

Athletics for Children and Their Effect on the Adaptive Behavior and Some Physical and Skill Variables for The Visually Impaired.

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Abstract

THIS STUDY HAD BEEN PERFORMED IN 2013 TO DESIGN The development of motor program of athletics for children and identifying its effect of Adaptive behavior of the participants from the visually impaired at the age range of (11-12 years). Some physical variables of participants from the visually impaired at the age range of (11-12 years). Some skill variables of the participants from the visually impaired at the age range of (11-12 years). THE RESULTS HAVE APPEARED There are significant statistical differences between the measurements (pre and post) of the participants from the visually impaired in the level of adaptive behavior in favor of the post measurement. There are significant statistical differences between the measurements (pre and post) of the participants from the visually impaired in the physical variables in favor of the post measurement .There are significant statistical differences between the measurements (pre and post) of the participants from the visually impaired in the skill variables in favor of the post measurement.

Key words: *Athletics for children, adaptive behavior, visually impaired.*

Introduction:

The attention and care of people with special needs is one of the metrics that show the extent of progress and civilization of Nations. Therefore, this attention to people with special needs have received great efforts by governments, agencies and scientists so they carried out numerous research and studies, which focused on the welfare and care for them. (3:252)

Sight is one of the gifts of Allah on human as he depends on it for

his activities, giving him the opportunity to adapt to everything that surrounds him and to feel the life, while the

loss of sight is the loss of contact with the physical world in which we live. (7:154)

Visually impaired children suffer from many motor problems which are: the limited experience in the sport field, the inability to acquire and develop new motor skills, and weakness of their abilities of balance, jogging and throwing in general. (17:69)

“HELMY Ibrahim and Layla Farhat” (1998) indicate that there are some activities that must be exercised by Visually impaired for improving physical and motor fitness. The fear of falling to the ground and hitting things decreases their fitness by limiting their movement, so their fitness as a result. (7:164)

The care of these children leads to kind of rehabilitation, which can make them productive capacity, not only for

themselves, but also provide an important production for others and for society. (2:71)

“Skages and Hubert” (1996) agreed on that the motor level of the visually impaired is lower than the sighted peer and weakness increases by increased visual impairment. (27:63)

This decline in the level of the motor and physical fitness of the visually impaired is due to the lack of movement which is one of the most important causes of diseases of the organs of the body such as the Musculoskeletal system and cardiorespiratory system, as well as the lack of environmental expertise, the excess protection of parents and the inability of simulation and imitation. The level of vision limits the self-movement towards things and thus visually impaired are in dire need rehabilitation programs for the level of movement and exercise activities commensurate with the nature of the disability, as well as to meet their needs and desires. (30:7)

The concept of "adaptive behavior" has appeared in psychology for the first time when Arnold Gessel (1949) used the term to describe the skill level being followed by the child in a certain stage of life. Accordingly, the adaptive behavior of the child is going through different stages of age which led to growth schedules and standards published by the "Gessel" since the forties. (13:2)

Adaptive behavior is a set of practical and social skills and concepts that people learned to be able to interact with their daily lives. The apparent lack of adaptive behavior affects the daily life of the individual and then affects the

interaction and dealing with the circumstances he faces. (31)

Adaptive behavior is one of the basic requirements for the diagnostic process in educational and psychological field, and despite the fact that measuring mental and functional performance and academic skills is one of the necessary and important components in the psychiatric diagnostic programs; these components are not enough without the adaptive behavior. (11:9-11)

Adaptive behavior refers to the ability of the disabled to be independent and socially responsible, and this means that these individuals need an approach to learn the skills of social normalization and teach them the adaptive behavior skills. (14:132)

The importance of adaptive behavior for people with disabilities is to reflect their effectiveness and their ability to achieve an appropriate level of personal independence and social responsibility nearly similar to the expected level of their peers in age. (9:44)

Physical Education, with its various activities, play a prominent role in helping individuals with disabilities and improving their physical and motor ability, and help them a lot on the development of social abilities. (8:117)

Sports activities are one of the most important methods of rehabilitation of individuals with disabilities, as they are one of their favorite activities and diversity offers a wide range of different trends and desires of the participants, they are also working to raise the efficiency of the vital organs and improve significantly any poor posture they may have. (4:27-28)

- Research Problem:

The visual disability adversely affects the adaptation, the social communication, as well as hinders the performance of the person's daily duties. This category of disabled people suffers from many problems resulting from the nature of their disability, which leads to weakening of the general motor level and certain diseases and health problems. The main reason is the lack of movement, because of the permanent fear of falling to the ground and hitting things. This is what was reported by many references and studies reviewed by the author, which has raised her interest in trying to find a solution to these problems, whether mentally or motional, through developing a motor program of athletics for children for the targeted age range, as it is characterized by its appeal to children, including contents of a diverse and exciting competitions, which depends on displaying the athletics as teams contests working on the children interaction with each other within the same team as well as with the teacher and assistants, and also the introduction of the

spirit of adventure in a spontaneous and enjoyable atmosphere through the workout of variety and basic forms of movements of athletics, which due to activate a large number of children at the same time. This program may contribute to the development of the level of adaptive behavior for visually impaired children as well as the level of physical and motor fitness.

- Research Objective:

The development of motor program of athletics for children and identifying its effect of the following:

1. Adaptive behavior of the participants from the visually impaired at the age range of (11-12 years).
2. Some physical variables of participants from the visually impaired at the age range of (11-12 years).
3. Some skill variables of the participants from the visually impaired at the age range of (11-12 years).

- Research hypotheses:

1. There are significant statistical differences between the measurements (pre and post) of the participants from the visually impaired in the level of adaptive behavior in favor of the post measurement.
2. There are significant statistical differences between the measurements (pre and post) of the participants from the visually impaired in the physical variables in favor of the post measurement.
3. There are significant statistical differences between the measurements (pre and post) of the participants from the visually impaired in the skill variables in favor of the post measurement.

- Previous Studies:

1. Mohammed Hussein Mohammed (2000)(15) studied the effect of motor education program on static and dynamic balance of totally blind students of (9: 7) years, using the experimental method on a sample of 9 students from Al Noor Institute for the Blind in Zezenia. the results were that the program affected the sample individuals positively.
2. Noha Ismail Al-Sharkawy (2000)(19) studied the effect of a rhythmic exercises program on some psychophysiological and physical variables and the Visual acuity for visual impairment children. The experimental method was used with one group design. The participants were (111) child (males and females) with visual impairment who aged (6-8) years. The results found no effect on the Visual acuity, but there was a positive effect on the psychophysiological and physical variables. Gihan Abdul Fattah Shafiq (2001)(6) studied the effect of a

- motor program on adaptive behavior and motor development of blind female children of (6-9 years). The experimental method was used with (18) female students from Al Noor Wa'l Amal Institute for the female Blind in Heliopolis. the results showed significant statistical differences between the measurements (pre and post) in the adaptive behavior and motor development in favor of the post measurement.
3. Ahmed Mohammed Ali Adam (2002) (1) designed a curriculum for the physical education for the blind from (9-12) years old. He examined the effect of the curriculum on learning basic motor skills and fitness level on the participants. Both of the descriptive method and the experimental method. The participants were (36) students from the fourth and fifth primary grade who were divided into two groups (experimental and control). The results referred that the platform affected positively on the motor skills and some fitness elements represented in (speed - muscular endurance - flexibility - the capacity).
 4. Najla Fathy Khalifa (2002) (18) Proposed a motor education program for developing the basic motor skills for visually impaired preschoolers. The experimental method was used with (13) children from Al-Noor School for the Blind in Moharam Bek, Alexandria. The results showed that the program worked on developing of basic motor skills of the participants.
 5. Mariam Mohammed Gamal El-Din (2004) (16) studied the effect of a proposed motor program on elements of physical fitness and self-concept among the blind. The experimental method was used with 20 children from Al Noor Wa'l Amal Institute for the Blind in Giza. The results showed that the program improved the physical fitness level and the self-concept participants.
 6. Amera Abdul Salam Shibl (2005) (5) proposed a program of small games and studied its effectiveness on some fitness elements of the visually impaired of (9-12 years). The experimental method was used with (19) female students divided into two groups (experimental and control). The participants were from Al Noor Institute for the Blind in Tanta. The results showed that the program improved some fitness elements of participants.
 7. Azza Mohammed Elemari (2009) (12) activated the practice of team athletics events for primary schools children in Qar Youno, Benghazi, Libya. The descriptive method was used. The main results referred to the existence of a good quantitative and qualitative performance of children (male and female students) of second grade of primary education through positive participation in the festival of teams competitions of athletics. Considering that children were not trained before their effective participation. The researcher attributed this to the fact that the movement and playing are important functional needs for the child, playing is a common denominator in its activities and direct entrance to the development of basic motor abilities, through the exercise of simple games and away from diving into the technical details of athletics competitions as on competitions festival for kids.
 8. Wael Mohamed Ramadan and Tamer Aweys El Gebaly (2009)(21) studied the effectiveness of the athletics for children project on some motor and coordination capability for the age (10-12 years). the experimental method was used with (120) children from schools and clubs in Cairo and Giza. The main results were that athletics for children project of International Association of Athletics Federations with its contents from a variety of educational and training methods, as well as the variety of tools and equipment used in the education and training, had effectively and significantly led to an increase in many motor and coordination capabilities of the children of (10-11 years). This system also provides a comprehensive and balanced opportunity for many of these capabilities for development without focusing on a specific capability, component or skill, because it allows the principle of inclusiveness, physical and motor incorporation among children.
 9. Azza Mohamed Elemari and Sahar Zidane Zayan (2012)(22)studied the effect of team sport competitions among children on reducing the aggressive behavior of deaf children in the Al-Hassa region. the experimental method was used with (16) deaf students from primary schools. they were divided into two groups (8) experimental group and (8) control group. the results were that there are significant differences between the experimental and control group in favor of the experimental group.
 10. Ghada Abdul Rahman Youssef and Yasser Abu Hacich (2012) (25) studied the effectiveness of athletics for children on reduction the feeling of introversion. They used the experimental method with (60) students, whom divided into six groups, each group consists of (10) students. The most important results were designing an introversion scale for children, and that the use of athletics competitions for children has improved the level of introversion among children and the level of self-

concept, where there is a relationship between the introversion and self-concept.

11. Donnalisa (1985) (23) studied the effect of teaching dance movements by two ways on the spatial cognition of primary education students with visual impairments. The experimental method was used with (16) students with visual impairments whom divided into two groups. The students were (6-12) years old. The results showed that there are significant statistical differences between the measurements (pre and post) in the spatial cognition in favor of the post measurement.
12. Doglaos (1986) (24) studied the effect of motor education program accompanied with feedback system on the visually impaired. He used the experimental method. The participants were (30) students either with visual impairments or blind aged (7-8) years, and they were divided into two groups. The results showed a significant improvement among the participants after practicing the program.
13. Jamitra (1990) (28) studied the effect of practicing sports studying physical education on the visually impaired in India. the experimental method was used with two groups design. the participants were a

group of teenagers. The results showed that practicing sport positively affected the social adaptation for the visually impaired through playing games.

14. Sue Walker (1992) (29) studied the effect of sports education programs on improving motor skills for the blind. the experimental method was used with (14) blind children of (7-11) years old. The results showed that practicing sport gives the blind self-confidence and enjoyment of the motion.

- Research procedures:

- Method

The author used the experimental method with pre and post measurements on an experimental group of the visually impaired.

- Research Community and Participants

Research community consisted of (20) students with visual impairments, the degree of sight varies between (6/60) and (6/20), the ages of (11:12) years, from Al-Noor Institute for the Blind in Shebin Al-Kom, Menofya. They were divided into two groups one of (5) students for pilot study and the other of (15) for the basic study.

Participants' characterization

Table (1)
Participants' characterization n=20

Variable	Unit	Mean	Sd	Skewness
Height	Cm	150.94	8.36	0.424
Weight	Kg	41.33	8.71	0.831
Age	Year	11.52	0.340	0.298
Intelligence	Degree			

Table (1) shows that the skewness values of height, age, weight, degree of sight and intelligence have been confined between (± 3) which shows the homogeneity of the group members in those variables.

- Tools and equipment used in the research:

Restmeter to measure heights in cm - Measuring bar to measure distances required for tests - Stopwatch to measure the time - 30 cm ruler to measure flexibility - whistle - Lawngreen straps to draw marks and lines - Different lengths and sizes cardboard boxes - Different lengths sticks - ropes - hoops - Different sizes and lengths plastic bottles to make alternative tools - sponge Mattresses - stepwise ladder - training hurdles - training javelins - vortex - Pole adjusted for children - Medical balls- squares.

- Tests used in the research:

- Adaptive Behavior Scale for Abdel Aziz Al-Shakhs. The used scale's images were anthropomorphic and colored with Lawngreen in order to fit the nature of the disability. (Attachment 1)- Intelligence Test (Attachment 2)-Speed Test (30 m from the high start). (Attachment 3)-PARO Test to measure agility. (Attachment 3)-Flexibility Test - Trunk bending forward to the bottom. (Attachment 3)-Coordination Test - Numbered circles. (Attachment 3) -Power Test - Throwing back the medical ball. (Attachment 3)- Cooper test - (Attachment 3)

- Physical Tests Validity:

Table (2)

The differences between the two groups (distinguished and non-distinguished)of the research variables

Variables	Group	N	Mean of Rank	Sum of Rank	(Z) Value	Error pro.
Agility	Non-distinguished	5	15.50	155.00	*3.782	.000 ^a
	Distinguished	5	5.50	55.00		
	Total	10				
Endurance	Non-distinguished	5	15.20	152.00	*3.554	.000 ^a
	Distinguished	5	5.80	58.00		
	Total	10				
Flexibility	Non-distinguished	5	7.55	75.50	*2.244	.023 ^a
	Distinguished	5	13.45	134.50		
	Total	10				
Coordination	Non-distinguished	5	15.20	152.00	*3.554	.000 ^a
	Distinguished	5	5.80	58.00		
	Total	10				
Power	Non-distinguished	5	5.50	55.00	*3.784	.000 ^a
	Distinguished	5	15.50	155.00		
	Total	10				
Speed	Non-distinguished	5	15.50	155.00	*3.554	.000 ^a
	Distinguished	5	5.50	55.00		
	Total	10				

*“Z” value from the table at (0.05) = (1.96)

Shown from table (2) that there are significant statistical differences between the two groups (distinguished and non-distinguished) as the calculated values of "Z" is greater than the tabulated value of (Z) at the level of

(0.05), which refers to the validity of the test and the ability to distinguish between groups.

Physical Tests Reliability:

The author carried the tests on Monday 30th December 2013 and the retest on 7th October 2013, with 7 days in between.

Table (3)

The correlation coefficient between the test and retest of the physical tests n=5

Variable	test		retest		Correlation coefficient
	Mean	S.D	Mean	S.D	
Agility	29.3660	1.06794	28.9790	1.01442	*0.635
Endurance	1276.8000	162.38008	1288.8000	184.19121	*0.983
Flexibility	20.5000	4.27525	20.4000	4.27395	*0.724
Cooperation	7.2850	1.19355	6.9150	1.03710	*0.859
Power	8.0950	1.45305	9.1200	1.77970	*0.652
Speed	6.169	0.242	6.153	0.248	*0.803

* tabulated “R” at (0.05) = (0.632)

Shown from table (3) that the calculated values of “R” is greater than the tabulated value of (R) at the level of (0.05), which refers to the reliability of the tests.

-Adaptive Behavior Test Validity:

Table (4)
The differences between the two measurements (Pre and Post) of the adaptive behavior

Variables	Unit	N	Mean of Rank	Sum of Rank	(Z) Value
Language development	Degree	0.00	0.00	0.00	*2.023
		5.00	3.00	15.00	
	Total	5.00			
Independent functionality	Degree	0.00	0.00	0.00	*2.028
		5.00	3.00	15.00	
	Total	5.00			
Performance of family roles	Degree	0.00	0.00	0.00	*2.042
		5.00	3.00	15.00	
	Total	5.00			
Professional activity	Degree	0.00	0.00	0.00	*2.023
		5.00	3.00	15.00	
	Total	5.00			
Social normalization	Degree	0.00	0.00	0.00	*2.032
		5.00	3.00	15.00	
	Total	5.00			
Total Scale	Degree	0.00	0.00	0.00	*2.023
		5.00	3.00	15.00	
	Total	5.00			

* tabulated "Z" value at (0.05) = (1.96)

Shown from table (4) that there are significant statistical differences between the two measurements (Pre and Post) of the adaptive behavior as the calculated values of "Z" is greater than the tabulated value of (Z) at the level of (0.05), which refers to the validity of the test.

- Adaptive Behavior Test Reliability:

Table (5)
The correlation coefficient between the test and retest of the adaptive behavior test n=5

Variable	First Application		Second Application		Correlation coefficient
	Mean	S.D	Mean	S.D	
Language development	17.65	0.429	17.75	0.377	*0.951
Independent functionality	16.92	0.826	17.01	0.670	*0.950
Performance of family roles	17.79	0.528	18.19	1.079	*0.991
Professional activity	18.76	0.320	18.84	0.438	*0.891
Social normalization	17.66	0.361	17.72	0.375	*0.885
Total Scale	118.54	0.734	118.85	0.707	*0.901

* Tabulated "R" value at (0.05) = (0.632)

Shown from the table (5) that the calculated values of "R" is greater than the tabulated value of (R) at the level of (0.05), which refers to the reliability of the scale.

The proposed motor program (Attachment 4):**The objective of the proposed motor program:**

The proposed motor program aims to study the effect of athletics for children on the adaptive behavior level of and some elements of physical and skillful fitness for the visually impaired participants.

- Bases of development of the motor program

The author considered the following bases while designing of the motor program:

- The content of the program shall suit its objectives.
- The program shall be on the level of capabilities of the participants (the visually impaired).
- Considering the individual differences among the participants in terms of presentation, style and method of presentation of skills, the degree of their fear of performance and movement away from their usual places.
- Considering the provision of place and possibilities for the implementation of the program with attention to safety.
- Modifying the competitions as appropriate for the disability of participants, where running tracks has been changed in some competitions from curved tracks to straight tracks defined by lanes separated by lawngreen strap for each student.
- Using of attendant at each performance requires a jump for alerting the student before performance.
- Identify playground per contest with dimensions limited by lawngreen strips different from the colors of the tools inside.
- Change all tools colors to lawngreen to be easy to identify and know its dimensions.
- Considering the principle of progression from easy to hard.
- Considering the sense of suspense and pleasure.

- The contents of the program stimulate the participants' capabilities, allowing stimulating motivation to achieve the goal of the program.
- The program features with simplicity, diversity and flexibility.
- Emphasis on teamwork among students in all contents.

Selection of assistants (Attachment 5):

The author selected the assistants considering the following:

- To have experience in dealing with the visually impaired.
- Taught physical education for such a group of people with special needs.
- He graduated from physical education faculty or (MSc - PhD) holder.
- He has studied the project of athletics for children.

- First Survey:

The author carried on the first pilot study on Monday 30.09.2013 to calculate the scientific coefficients of tests under discussion (validity).

- Second Survey:

The author carried on the second pilot study on Monday 07.10.2013 to calculate the scientific coefficients of tests under discussion (reliability).

- Pre Measurement:

The pre measurement was carried out on Sunday 13.10.2013 for physical fitness elements and for the measurement of adaptive behavior on Monday 14.10.2013.

- Program Application:

The program was applied from Tuesday, 15.10.2013 until Thursday, 28.11.2013.

Table (6)

The distribution of the units of the proposed program

Unit Period	No. of units per week	Total No. of units	No. of weeks	No. of months
45 min	3 units	18 units	6 weeks	one month and half

Post Measurement:

The post measurement was carried out on Sunday 01.12.2013 for physical fitness elements and for the measurement of adaptive behavior on Monday 02.12.2013.

- Results and discussion

- Result and discussion of the first hypothesis

- First: Result of the first hypothesis

Table (7)

The differences between the two measurements (Pre and Post) of the adaptive behavior

Variables	Unit	N	Mean of Rank	Sum of Rank	(Z) Value
Language development	Degree	0.00	0.00	0.00	3.410*
		15.00	8.00	120.00	
	Total	15.00			
Independent functionality	Degree	0.00	0.00	0.00	3.411*
		15.00	8.00	120.00	
	Total	15.00			
Performance of family roles and household chores	Degree	0.00	0.00	0.00	3.408*
		15.00	8.00	120.00	
	Total	15.00			
Professional - Economic activity	Degree	0.00	0.00	0.00	3.409*
		15.00	8.00	120.00	
	Total	15.00			
Social normalization	Degree	0.00	0.00	0.00	3.411*
		15.00	8.00	120.00	
	Total	15.00			
Total Scale	Degree	0.00	0.00	0.00	3.409*
		15.00	8.00	120.00	
	Total	15.00			

* Tabulated "Z" value at (0.05) = (1.96)

Shown from table (7) that there are significant statistical differences between the two measurements (Pre and Post) of the adaptive behavior in favor of the post measurement as the calculated values of "Z" is greater than the tabulated value of (Z).

Table (8)

Percentage of improvement between the two measurements (Pre and Post) of the physical variables

Variable	Pre		Post		Difference between the two Means	Percentage of improvement
	Mean	S.D	Mean	S.D		
Language development	18.55	0.311	30.03	0.631	11.48	38.23 %
Independent functionality	16.50	0.231	25.68	0.234	9.18	35.75 %
Performance of family roles and household chores	17.64	0.179	29.96	0.488	12.32	41.12 %
Professional - Economic activity	18.31	0.304	31.23	3.074	12.92	41.37 %
Social normalization	17.75	0.171	33.67	1.631	15.92	47.28 %
Total Scale	113.39	26.361	147.59	0.402	34.2	23.17 %

Table (8) shows the percentage of improvement between the two Means of the two measurements (Pre and Post) of the adaptive behavior for the Participants.

- Second: Discussion of the first hypothesis

Shown from table (7) that there are significant statistical differences between the two measurements (Pre and Post) of the adaptive behavior in favor of the post measurement, as the calculated values of "Z" is greater than the tabulated value of (Z) as the calculated "Z" value for Language development was (3.410), Independent functionality was (3.411), Performance of family roles and household chores was (3.408), Professional - Economic activity was (3.409), Social normalization was (3.411) and Total Scale was (3.409) and these values were greater than the tabulated value of (Z) which is (1.96) at (0.05).

Shown from table (8) the percentage of improvement between the two Means of the two measurements (Pre and Post) of the adaptive behavior for the sample individuals, as it was for Language development was (38.23 %), Independent functionality was (35.75 %), Performance of family roles and household chores was (41.12 %), Professional - Economic activity was (41.37 %), Social normalization was (47.28 %) and Total Scale was (23.17 %).

The author attributed these results to the proposed motor program using athletics for children, as this program led to increase their positive social interaction which had the greatest effect on the development and the adjustment of social behaviors. That was noticed in their language development, their skills of independent functionality improvement, performance of family roles and household chores, and the improvement of the economic activity as well as the improvement of the children acceptance of

social normalization with their friends and those in charge of carrying on the program.

These results agree with the study of "Ramadan Al-Gaddafi and Ashraf Maraay (1999) ()" that physical education with its various activities plays a significant role in the improvement of social capabilities of people with disabilities as it is one of the most important methods of rehabilitation. (8:23) (4:43)

These results also agree with the study of "Hala Ali Morsi, Mansour Al-Tawqy and Magid Al-Bosafy (2012)" that athletics for children are considered one of the attractive programs, as they contain various and exciting contests working to meet the developmental needs of children, as they are working on the provision of and access to new and diverse mobility experiences in a spontaneous and enjoyable atmosphere. They also give the child the right to practice athletics without any discrimination as they must be provided for all children. (20:13)

These results are also consistent with the study of "Jamitra (1990) ()", "Noha Ismail Al-Sharkawy (2000) (19)", "Gihan Abdul Fattah Shafiq (2001) (6)" and "Mariam Mohammed Gamal El-Din (2004) (16)" as they all found that sports programs have a positive effect on adaptive behavior for the Blind in terms of self-esteem, social interaction and some psychological aspects.

Therefore, this proved the first hypothesis which states that "There are significant statistical differences between the measurements (pre and post) of the participants from the visually impaired in the level of adaptive behavior in favor of the post measurement".

- Results and discussion of the second hypothesis

- First: Result of the second hypothesis

Table (9)

The differences between the two measurements (Pre and Post) of the physical variables

Variables	Unit	N	Mean of Rank	Sum of Rank	(Z) Value
Agility	Time	15.00	8.00	120.00	3.436 *
		0.00	0.00	0.00	
	Total	15.00			
Endurance	Meter	15.00	0.00	0.00	3.413 *
		0.00	8.00	120.00	
	Total	15.00			
Flexibility	Cm	15.00	0.00	0.00	3.426 *
		0.00	8.00	15.00	
	Total	15.00			
Coordination	Time	15.00	8.00	120.00	3.413 *
		0.00	0.00	0.00	
	Total	15.00			
Power	Cm	15.00	0.00	0.00	3.408 *
		0.00	8.00	120.00	
	Total	15.00			

Variables	Unit	N	Mean of Rank	Sum of Rank	(Z) Value
	Total	15.00			
Speed	Time	15.00	8.00	120.00	3.413 *
		0.00	0.00	0.00	
	Total	15.00			

*tabulated "Z" value at (0.05) = (1.96)

Shown from table (9) that there are significant statistical differences between the two measurements (Pre and Post) of the physical variables in favor of the post measurement as the calculated values of "Z" is greater than the tabulated value of (Z).

Table (10)

Percentage of improvement between the two measurements (Pre and Post) of the physical variables

Variable	Pre		Post		Difference between the two Means	Percentage of improvement
	Mean	S.D	Mean	S.D		
Agility	30.22	0.003	28.98	0.243	1.24	4.28 %
Endurance	1298.53	5.349	1370.33	3.431	71.8	5.24 %
Flexibility	16.73	0.077	19.30	0.169	2.57	13.31 %
Coordination	7.55	0.014	6.05	0.024	1.5	24.79 %
Power	8.96	0.033	9.41	0.159	0.45	4.78 %
Speed	4.13	0.006	3.89	0.088	0.24	6.17 %

Table (10) Showed the percentage of improvement between the two Means of the two measurements (Pre and Post) of the physical variables under discussion.

- Second: Discussion of the second hypothesis

Shown from table (9) that there are significant statistical differences between the two measurements (Pre and Post) of the physical variables in favor of the post measurement, as the calculated "Z" value for agility was (3.436), endurance was (3.413), flexibility was (3.426), coordination was (3.413), power was (3.408) and speed was (3.413).

Shown from the table (10) the significant improvement of the elements of physical fitness of the participants, as the percentage of improvement for agility was (4.28 %), endurance was (5.24 %), flexibility was (13.31 %), coordination was (24.79 %), power was (4.78 %) and speed was (6.17 %). The author attributed these changes and this improvement in the elements of physical fitness to the proposed motor program in which the author considered the scientific bases and rules and it included exercises that helps in improvement and development of the elements of physical fitness, as the contests of athletics for children are designed in a way that improves the elements of physical fitness in a balanced manner.

These results are consistent with the study of "Noha Ismail Al-Sharkawy (2000) (19)", "Ahmed Mohammed Ali Adam (2002) (1)", "Mariam Mohammed Gamal El-Din (2004) (16)" and "Amera Abdul Salam Shibl (2005) (5)" that sports programs work on improvement and development of the level of physical fitness for the visually impaired due to practicing.

These results are also consistent with the study of "Wael Mohamed Ramadan and Tamer Aweys El Gebaly (2009) (21)", "Azza Mohamed Elemari (2009) (12)", "Azza Mohamed Elemari and Sahar Zidane Zayan (2012) (22)" and "Ghada Abdul Rahman Youssef and Yasser Abu Hacich (2012) (25)" that athletics programs clearly effect on the improvement of physical fitness level of their practitioners.

These results are also consistent with the study of "Wael Mohamed Ramadan and Tamer Aweys El Gebaly (2009)" that the International Program of athletics for children designed for the age stage of (11-12 years) works on development of various elements of physical fitness. (21)

Therefore, this proved the second hypothesis which states that "There are significant statistical differences between the measurements (pre and post) of the participants from the visually impaired in the physical variables in favor of the post measurement".

- Results and discussion of the third hypothesis

- First: Result of the third hypothesis

Table (11)
The differences between the two measurements (Pre and Post) of the skill variables

Variables	Unit	N	Mean of Rank	Sum of Rank	(Z) Value
Ladder		15.00	8.00	120.00	3.426 *
		0.00	0.00	0.00	
	Total	15.00			
Medical Ball		15.00	8.00	120.00	3.412 *
		0.00	0.00	0.00	
	Total	15.00			
squares		15.00	0.00	0.00	3.413 *
		0.00	8.00	120.00	
	Total	15.00			
Vortex		15.00	8.00	120.00	3.412 *
		0.00	0.00	0.00	
	Total	15.00			
Endurance for 8 min		15.00	8.00	120.00	3.411 *
		0.00	0.00	0.00	
	Total	15.00			
Frog		15.00	0.00	0.00	3.411 *
		0.00	8.00	120.00	
	Total	15.00			
Formula		15.00	8.00	120.00	3.408 *
		0.00	0.00	0.00	
	Total	15.00			

*tabulated “Z” value at (0.05) = (1.96)

Shown from table (11) that there are significant statistical differences between the two measurements (Pre and Post) of the skill variables in favor of the post measurement

Table (12)
Percentage of improvement between the two measurements (Pre and Post) of the skill variables

Variable	Pre		Post		Difference between the two Means	Percentage of improvement
	Mean	S.D	Mean	S.D		
Ladder	3.03	0.004	2.76	0.163	0.27	9.78 %
Medical Ball	9.37	0.099	7.11	0.049	2.26	31.79 %
squares	39.36	0.541	52.82	1.159	13.46	25.48 %
Vortex	12.45	0.159	13.65	0.138	1.2	8.79 %
Endurance for 8 min	11.12	0.008	10.89	0.59	0.23	2.11 %
Frog	11.42	0.142	12.83	0.89	1.41	10.99 %
Formula	2.94	0.019	2.54	0.255	0.40	15.75 %

Table (12) shows the percentage of improvement between the two Means of the two measurements (Pre and Post) of the skill variables of the participants.

- Second: Discussion of the third hypothesis

Shown from table (11) that there are significant statistical differences between the two measurements (Pre and Post) of the skill variables in favor of the post measurement as the calculated “Z” value for ladder was (3.426), medical

ball was (3.412), **squares** was (3.413), vortex was (3.412), **Endurance** for 8 min was (3.411), frog was (3.411) and formula was (3.408).

Shown from the table (12) the significant improvement of the skill variables of the participants, as the percentage of

improvement for ladder was (9.78 %), medical ball was (31.79 %), squares was (25.48 %), vortex was (8.79 %), **endurance** for 8 min was (2.11 %) frog was (10.99 %) and formula was (15.75 %).

The author attributed these differences between the two measurements (Pre and Post), and the level of skill improvement to the proposed motor program with its new innovative contests, as it led to improvement of the physical variables resulting to improvement of the skill level of the participants. This is consistent with what Mathews stated that the learning motor skills becomes faster and more efficient if we cared about improving the motor and physical capabilities as they form an important variable to make the performance of motor skills easier.

The author also believes that modifying the laws of the athletics contests for children to suit the capabilities of the participants had an effect on the development of the skill level of the children. This is consistent with what Charles Jazouli et al.(.) stated that modification the laws to suit the capacity of children may increase the speed of learning leading to the enjoyment due to the activity. (10:7)

These results are consistent with the study of “Donnalisa (1985)”, “Sue Walker (1992)”, “Mohammed Hussein Mohammed (2000) (15)”, “Noha Ismail Al-Sharkawy (2000) (19)”, “Gihan Abdul Fattah Shafiq (2001) (6)”, Ahmed Mohammed Ali Adam (2002) (1) and “Najla Fathy Khalifa (2002) (18)” as they all found that sports programs have a positive effect on the improvement of the skill level for the Blind and the visually impaired.

These results are consistent with the study of “Wael Mohamed Ramadan and Tamer Aweys El Gebaly (2009) (21)”, “Azza Mohamed Elomari (2009) (12)”, “Azza Mohamed Elomari and Sahar Zidane Zayan (2012) (22)” and “Ghada Abdul Rahman Youssef and Yasser Abu Hacich (2012) (25)” that athletics races for children lead to improvement in the physical, psychological, social and skill aspects of their practitioners.

Therefore, this proved the third hypothesis which states that “There are significant statistical differences between the measurements (pre and post) of the participants from the visually impaired in the skill variables in favor of the post measurement”.

Conclusions and Recommendations

- First: Conclusions

- There are significant statistical differences between the measurements (pre and post) of the participants in the adaptive behavior level in favor of the post measurement.

- There are significant statistical differences between the measurements (pre and post) of the participants in the physical variables in favor of the post measurement.
- There are significant statistical differences between the measurements (pre and post) of the participants in some skill variables in favor of the post measurement.
- There are significant differences between the measurements (pre and post) of the participants in the percentage of improvement of adaptive behavior, physical variables and skill level in favor of the post measurement.
- The proposed motor program had a positive effect on the psychological state of visually impaired children and this appeared in their great happiness during the application and permanent waiting for the new units.
- The children fear of dealing with the tools and the fear of moving without attendants quickly disappeared.
- Rapid responses for children to learn the program contests.

- Second: Recommendations

- Using the athletics program for children in different age stages for the visually impaired.
- Using the athletics program for children for people with disabilities from other categories with modification the laws of the athletics games to suit the level of disability.
- The core curriculum in the schools of the blind shall contain the project of the athletics for children.
- Preparation of physical education teachers to deal with people with disabilities in athletics program for children as it has a great effect of the physical and psychological aspects on them.

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