The Efficiency of the Size of the Bodies and Age in Predicting Some Elements for Physical Fitness for (12-15) Years Age in Mosul City

Shihab A. Hassan [1], Theelam Y. Allawy [2]

[1], [2] Mosul University

ABSTRACT

Body physical fitness considered as one of the most important target, the school physical trainer aim to reach at school level the related study prove that the correlation between biological. Measurement (Authropomitric) and the physical ability were positively correlated. In no doubt that body size (high and weight) and the body composition (fat weight and excluded fat weight). In addition to classification factor the age considered to be the most available easiest parameter could be used by consideration the real factor of the situation now. These and because. Physical fitness considered as first choice for training these the most effective problem raised here .is how to measure and to calculate by equation it effect of body building in physical fitness factors to exclude the error that can raises from over demand or individual capability to measure the progress in individual training. The study aim is to Determine the validity of direct indications (body size, age and height) in foreseeing elements of physical fitness. In addition these study included the similar approach in both analytical and discussed worked out research the study included descriptive program by scanning method. The sample involves (180) people at intermediate level. tested by gradient equal distribution then the data collected by body measurement. And the determination of physical fitness these direct measurement of (body weight, height and age) The body physical fitness the represented by long jump from stand, zig zag running, sitting from stand, from body bent, 30m running walking running 800m throwing medical ball(3kg). The study analyzed statically using mathematical mean, standard deviation, simple correlation coefficient, linear regression multi linear regression, all linear regression the study reveal that there are 20 equation exceeded 2 in sharing with 25% and over the triangle expected equation such as explosive power to the arms as.Explosive power = - 194.518 + (1.801 X wt + (2.091 X lint))Arm explosive power = - 325.753 + (1.068 X wt) + (1.926 X age) + (1.255 X h.)Arrangement of the measurement level in accordance to body size relating the physical fitness in response to:a) Arms explosive power.b) Transitional velocity.c) Legs explosive power.d) Agility.e) Cardio respiratory system endurance. f) Endurance.g) Flexibility.

Keywords:

INTRODUCTION

Physical fitness in one of the most important aims of the physical education lessons in school. The physical fitness derives its significance from being one of the components of total fitness. By which it qualifies the individual to live in

a balanced life and this requires to be qualified, physically, psychologically, psychologically, and mentally. (abdul Hamid and Hassanein, 1997,17).The importance of physical fitness through with the requirements of daily life on the one hand and sporting activities on the other hand, and this increased interest in fitness and emerged in recent years so-called competitions school sports fitness and because human is a complete biological unit which can not be separated so highlights dialectical link between dynamic and physical growth. Physical construction plays a prominent role in showing the abilities that constructs the body and the difference in the structural composition of the body plays an important role in athletic performance. (Morehouse, 1971, 285).The finding proved that the physical correction measurements with a lot of bodily abilities and excellence in various sports activities. (Hasanin, 1987, 44). Many researchers dealt with the bodily fitness study and the physical measurements from many sides. Such as (Beatrice and Majida, 1990) and the study of (Hammodat, 1992), (, Al Ali ,1999) (Alawi, 2000), (Musleh and Others, 2001), (Al-Neemi, 2002) Alyasiris study, (2002). From here there is a need to provide a means of measurements which describe the role of the body size in dynamic growth through predicted equation, And determination of its participation rates. The important of the previous emerges through the physical education trains comprehension of the role that the body size indications plays by means that determine the correlation these two phenomena accurately that can be explained the mistakes and gives us the points that the treatment begins through physical education programs. But the research would like to refer to the simplified available potential for physical education within the school here. We are obliged to use some simplified components and use them in the reverser of the real pictures of the reality for physical fitness of the students . the indications of bodily size (heights weight) emerges as direct measurements intervene as measurements can be used as independent variables that affect eth related variable which is represented by physical fitness factors for finding some predicated equation. The research aims to identify the extent of efficiency for the indicators of the direct bodily size. (height, weight) and chronological age in predicting by the physical fitness elements. And identifying the efficient extent of the body size indications and chronical age through the contribution rations of elements of fitness.

Research procedures:

The research used the descriptive method style studies of relevance to the nature of the study**,** And the research was conducted on a sample represented (180) pupils from intermediate school by (60) pupils per phase and thus the research may select an appointed advance sample class with equal distribution, then the researcher had chosen the sample according to geographical distribution (sample survey) were chosen (6) intermediate schools in Mosul city by three schools from each coast to include three sprawling areas from the coast represent it. The middle and the traces. Note that the research has taken into account the social economic aspects for the sample, the rate (30) pupils each school. As well as the researcher has taken into account when you drag the sample, the student will be part of the ages that suit the school phase. That means there is no one has failed in any stage of the previous study.

Hardware and tools that are used:

Medical balance measuring the weight to the nearest 1/2 kg. timing hours measuring tape to measure distances (2) pieces of cube wood.

Means of data collection:

Measurements(Age, body height, Body Weight)

Tests:

It was a special tests in physical fitness elements and in order to reach to these tests so the researcher analyzed the previous studies and the different resources then determined the elements of the physical fitness and their tests, as a result they interviewed the gentlemen experts(*) determine the most important elements of physical fitness and

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(*) experts:

1- Prof. Dr. Wadee Yaseen Al-Tekrety.	**Sport education-Mosul University.**
2- Prof. Dr. Yaseen Taha Al-Hajjar.	**Sport education-Mosul University.**
3- Prof. Dr. Jasem Naef Al-Romey.	**Sport education-Mosul University.**
4- Prof. Dr. Zohair Qasem Al-Khashab.	**Sport education-Mosul University.**
5- Prof. Dr. Innad Jerjes Abd Al-Baqey.	**Sport education-Mosul University.**
6- Prof. Dr. Hashem Ahmad Sulaiman.	**Sport education-Mosul University.**
7- Prof. Dr. Ayad Mohammad Abdullah.	**Sport education-Mosul University.**
8- Prof. Dr. Abdullkareem Al-Jawady.	**Sport education-Mosul University.**

the tests that suit this age stage and it is got the following elements (explosive power of the arms and represents the tests of the 3kg medical ball throwing from sitting position and transitional speed by a test of running (30) m. and the explosive power of the legs , long jumping forward from the stability and the endurance of the power is represented by the test of sitting from lying the flexibility was represented by testing by bending the body forward and dawn from standing, while fitness was represented by the test of the shuttle run and the endurance of the circular breathing systems in running walking (800m) and these components that got the rate more than (25%) that represents an essential importance for the studied phenomena. (Allawi, Radhwan, 2000, 262).

After completion of the required procedures the researcher conducted an exploratory experience to distinguish the difficulties that might face the researcher. Test the validity and efficiency of the used devices .and Determine the time it takes to perform the tests and the physical measurements. And The sample of the exploratory experiment is consisted of (15) students from the intermediate school students as (5) pupils each stage were excluded from the basic experiment after ensuring the availability of all the necessary conditions. The researcher implemented the basic experiment. The researcher used the following statistics means: Arithmetic mean, standard deviation, amended standard class. multiple regression analysis in away that deals all the regressions.

Showing the results and their analyses and discussions:

Description of the statical variables :

Table (1) Statistical description of physical research variables and elements of

ST.DE	mean	Measurement Unit	variables	N
6.409	2.365	m	Arms explosive power	1
0.63	6.017	second	Transitional velocity	2
2.402	1.597	m	Legs explosive power	3
8.65	25.90	redundancy	Endurance	4
7.08	2.555	cm	Flexibility	5
0.78	12.076	second	Agility	6
0.387	3.595	minutes	Cardio respiratory system endurance	7
10.04	163.894	month	Age	8
11.69	154.688	cm	Length	9
11.70	49.094	kg	weight	10

Table (2) Contribution ratios for variables body size and age in the explosive power of the arms

method	measurement	Fifed value	agent	Calculated F	Tabular F	D-F	Correlation	Contribution rate
Stepwise regression	weight	111.383	2.548	49.207	6.634	178-1	0.465	21.7%
Stepwise regression	Weight age	-194.578	1.108 2.091	38.906	4.605	177-2	0.553	30.5%
Stepwise Regression And all variables	Weight age longitud	-325,753	1.068 1.926 1.255	29.732	3.781	176-3	0.58	33.6%

9- Prof. Dr. Dhurgham Jasem Al-Nuaimey. Sport education-Mosul University.

Value (F) when an error ratio tabular (≥ 0.01)

As shown by the moral value of (F), we can get the following equation to predict: explosive power the arms) (short equation) = (1111, 383 + (2, 548 X Weight) (1)

explosive power the arms) (short equation) = -194, 578+ (1, 108 X Weight) + (2, 091 X age) (2)

(Long equation) = -325,703 + (1, 068 X Weight) + (1, 926 X age) + (1, 255 X Height) (3)

Table (3) Contribution ratios for variables body size and age in the transitional speed

method	measurement	Fifed value	agent	Calculated F	Tabular F	D-F	Correlation	Contribution rate
Stepwise regression	age	9.596	-0.00281	24.172	6.634	178-1	0.346	12%
Stepwise regression	age weight	9.888	-0.0265 -0.009586	15.058	4.605	177-2	0.381	14.5%
Stepwise Regression And all variables	age Weight longitud	11.123	-0.0249 -0.01649 -0.0118	12.310	3.781	176-3	0.416	17.3%

Value (F) when an error rations tabular (≥ 0.01)

as shown by values (F) moral, it could get the following equation to predict:

Transitional speed (Short equation) = 9, 596 + (-0,00218 X age) (4)

transitional speed Short equation = 9,888 + (-0,0265 X age) + (-0,009586 X Wieght) (5)

(6) transitional speed (Long equation) = 11, 123 + (-0,0249 + (0,01649 X Weight) + (-0,0118 X Weight) (6)

Table (4) Contribution ratios for variables body size and age in the explosive power of two legs

method	measurement	Fifed value	agent	Calculated F	Tabular F	D-F	Correlation	Contribution rate
Stepwise regression	age	33.314	0.771	20.631	6.634	178-1	0.322	10.4%
Stepwise Regression And all variables	age Weight longitud	-15.422	0.871 0.376 -0.528	9.740	3.781	176-3	0.377	14.2%

Value (F) when an error rations tabular (≥ 0.01)

As shown by moral values (F) we can get the following equations to predict:

the explosive power of the two legs (short equation) = 33, 314 + (0,771 X age). (7)

The explosive power of the two legs (long equation) = 15, 422 + (0,871 X age) + (0,376 X Length) + (-0,528 X Weight) (8)

Table (5) Contribution ratios for the variables of body size and age in the endurance power of the abdominal muscles

method	measurement	Fifed value	agent	Calculated F	Tabular F	D-F	Correlation	Contribution rate
Stepwise regression	weight	36.565	-0.217	4.251	3.841	1-178	0.153	2.3%
Stepwise regression	Weight age	-5.968	-0.321 -0.291	4.535	2.995	2-177	0.221	4.9%
Stepwise Regression And all variables	age Longitud Weight	-15.322	0.279 -0.08947 -0.373	3.158	2.604	3-176	0.226	0.0501%

The tobular value of (F) at an error ratio is: (≥0,01).

As shown by the moral value of (F) that we can get the following equation predict:

Indurance of the power For the abdominal muscles (short equation) =36, 565 + (-0,217 X Weigh) (9)

indurance of the power For the abdominal muscles (short equation) = -5,986 + (-0,321 X Weight) + (0,291 X age). (10)

indicator of the power

Of ht abdominal muscle long equation = 15,322 + (0,279 X age) (+ (-0,08957 X Length) + (-0,373 X Weight) (11)

Table (6) The contribution ratios for the variables of the body size and age in

method	measurement	Fifed value	agent	Calculated F	Tabular F	D-F	Correlation	Contribution rate
Stepwise regression	longitude	16.482	0.0900	4.23	3.84	1-178	0.149	2.2%
Stepwise Regression And all variables	age Longitude Weight	7.992	0.06808 -0.104 -0.114	1.800	2.604	3-176	0.173	3%

The tobular value (F) at an error ratio is (≥0,01).

As shown by the moral (F),we can get the equation to predict:

Flexibility (short equation) = 16,482 + (0,0900 X Length).

Table (7) Contribution ratios for the variables of the body size and age in fitness

method	measurement	Fifed value	agent	Calculated F	Tabular F	D-F	Correlation	Contribution rate
Stepwise regression	age	15.625	-0.0217	11.664	6.634	178-1	0.248	6.1%
Stepwise regression	age weight	16.119	-0.0295 0.01624	9.878	4.605	177-2	0.317	10%
Stepwise Regression And all variables	age Weight longitud	18.136	-0.0270 0.02753 -0.0193	9.509	3.781	176-3	0.373	13.9%

The tabular value of (F) at on error ratio is (≥0.01)

As shown by the moral value of (F) , we can get the following equation

to predict:

fitness (shart equation) = 15 , 625+ (- 0.0217 x age) (13)

fitness (shart equation) } = 16.119 + (- 0.0240 x age) + (0.01626 x 1626 x weight) (14)

Fitness (lony equation)= 18.136 + (- 0.070 x age) + (0.02753 x weight)

+ (- 0.0193 x length) (15)

Table (8) Contribution ratios of the body size variables and the age in the endurance of the two circular and respiratory systems in the Endurance of the two circular and respiratory system .

method	measurement	Fifed value	agent	Calculated F	Tabular F	D-F	Correlation	Contribution rate
Stepwise regression	weight	3.242	0.007189	8.804	6.634	178-1	0.217	4.7%
Stepwise regression	Weight longitude	4.586	0.01404 -0.0109	11.131	4.605	177-2	0.334	11.2%
Stepwise Regression And all variables	Weight Longitude age	5.056	-0.00362 -0.0104 0.01503	7.915	3.781	176-3	0.345	11.9%

The tabular value of (F) at on error ratio is (≥0.01)

As shown by the moral value of (F) We can get the following equation

to predict :

Endurance of the two respiratory and circular system (short equation)= 3.242 + (0.007189 x weight) (16)

Endurance of the two respiratory and circular system (short equation) = 4.586+ (0.040 x weight). + (- 0.0109 x length) (17)

Endurance of the two circular and respitatory system (long equation) =

5.056+(- 0.000362 x weight) + (- 0.0104 x length) + (0.01503 x age) (18)

Table (9) Contribution ratio to the variables of the body size and age in the bodily physical fitness

method	measurement	Fifed value	agent	Calculated F	Tabular F	D-F	Correlation	Contribution rate
Stepwise regression	age	91.157	1.579	30.206	6.634	187-1	0.42	17%
Stepwise Regression And all variables	age Weight longitud	9.801	1.700 0.654 -0.808	16.107	3.781	176-3	0.464	21%

The tabular value of (F) at an error ratio (≥0.01)

as shown by the moral value of (F) , we can get the following equations to predict:

The bodily fitness short equation= 91.157 + (1.579 x age) (19)

the bodily fitness Long equation 9.801 + (1.700 x age) + (0.654 x weight) +(- 0.808 x length) (20)

The discussion of the results of contribution and the prediction of the body size variables and the chronical age:

Through the above , the researcher got on (13) short equations and (7) long equations and when reviewing contribution rate for these equations and discovering equations representing the contribution of variables (25%) and more , a figure set by the researcher to demons tract the importance we find that the number of equations may reduce to (2). This represents the equations (2) which represents the weight and age variables and (3) which represent the variables weight, age and height the age and weight interaction represent more directories contribution in physical abilities. This is consistent with (musleh and others, 2001, 253) and the increase in the weight of the pupil during throwing the ball , there are two benefits , one that muscle strength is directly proportional to section anatomical muscle with muscle size and the second is its heavy body probability on investment ground reaction is the best investment of the light body in pushing the gravity in the desired direction (Hussein and student , 1987, 281) and the body weight is one of the factor that play a major role in achieving a good throw (Hussein , 1997 ,431) for the weight relationship ability in many movements that require intramuscularly nervous consensus (Yasiri , 2002, 58) like has been scientifically proven weight growth maturity and dynamic fitness and dynamic readiness in general . the researches showed what is known as the relative weight and the specific weight and all artistic conventions were the result of extensive studies on the importance of weight in the areas of physical education (Hussanein , 1987 . 53) As for the body length . its increase play a big role in the a accomplishment of good one in throwing (Hussein , 1979 , 187) , that relied to the researchers opinion for two reasons. Firstly the high starting og the tool (Norrator , 1989 , 62) and here the tool is represented by the medical ball and second it comes through the relation between length og the body and the length of the arm of the members of this age group (Allawi, 2002, 70) as it provides al likely due to the arm long functioning of the ball int the hands of the student from the back to forward , that means that the ball earns alonger accel leration line during the throw . the researcher would like to point out here that although we have the equations pedict the explosive power of

the arms and other equations. But the low rates reflect the reduced the capacity of the variables for the body size and the chronological age here on our supply of , equations which are reliable in predicting the other elements of the bodically fitness sa well as to predict fitness in general , that we can arrange elements of physical fitness according to their vulnerability indicators of body size and chronological age depending on the contribution rates , as follows:

Table (10) The arrangement of the physical fitness according to the contribution of indicators of body size and chronological age .

N	. elements of physical fitness	Contribution rate
1	**Arms explosive power**	**33.6%**
2	**Transitional velocity**	**17.3%**
3	**Legs explosive power**	**14.2%**
4	**Agility**	**13.9%**
5	**Cardio respiratory system endurance**	**11.9%**
6	**Endurance**	**5.1%**
7	**Flexibility**	**3%**

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