International Journal of Science Culture and Sport
September 2018 : 6(3)
ISSN : 2148-1148
Doi : 10.14486/IntJSCS764

Assessment of Physical Fitness: Focusing on Grade 8th to 10th Class Students

Muhammad Safdar LUQMAN[1], Salahuddin KHAN[2], Alamgir KHAN[2], Wasim KHAN[2]
[1]Government Higher Secondary School, Daraban Khurd, D.I Khan, PAKISTAN
[2]Department of Sports Sciences and Physical Education, Gomal University D.I Khan, PAKISTAN
Email: safdarkhan821@gmail.com, drsalahuddinkhan@yahoo.com, alamgir1989@hotmail.com, Wasimkhan2057@gmail.com

Type: *Research Article (**Received:** 02.07.2018 – **Corrected:** 24.08.2018 - **Accepted:** 28.08.2018)*

Abstract

In developed countries of the world, a variety of test batteries have been developed in accordance with their own environment. With the help of these test batteries, they are successfully selecting players for different games or event. We in Pakistan are starving in term of test and consequently failing in achieving satisfactory performance in various sports activities. Hence, a study was conducted with the aim to develop test batteries for the assessment of fitness level. For this purpose, 2184 students of 8th to 10th classes were conveniently selected and participated in the study. For analysis of data mean and standard deviation were used. The researcher found poor physical fitness among the students. Therefore, it is recommended that the teachers and parents should make it obligatory to take proper care of their students/children's physical fitness by providing a healthy diet and also allow them to participate in sports activities.

Keywords: Terms; Assessment, Physical Fitness, Students, Test battery

Introduction

Physical fitness is very important for all age groups (Blair et al., 2001) it maintains blood pressure, lipid profile and controls cardiovascular infirmities (Kell et al., 2001; Soteriades et al., 2011& Vina et al., 2012). Physical fitness and activity reduce the risks of cardiovascular diseases in adolescence and the decrease in physical activities and fitness can increase the risks of cardiovascular diseases in adolescence. Physical fitness is usually measured in relation to functional expectations that are, typically, by measuring endurance, strength, agility, coordination, and flexibility (Fragala-Pinkham et al., 2005). Similarly, stress testing, which determines the body's settlement to powerful, constant physical stimuli, is utilized to examine fitness and states that If individuals are able to accommodate to the stressors, they are supposed to be fit (Brown et al., 2013 & Hargie et al., 2015).

The key objectives of youth fitness and action advancement are to expand the likelihood that young will receive customary physical action propensities and keep up satisfactory levels of physical fitness to add to ideal wellbeing and capacity all through life. By applying the through physical training programs, we accept there is a more noteworthy chance that youngsters will grow up to end up dynamic and solid grown-ups.

Imperativeness and criticalness of physical fitness have generally been recognized independent of the age, field or calling whether it is games, cultivating or exchange, wellbeing or any stroll of our daily life. In this context, Ntoumanis (2001) states that physical fitness has been one of the pre-essentials of effective games and sports profession whereas, satisfactory and successful performance in the field of physical education, sports and athletics is specifically subject to level of physical fitness of the competitor (Smith, 2003). The author further states that the more one is fit the better achievement can be accomplished.

Presently the issue is the way to prescribe reasonable individual to an appropriate diversion or occasion e.g. who is fit for tossing events, hopping events and running events. For the full of feeling location of the issue, distinctive tests and test batteries have been created in the propelled nations in accordance with their own surroundings. On the premise of these tests, they have been entirely fruitful in conveying the proper player to the suitable game or event.

We in Pakistan have been deficient as far as our specialized and advanced way to deal with games related issues. Nonaccessibility of the appropriate test batteries created in similarity with our own financial, physiological and socio-cultural state of the general public has been amongst the center issues of the games field. On the other hand, we are still lacking in developing of battery that could be applied considering economic, physiological and socio-cultural condition of the country.

Keeping in view this starving situation, the researcher decided to conduct a study to evaluate the physical fitness of 8th to 10^{th} class students. The researcher is of the opinion that this study carries vital significance on the ground that as a result of this study the researcher developed test battery for measuring the physical fitness level of 8^{th} to 10^{th} class students of Khyber Pakhtunkhwa (KP).

Problem statement

Universally various test batteries and standards have been created which have viable been serving in determining the fitness level of the competitors. It is likewise a reality that the greater part of the accessible test batteries and standards are produced in the created nations where the financial, physiological and socio-cultural conditions are very not quite the same as our nation. We are as yet ailing in creating of battery that could be connected considering

financial, physiological and socio-cultural state of the nation. Keeping in view the deficiency, the researcher intended to develop a similar type of test battery to evaluate the fitness level of 8^{th} to 10^{th} class students of KP, Pakistan.

Literature Review

Fitness and its significance

Physical fitness does allude to being physically fit, as well as alludes to a man's mental state also. On the off chance that a man is physically fit, yet rationally unwell or disturbed, he or she won't have the capacity to work ideally (Raedeke & Burton, 1997). Several studies proved that mental wellness must be accomplished if your body is working great and one can unwind your own brain and take out burdens by practicing consistently and eating right (Borg et al., 2005; Sieberg, 2011). Individuals who are physically fit are likewise more beneficial, can keep up their most ideal weight, and are additionally not inclined to cardiovascular and other wellbeing issues (Scheuer & Tipton; Ekelund et al., 1988 & Tapia et al., 2007). It is also research that a man who is fit both physically and rationally is sufficiently solid to confront the high points and low points of life, and is not influenced by extraordinary changes in the event that they occur (Boin & Hart, 2003).

Turning out to be physically fit requires an adjustment in way of life too (Hellison, 2000) whereas, Naidee (2016) in his book “Foundation for health promotion” demonstrates that one needs to join a standard activity routine in life. Furthermore, balanced diet, proper sleep, and strenuous physical activity participation are very beneficial for the promotion and development of fitness. Similarly, numerous studies affirmed that staying away from garbage nourishments, fizzy beverages, negative behavior patterns like smoking and liquor and by getting satisfactory measure of rest, you will have the capacity to end up physically and rationally fit (Palmer, 2015). The author suggested that participation in angling, bicycling, swimming, trekking, and notwithstanding playing football with your children ought to be a piece of your physically fit way of life.

Physical Fitness Components

Muscular strength

This is the "force" that helps you to lift and convey overwhelming items. Without strong quality, your body would be frail and not able to stay aware of the requests set upon it. The best approach to build quality is to prepare with overwhelming weights, working in the 4 - 6 or 12 - 15 rep ranges. The heavier the weight, the fewer reps you ought to perform.

Muscular endurance

Muscular endurance is the capacity of your muscles to perform constrictions for augmented timeframes. As opposed to simply lifting or conveying something for a few moments, the muscles are utilized for a considerable length of time. The best approach to expand quality is to prepare with light weights, working in the 20 - 25 rep range. Working with lighter weight will prepare the muscle strands required for strong perseverance, and the higher rep range prompts a more extended time of activity.

Cardiovascular endurance

Cardiovascular endurance is your body's capacity to stay aware of activity like running, running, swimming, cycling, and anything that strengths your cardiovascular framework (lungs, heart, and veins) to work for broadened timeframes.

Together, the heart and lungs fuel your body with the oxygen required by your muscles, guaranteeing that they have the oxygen required for the work they are doing. The Cooper Run (running quite far in 12 minutes) is a test generally used to survey cardiovascular continuance; however, numerous coaches utilize the Step Test (venturing onto a stage for 5 minutes). Both are precise measures of a subject's cardiovascular.

Flexibility

Flexibility is a standout amongst the most essential, yet regularly neglected, segments of physical wellness. Without adaptability, the muscles and joints would develop hardened and development would be restricted. Adaptability preparing guarantees that your body can travel through its whole scope of movement without torment or firmness.

To test your flexibility, incline forward and attempt to touch your toes. Those with great adaptability will, as a rule, have the capacity to touch their toes, while those with restricted adaptability won't. The sit and achieve test (sitting on the floor and coming toward your toes) is another great approach to evaluate your flexibility. The more adaptable you are, the nearer you will come to touching your toes and past.

Materials and Methods

For reaching at certain findings and conclusion with the help of gathered data, the researchers used following procedures.

Study participants

The population for this particular study comprised of all the students at 8^{th} to 10^{th} class studying in government boy's high schools in the province of KP, Pakistan. It was very difficult rather impossible for the researcher to contact each and every student in the province. For the purpose, the researcher confined his study to 13 districts which were randomly selected from the province. After this, 52 schools were recruited from the selected districts and 2184 students of 8^{th} to 10^{th} classes were conveniently selected and participated in the study.

Data collection tool

The researcher selected four items which were validated through pilot studies. For this purpose, 40 students of 8^{th} to 10^{th} classes were selected with in the vicinity of Dera Ismail Khan (DIK). The test battery consisted of Sit ups in 30 seconds, Standing broad jump, V sit reach and 1000 m run

Data collection procedure

The 52 copies of the test battery with full procedure of conducting each test item and 52 Performa's for students' scores in each test item were distributed in 52 schools. Demonstration of the test items was also given to the concerned Physical Education Teachers/ teachers. They were given three days' time to collect the data from their school.

Data analysis

The data collected by the researcher was analyzed by using SPSS version 20. For analysis of data, Percentile Scale, Mean and Standard Deviation were used. Further, the scores were classified into five grades i.e. very good, good, average, poor and very poor.

Findings

Table 1. Mean, standard deviation and grading of students in 30 seconds sit up

Mean and Standard deviation				
No of Students	**Mean**		**Standard Deviation**	
2184	19.23		4.957	
Grading				
Very Poor	Poor	Average	Good	Very Good
>9 sit-ups	9-13 sit-ups	14-24 sit-ups	25-29 sit-ups	<29 sit-ups

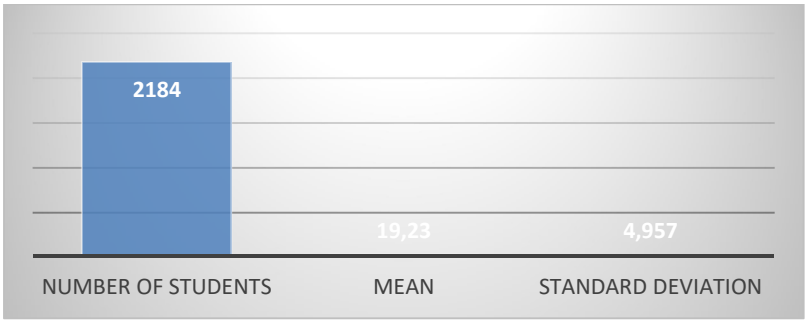

Figure 1. Showing Mean and Standard Deviation in 30 Seconds Sit up Test

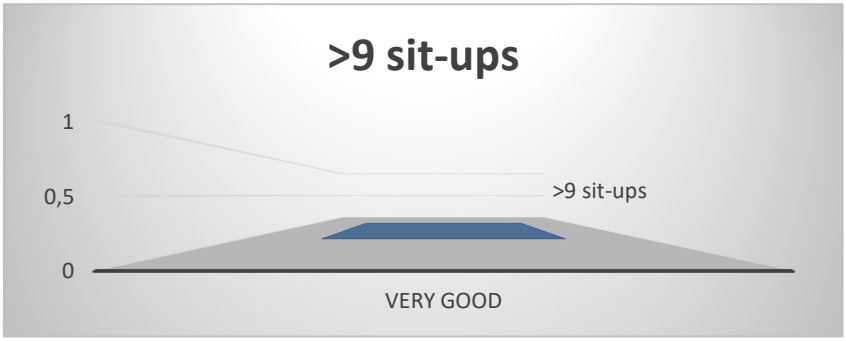

Figure 2. Showing Grading in 30 Seconds Sit up Test

Table 1 and Figure 1 and 2 illustrate that in sit-up test, the mean score is 19.23 and standard deviation score is 4.957. similarly, In sit-up test, the scores below 9 sit-ups in 30 seconds are considered very poor, from about 9 to 13 is considered poor, 14 to 24 is considered average, 25 to 29 is considered good and the scores above 29 are considered very good.

Table 2. Mean, standard deviation and grading of students in V-Sit Reach Test

Mean and Standard deviation				
No of Students	**Mean**		**Standard Deviation**	
2184	2.997		2.82	
Grading				
Very Poor	Poor	Average	Good	Very Good
>-3 inches	-3-(-0.5) inches	0-6 inches	6.5-9 inches	<9 inches

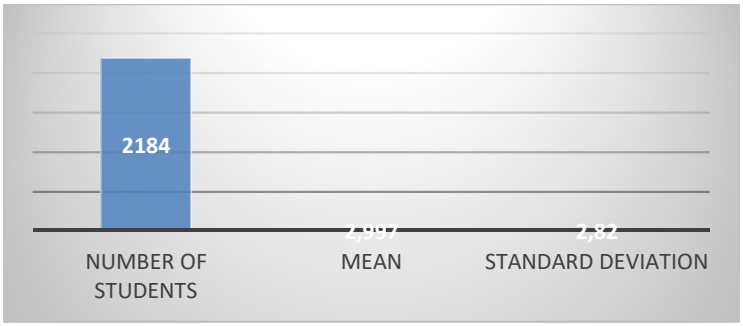

Figure 3. Showing Mean and Standard Deviation in V-Sit & Reach Test

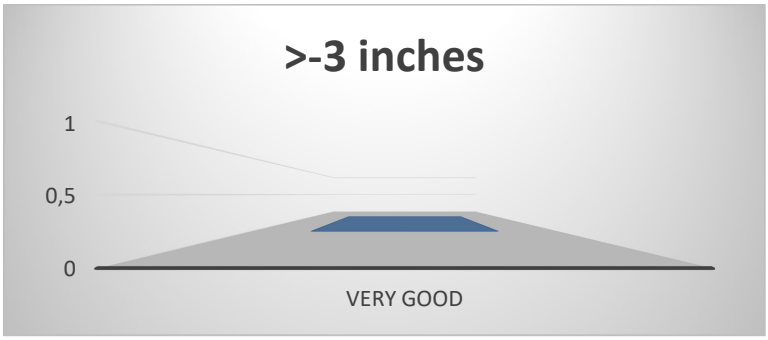

Figure 4. Showing Grading of Students in V-Sit & Reach Test

Table 2 and Figure 3 and 4 depict that in V-sit reach test, the mean score was 2.997 and standard deviation score was 2.82. In V-sit reach test, the scores below -3 inches are considered very poor, from about -3 to -0.5 inches is considered poor, 0 to 6 inches is considered average, 6.5 to 9 inches is considered good and the scores above 9 inches are considered very good

Table 3. Mean, standard deviation and grading of students in standing broad Jump

Mean and Standard deviation				
No of Students	**Mean**		**Standard Deviation**	
2184	69.72		12.95	
Grading				
Very Poor	Poor	Average	Good	Very Good
>44 inches	44-56 inches	57-83 inches	84-96 inches	<96 inches

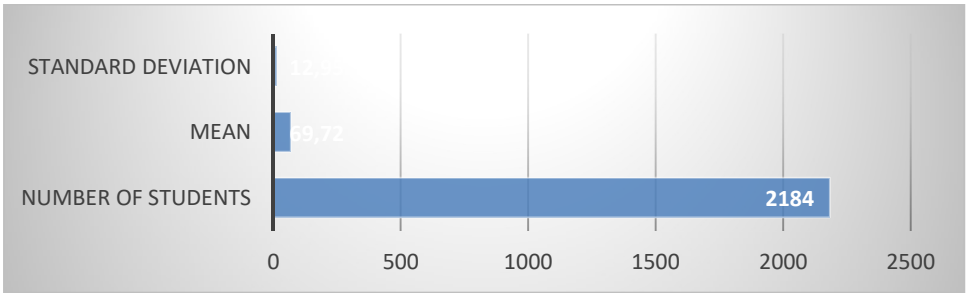

Figure 5. Showing Mean and Standard Deviation in standing broad jump

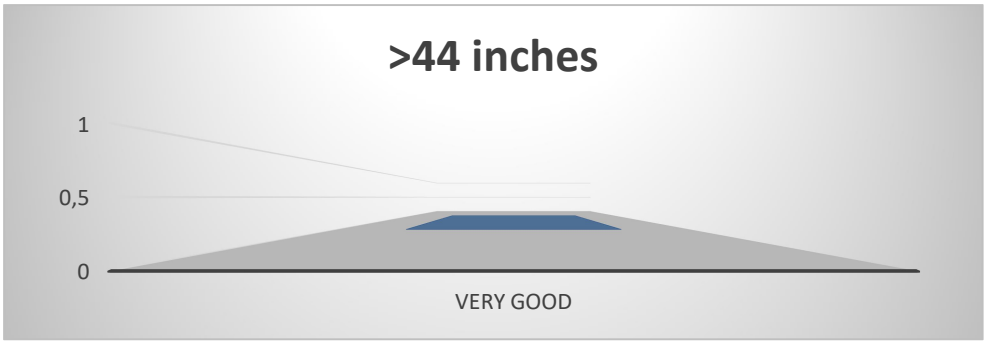

Figure 6. Showing Grading of Students in standing broad jump

Table 3 and Figure 5 and 6 show that in standing broad jump, the mean score was 69.72 and standard deviation score was 12.95. In Standing Broad jump, the scores below 44 inches are considered very poor, from about 44 to 56 is considered poor, 57 to 83 is considered average, 84 to 96 is considered good and the scores above 96 are considered very good.

Table 4. Mean, standard deviation and grading of students in 1000 M Run

Mean and Standard deviation of Norms				
No of Students	**Mean**		**Standard Deviation**	
2184	289.59		54.36	
Grading of Norms				
Very Poor	Poor	Average	Good	Very Good
<398 seconds	398-345	344-235	234-181	>181 seconds

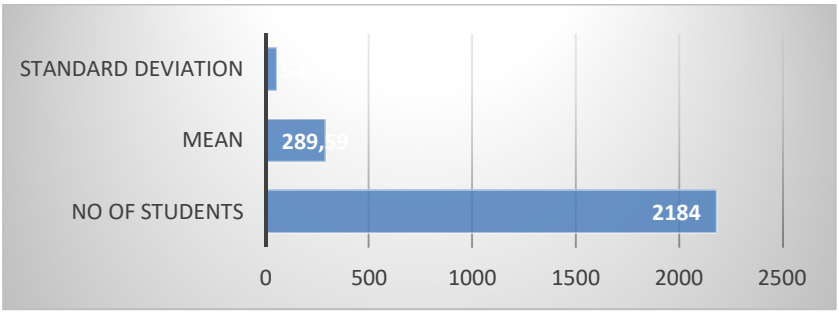

Figure 7. Showing Mean and Standard Deviation in 1000 M run

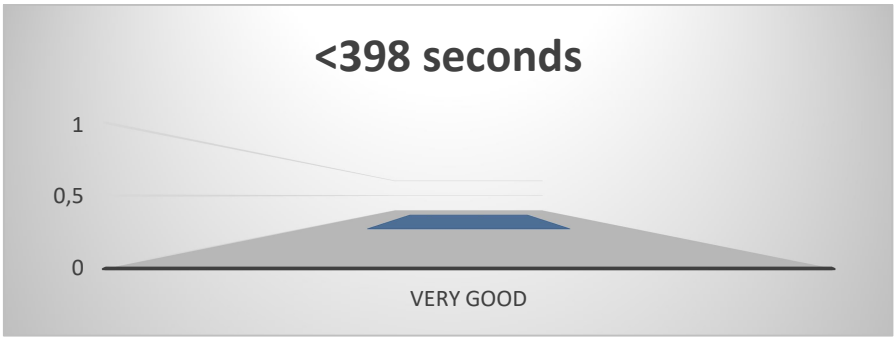

Figure 8. Showing Grading of Students in 1000 M run

Table 4 and Figure 7 and 8 illustrate that in 1000 M run test, the mean score was 289.59 and standard deviation was 54.36. In 1000 M run test, the scores above 398 seconds are considered very poor, from about 398 to 345 seconds is considered poor, 344 to 235 seconds is considered average, 234 to 181 seconds is considered good and the scores below 181 seconds are considered very good.

Discussion and Conclusions

1. The researcher found that in sit-up test, the mean score was 19.23, in V-sit reach test 2.997, in standing broad jump, 69.72, in shuttle run test 10.84, and in 1000 meter run test, the mean score was 289.59.

2. The researcher found that in sit-up test, standard deviation score was 4.957, in V sit reach test 2.82, in standing broad jump 12.95, in shuttle run test 1.08 and in 1000 meter run test standard deviation was 54.36.
3. Thirty-second Sit-up test. In this test, the researcher offered five categories to the population to check their performance {very poor (below 9 sit-ups), poor (9 to 13 sit-ups), average (14 to 24 sit-ups), good (25 to 29 sit-ups) and very good (above 29 set ups)}.
4. V-Sit reach test. In this test, the researcher offered five categories to the population to check their performance {very poor (below -3 inches), poor (-3 to -0.5 inches), average (0 to 6 inches), good (6.5 to 9 inches) and very good (above 9 inches)}.
5. Standing Broad jump. In this test, the researcher offered five categories to the population to check their performance {very poor (below 44 inches), poor (44 to 56 inches), average (57 to 83 inches), good (84 to 96 inches) and very good (above 96 inches)}.
6. 1000 Meter run test. In this test, the researcher offered five categories to the population to check their performance {very poor (above 398 seconds), poor (398 to 345 seconds), average (344 to 235 seconds), good (234 to 181 seconds) and very good (below 181 seconds)}.

Practical Implications

1. The findings of the study will help the understudies would know about their physical fitness level. Therefore, the selectors, coaches as well as teachers would need to educate the techniques and approaches to reinforce and safeguard their fitness.
2. Furthermore, physical educators after establishing out the fitness levels of the children could outline fitness programs in accordance with their abilities and capabilities.
3. Apart from these, the parents will be in a position to arrange or plan of more viable systems for the counteractive action of wellbeing.

Recommendations

In the light of the findings and conclusion the researcher put forth the following recommendations for the improvement of the situation;

1. As the results show poor physical fitness of the students, therefore not only the parents but the teachers may also take care of the physical fitness of the students and make it sure that physical fitness is checked on regular bases.
2. The students studying in the schools participated in the study, therefore the researcher recommended that the educational institutions may provide the basic health and sports facilities which are necessary to develop and maintain physical fitness.

In addition, the researcher recommended that for good health of the students the government may arrange programs not only for educational institutions but also the general to give proper awareness regarding the importance of physical fitness and how to achieve and maintain physical fitness.

Corresponding Author

Muhammad Safdar LUQMAN
Director of Physical Education, Government Higher Secondary School, Daraban Khurd, D.I Khan, PAKISTAN
Email: safdarkhan821@gmail.com

Conflict of Interest

The authors have not declared any conflicts of interest.

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