

EVALUATION OF THE EUROFIT TEST BATTERY ON TRAINABLE MENTALLY DISABLED ELEMENTARY SCHOOL STUDENTS

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Abstract

In this study, the effect of movement exercises were investigated on trainable mentally disabled elementary school students by using selected physical fitness parameters. A total of 40 students between the ages of 7 and 11 (20 girls and 20 boys) participated on a voluntary basis with in the knowledge of their families. Selected Eurofit tests batteries were used to investigate the effect of motion training. Data analysis have been done using SPSS package program. While the Flamingo balance test, the arm movement speed, grip force, body strength hand stroke length values were statistically significant, there were no differences in standing double foot bounce and flexibility values. As a result, the act applied to there gular and long-term education, 7 – 11 years old can be trained mentally disabled children in physical fitness despite the difference according to gender characteristics, given the significant levels can develop.

Keywords: Educable mentally handicapped, Eurofit test battery.

Introduction

Human is a living entity which continues its development, is in a mobility environment. Movement is expressed as the exchange of any part of or the entire body position (Mengütay S, 1999).

Mentally handicapped children are the most common group of children with disabilities. This feature is not well known by the community. There are even some prejudices and beliefs about these children. It is usually believed that mentally handicapped children cannot do anything. Approximately 85 percent of all mentally retarded children could be trained children. However, these children cannot able to take advantage of the normal primary school program. These children are said to have the potential to develop at the level of academic competence at primary school level, social cohesion that can live independently in the society, and professional competence to support partly or fully at the adult level (Özer K., 2001). Indeed, it have to be focused on these issues in special education programs for education mentally handicapped children.

Nowadays, in order to meet the need of movement of mentally disabled individuals, physical education programs are prepared with the works and games directed to their skills and knowledge. It has been reported that a well-planned physical education and sport program positively contributes of development of children with mental disabilities. When the obstacles are thought to develop with physical education, by sport is to

renew and strengthen before anything else⁴ (Bruininks R.H. and Chavat M., 1990, Eichsteadt, C.B. and Lavay, B.W.1992). Re-empowerment is the most important conditional exercise to be done continuously and regularly. Physical and motor suitability elements are necessary to fulfill daily life activities, to participate in physical activities, to walk, run, jump, motor skills adequately (Winnick J.P., 1990).

When the with disabled are thought to be physical education and rehabilitation, the aim of the sport is renewed and strengthened before everything else. Re-empowerment is the most important conditional exercise to be done continuously and regularly. Physical and motor fitness elements are necessary to fulfill daily life activities, to participate in physical activities, to walk, to run, to jump, to throw motor skills adequately (Siedentop D., Mond C. and Toggort A., 1986, Gallahue D.,1996).

The movement training programs to be applied should be in the qualities that improve the child's physical fitness, motor and social-emotional properties. Gender difference in performansta is usually in the way that men are superior (Krebs, P.L., 1995).

It is clear that the development of physical and motor fitness a prerequisite for children to take lessons such as vocational training and physical education, considering that the education of children with mental retardation is directed at using their bodies rather than their mental skills

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Physical fitness contains Heart and respiratory system stability, muscle strength, force, power, speed, flexibility, agility, balance, reaction time and body composition. These qualities are named as physical fitness associated with performance and physical fitness associated with health as they have different qualifications for sportive performance and health. Nowadays, physical fitness; The ability to works effectively and efficiently in the body, work or leisure time activities, and to resistant to be hypokinetic diseases when emergencies are encountered.

In this context, developing and changing lifestyles have positive and negative effects on children with disabilities. Therefore, researching the physical fitness of children with disabilities and evaluating the results of these researches will enable future generations to be physical, mental and emotional rehabilitation.

The aim of this study is to determine the effect of sportive mobility activities on the level of mental development of mentally retarded children.

Method

Motion training program; While Motion Training Programs are being implemented, teachers who teach movement training programs of normal classes indicate that their primary goal is usually to improve physical and motor skills of the students. In Movement Training applications tailored for educable mentally handicapped children, primary goals are; Perceptual motor functions, socialization, companionship-acceptance are concept

In this context, movements that improve the flexibility, quickness, coordination and aerobic endurance of the dose to the Trainable Mentally Retarded Children in work were applied in the form of a 1-hour Motion Training Program 3 days a week for 8 weeks.

Development of Voluntary Groups:

aged between 7 and 11, are studying in a school providing special education for children in Kayseri province. 20 female and 20 male educated mentally retarded students The students took part in the study by taking the necessary permits from the family of the students. All students were evaluated on 9 test performances. A Eurofit test battery was used in the study.

Data Collection Tools:

Flamingo balance test:

In this test, 50 cm long, 4 cm high and 3 cm wide metal beams were used. During this test, he tried to keep the subject's leg as long as possible on the long axis of the beam, similar to the flamingo posture. Every attempt to protect the balance on the beam for a minute (not a fall) was considered as a point. For example, within one minute the balance was broken down 5 times, giving 5 points that rebalance¹⁶.

Measurement of arm movement speed

Place two plastic discs, twenty centimeters in diameter, on the table. The distance between the two dissimilar center points should be 80 cm (the edges are spaced 60 cm) from each other. A rectangular plate of 10 x 20 cm in size is placed at the equal distance of the two discs. The subject stands in front of the table with his feet slightly open to the sides. Subject 2 diske, tries to touch quickly with the preferred hand and in turn. He puts his unwanted hand on the rectangle. He puts his preferred hand across the other hand and puts it on the diskin in the opposite direction of his preferred hand. The preferred hand he put on the dick touches the disc as fast as possible by moving it over the other hand. Ready ... when it starts, it moves the hand from one disco to another, as fast as possible and 25 times. It will not stop until the "Stop" sign is given. The number of touches made at the moment of movement is counted by the test manager with a loud voice. The test is done twice and the best performance is recorded as a test result¹⁶.

Flexibility Measurement

Sit and Lie Test: The subject is sitting in front of the plate with 35 cm length, 45 cm width and 32 cm height. He leans his feet to the inner surface of the plate. He then tries to move as far as the stick on the plate can. Last point are value saved¹⁶.

Double Leg Forward Jump

The subject is standing with the toes right behind the line and the feet in the normal range. Parallel to the sides, the arms are at the front and the knees are twisted, the arms jump forward with the movement of the arms and put the two legs together at the same time. The test is done twice and the best rating is recorded (Tınazcı Cevdet, Emiroğlu Osman, Burgul Nazım, 2004).

Grip strength Test:

The hand dynamometer (Holtain brand) is tightened firmly while holding the arm-body angle with the right hand at about 30 degrees. The test was done twice and the best rating was taken (Tınazcı Cevdet, Emiroğlu Osman, Burgul Nazım, 2004).

Body power (abdominal muscle endurance) measurement

Shuttle Test: In the upright position, the knees are bent 90 degrees while holding the handles of the handles, the heels and feet are seated in a horizontal position. It is then folded back, the shoulders are tucked into the crotch and the elbows are returned to their sitting position, holding them forward so that they can touch the knees. The subject keeps his hands around his neck all the time. With the "Ready ...start" command, this movement repeats quickly for 30 seconds. The number of shuttles at the end of thirty seconds was

recorded and taken into account (Tınazcı Cevdet, Emiroğlu Osman, Burgul Nazım, 2004).

Arm length measurement

Subject to arms, open, on scale. The distance between the fingertips of the two arms was measured and evaluated (Sherril, C. AndRuda, L., 1998).

Anthropometric Measurements and Evaluation

Length Measurement

During length measurement, the participant should be in a natural upright position, with the upper ear limit and eye lower limit in a horizontal line, so that the heels can withstand the wall. Measurement is carried out after a deep breath.

Results

Table 1. Descriptive Information for 7-11 Year Old Girls and Boys Primary School Students with Mental Retardation

Variables	n	Minimum	Maximum	X	SS
Body weight	40	18,00	38,00	28,60	5,42
Length	40	106,00	141,00	125,45	7,87
Flamingo balance test	40	13,00	20,00	16,20	1,98
Arm movement speed	40	17,00	49,00	27,65	6,80
Flexibility	40	17,00	28,00	22,95	2,80
Standing double leg forward leap	40	28,00	63,00	44,45	8,75
Gripping force	40	8,00	16,00	11,60	2,09
Body strength	40	9,00	20,00	12,50	3,35
Fathom	40	103,00	140,00	117,20	9,09

As seen in Table 1, The body weight, length, flamingo balance test, arm movement speed, elasticity of the long jump grip strength, body strength and fascia length values of the male and

(Tınazcı Cevdet, Emiroğlu Osman, Burgul Nazım, 2004).

Body Weight Measurement

The participant was recorded on the scales calibrated with bare feet and the body weight was recorded¹⁶.

Analysis of Data:

Differences between the data-descriptive statistical methods obtained in this study and the physical fitness test results of male and female students were analyzed by non-parametric tests with the Mann-Whitney U-Test. The data were analyzed using the SPSS statistical program. In the study, $p = 0.05$ was accepted as the significance level.

female educable mentally retarded children were determined, and the minimum, maximum and mean values and standard deviation of the values were determined and tabulated.

Table 2. Eurofit Test Battery Results of 7-11 Year Old Girl and Male Primary School Students with Mental Retardation

Variables	Gender	n	Sıra Ortalaması	Sıra Toplamları	MWU	Z	p
Body weight	Male	20	18,50	370,00	160,00	-1,09	,28
	Woman	20	22,50	450,00			
Length	Male	20	17,50	350,00	140,00	-1,62	,10
	Woman	20	23,50	470,00			
Flamingo balance test	Male	20	25,40	508,00	102,00	-2,69	,007*
	Woman	20	15,60	312,00			
Arm movement speed	Male	20	26,30	526,00	84,00	-3,15	,002*
	Woman	20	14,70	294,00			
Flexibility	Male	20	22,70	454,00	156,00	-1,20	,23
	Woman	20	18,30	366,00			
Standing double leg forward leap	Male	20	20,00	400,00	190,00	-,27	,79
	Woman	20	21,00	420,00			
Gripping force	Male	20	27,80	556,00	54,00	-3,99	,000*
	Woman	20	13,20	264,00			
Body strength	Male	20	30,20	604,00	6,00	-5,305	,000*
	Woman	20	10,80	216,00			
Fathom	Male	20	16,70	334,00	124,00	-2,062	,039*

	Woman	20	24,30	486,00			
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*P<0,005

In Table 2, Statistical evaluation of flamingo balance test, arm movement speed, grip strength, trunk strength and fathom length of boys and girls with mentally retarded children can be seen

Flamingo balance test, arm movement speed, grip strength, trunk strength and flare length values of the children were found significant ($p < 0.05$).

Flamingo balance test, arm movement speed, grip strength, trunk strength and overarm length values of the children were found significant ($p < 0.05$).

Because of the advantages of growth and maturation, female students achieved better results in flare length when primary school boys ages 7-11 had good results in flamingo balance test, grip strength, arm movement speed and trunk strength. It was found that there was no difference between genders in body weight, height, standing, double leg jump and flexibility values.

Discussion and conclusion

Sport gives the body endurance, strength, agility and flexibility. This makes the movement of the body easier (Çağlar B. , Servet R., Yahya Y., 2012).

Tınazcı and his colleagues (Tınazcı Cevdet, Emiroğlu Osman, Burgul Nazım, 2004). They found that there was a significant difference between the results of Eurofit test battery of girls and boys aged between 7-11 years, who were studying at Near East primary school, in flexibility, explosive strength, static right hand strength, body endurance, functional strength, running speed and strength.

The differences between the flamingo balance test, arm movement speed, grip strength, trunk strength and fascia length values were found to be significant, while there was no significant difference in the values of flexion and bounce forward in this study.

According to Rice, girls are superior to physical skills that require subtlety, flexibility, and agility while boys at this age are superior to men in the physical skills required by strength and large muscle groups (Rice, Philip F., 1995).

Similar differences have emerged in this study. Especially, when it was determined that in male body strength, right hand strength, Flamingo balance test and arm speed, males were superior to females, it was found that females were weaker than males in flexibility capacity but difference statistically was not found.

In another study, it was found that girls with normal witted are more flexible and better balanced than boys with normal witted. However, boys with mental disabilities are more flexible and balanced than girls, and children with Mentally Handicapped are more flexible than those with Educable Mentally Handicapped (Tınazcı Cevdet, Emiroğlu Osman, Burgul Nazım, 2004).

Rick and Dobbins (Rarick G.L. and Dobbins D.A., 1972) found that children with mental retardation did not show the expected development with the increase in age in performance.

Bruininks and Chavat (1) point out that mentally retarded individuals show the most loss in coordination, balance, speed, strength and manipulative skills.

In this study we did not find any statistically significant difference in the values of length, body weight, standing bounce forward and flexibility. This is thought to be due to the fact that children in this age have not yet reached the necessary growth and maturity, and have not entered adolescence at the same time.

When the results are examined in general; It was determined that 7-11 year old elementary school boys had better results in terms of flamingo balance test, grip strength, arm movement speed and body strength values than girls and 7-11 years old girls had better results than boy students in fathom length. However, boys and girls in elementary school between the ages of 7 and 11 were found to have no differences in height, body weight, standing distance and flexibility.

In a study conducted by Connoly (Connoly B.H., Michael B.T., 1986), the subject group was asked to take high marks in strength tests and to develop these skills by participating in exercises such as shuttles, push-ups and jumps in physical education classes. Although mental retarded children have a general belief that their subtle and rough motor performances are below average, the differences between them and other disabled children are still being discussed.

As a result, both Cinste will contribute positively to physical development, even though regular and long-term exercises and mobility training for mentally retarded individuals vary according to gender in 7-11 age-educated mentally retarded children. It is thought that better results can be obtained by working longer in this subject.

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