.	Pretest	32	4,15	1,25	-1,120	,054*
	Posttest	32	4,46	1,10		
10. My Child Can Have Sufficient Communication and Interaction	Pretest	32	4,07	1,56	-1,034	,008**
	Posttest	32	4,55	1,08		
11. My child can improve the harmony within the group	Pretest	32	1,46	1,20	1,125	,047*
	Posttest	32	1,89	1,34		
12. My child can improve self-confidence and adaptation	Pretest	32	4,35	1,25	-1,215	,041*
	Posttest	32	4,70	0,90		
13. Moving, can develop the rhythm deeply in my child	Pretest	32	1,27	1,32	1,118	,042*
	Posttest	32	1,50	0,88		
14. My Child Can Express Himself	Pretest	32	4,22	1,32	1,140	,048*
	Posttest	32	4,52	1,02		
15. My Child's Perception Level Can Develop Well	Pretest	32	4,15	1,33	-1,150	,046*
	Posttest	32	4,54	1,01		
16. My Child Can Keep Names, Movements And Events In Memory	Pretest	32	4,10	1,59	-1,562	,124
	Posttest	32	4,09	1,45		
17. Can development My Child's Concentration	Pretest	32	3,72	1,24	-1,245	,015*
	Posttest	32	4,10	1,35		
18. The Imagination Of My Child May Change.	Pretest	32	4,08	1,42	-1,325	,028*
	Posttest	32	4,56	0,92		
19. My child receives instructions and complies with the instruction	Pretest	32	1,35	1,47	1,130	,030**
	Posttest	32	1,86	0,98		
20. Ability to match movements according to acoustic stimuli	Pretest	32	1,75	1,41	1,118	,128
	Posttest	32	1,67	1,22		
21. My child's visual, auditory and tactile perception may change	Pretest	32	3,32	1,60	-1,215	,049*
	Posttest	32	3,75	1,27		
22. My Child's Rough and Fine Motor Skills Can Be Developed	Pretest	32	1,26	1,34	2,120	,042**
	Posttest	32	1,86	0,89		
23. My Child's Body Tension Can Decrease Physically and Spiritually	Pretest	32	4,10	1,38	1,015	,041*
	Posttest	32	4,45	1,08		

**Table 3.** Continued

24. It can adapt to the common exercises with the group.	Pretest	32	1,32	1,35	1,018	,018*
	Posttest	32	1,74	0,92		
25. Can detect High-Low, Front-Back, Up-Down, Right-Left, Long-Short Concepts	Pretest	32	4,15	1,45	1,230	,028*
	Posttest	32	4,65	1,12		
26. My child can perceive the concepts of distorted-flat, round-cornered, large and small forms.	Pretest	32	1,35	0,79	1,010	,1450
	Posttest	32	1,45	0,72		
27. My Child Can Detect Slow-Fast, Start-to-End, Like-Time Concepts.	Pretest	32	1,26	1,24	1,046	,015*
	Posttest	32	1,55	0,85		
28. My child can perceive concepts such as strong-weak, hard-soft, tense-relaxed.	Pretest	32	4,25	1,428	1,120	,040*
	Posttest	32	4,70	1,09		
29. My child can use the rhythm instruments in a compatible way.	Pretest	32	4,23	1,28	1,025	,040*
	Posttest	32	4,52	0,85		
30. My child can do self care skills independently.	Pretest	32	1,15	1,35	1,105	,020**
	Posttest	32	1,85	0,80		
31. My child can control the behavior of the violent.	Pretest	32	1,25	1,28	1,235	,045*
	Posttest	32	1,50	0,82		
32. My Child Can Demonstrate the Wishing to Learn in the Academic Sense.	Pretest	32	4,10	1,45	2,010	,032**
	Posttest	32	4,75	0,85		

## DISCUSSION AND CONCLUSION

Considering that the vocational education of children with mental disabilities is intended to use their mental rather than their bodies skills; It is suggested that educated mentally retarded children are weaker in terms of physical and motor conformity, such as strength, endurance, agility, balance, running, flexibility, speed (Sherill 1988, Short 1995). Bruninks and Chvat (1990) state that mentally disabled individuals mostly show loss in coordination, balance, speed and manipulative skills. According to the findings of the study: after the rhythm and dance education, the mothers reported that their children's communication and interaction were better than the previous ones and that they had better adaptation to the group and that their children responded to education in terms of self-confidence and adaptation. All mothers believe that learning provides experiences to their

children and that learning rhythm education and dance provides emotional development in my child. In addition, it was reported by mothers that their children were better able to express themselves and their perception levels improved and the names, movements and events kept in memory were better after rhythm and dance training.

Karacan et al. (2003) in a study conducted by trainable mentally disabled children with the aim of examining changes in skill levels through rhythm education and dance studies; The group was divided into two: the inclusion education group (27 people) and the educable mentally disabled group (8 persons). The studies continued for 1 week and week 1 day a for a total of 12 weeks. As a result, participation in such recreational activities has been observed to provide significant improvements in the skill levels of educable mentally handicapped individuals. In this

study, the of focusing, concentration and imagination of their children was among the positive changes. After the rhythm and dance training, the mothers who said that my child had received instruction and obeyed the instruction, stated that they had improved in the visual, auditory and tactile perception of their children. After the Rhythm and Dance Education, the mothers who said that the desire of my child to learn in academic sense increased and they think that their children will participate continuously in these activities. Beyazıt (2006), in a study done in mentally handicapped individuals, sport skills giving in game form, both motor behavior and life and communication skills has increase reached the conclusion. Similarly, İlhan (2008) found that movement education has a positive effect on socialization in people with intellectual disabilities. In the literature, the effect of dance studies on the social development of the child (Gözaydın et al., 2007), the effect of hand eye coordination and reaction times (Kayapınar et al., 2007) and positively affect the problem solving ability (Pehlivan et al., 2007) conclusion related to the result was obtained.

In the literature, the effect of dance studies on the social development of the child (Gözaydın et al., 2007), the effect of hand eye coordination and reaction times (Çelik Kayapınar et al., 2007) and the effect of the problem-solving skills in a positive way (Pehlivan and Öksüzöğlü, 2007) conclusion related to the results was obtained. Many studies have shown that there are significant differences between pre-test post-test scores of disabled individuals as a result of the trainings covering a certain period (Beyazıt, 2006). Block et al., (2001) in the study of mentally handicapped individuals and normal groups have been applied a physical activity program for 12 weeks. As a result of the observation form performed to the disabled and normal groups, it was found that all subjects received an increase in the values taken before and after the study. In this study, the rate of mothers who stated that there was a positive change in my child's rough and fine motor skills after rhythm and dance training was quite high. Mothers who stated that they were more learning and adaptation in social exercises jointly with the group stated that their children were physically better and they were more calm in the spiritual sense. A total of 16 educable mentally handicapped children with special education were included in the study to

evaluate the impact of regular physical activity on self-directedness. The results showed that there was a positive increase (İlhan and Yılmaz, 2007).

**As a result;** After the rhythm and dance training, it has been determined that there are significant improvements in the skill levels as a result of the activities of the educated mentally handicapped children. Therefore, we believe that such activities will be organized in line with the needs and desires of children and will contribute to the development of children.

### *Conflicts of Interest*

There isn't any conflict of interest to be declared regarding the manuscript.

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