SUMMARY
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Interest in physical fitness has existed since long. The ancient athletic contest and feats of strength reveals that human physique and strength were important physical attributes. Even today the platonic concept of “fitness should survive” has its own importance. Mental and physical fitness of people is very necessary for a healthy society. Physically unfit person cannot contribute towards the good of the nation. That is why necessity of improving physical fitness has been realised by every country. John F. Kennedy, the late president of U.S.A. quoted, “the strength of our democracy is no greater than the collective well being of our people. The vigour of our country is no stronger than the vitality and will of all our country men. The level of physical, mental moral and spiritual fitness of every American citizen must be our constant concern. It is of great importance, than that we take immediate step to ensure that every American child be given the opportunity to keep himself physically fit, fit to learn, fit to understand, to grow in grace and stature to live fully”.

Since independence, changes in social and political structure in our country had bearing on physical well being of the people, though the emphasis on this aspect, may not be equal to other fields of development. It was felt obvious that improved physical fitness is essential for a developing nation like our. With this ambition the enthusiast physical educationist took up to assess the fitness ability of the Indian population. Though some tests were conducted, but there remains a great deal of work to do. The central
advisory board of physical education and recreation prepared a national plan of physical education and physical fitness test were suggested for different age group. A scheme of national physical efficiency drive was also launched under the National plan of physical education. Even today the tests under this scheme are conducted. But the enthusiasm with which these schemes were launched seems to be vanishing. This is because of number of reasons and one of the aspect in this direction is to restart the plan, to make new experiments and research in this field which is very rare.

Though this programme seems to be a new aspect to us but the developed countries have realized the value of physical fitness long back. A number of fitness tests have been done in this field. Some of the important fitness tests are that of AAPHER physical fitness test, Kraus Weber test, Fleshman physical fitness test, California physical test, Indiana physical fitness test. We are not to discuss the detail of these tests, but the idea is to give a picture of test and values they carry. Norms of the tests have been prescribed and it is desired that each student attin a certain standard of fitness. The level of physical fitness also determines the level of performance in games and sports.

The performance of our sportsmen at international level is far from satisfactory. One of the main reasons of it is the poor physical fitness of our children who are the future hope of the nation. An important aspect in this respect is to assess the physical fitness of our children and to.
standardize norms of fitness and to emphasize that each student should attain certain standard of fitness. A well planned and systematic programme of physical education shall attribute to improve physical fitness and this in turn will improve the skill and performance capacity of our participants.

The study is based on the presumption that in order to improve the standard of physical performance at national and international level our physical education programme should lay greater emphasis on all round development of the school children. Those countries which have been winning laurels in the field of games and sports at international competitions have laid special emphasis on the development of sound programme of physical education at school level.

A well planned, systematic and regular programme of physical education contribute to the improvement of physical fitness and this also improves the skill and performance capacity of the participants. One of the reasons of poor performance by our sportsmen at international competitions is primarily the lack of emphasis on the development of a sound programme of physical education, games and sports at school level. There is no sound and broad based programme at the grass root level to teach fundamental movement and promote physical fitness of the children. As a result children are not conscious about their efficiency of physical fitness and also the value of physical fitness. It is an accepted fact that physical fitness is a basic for an improved performance ingames and sports. The games and
sports have now become an international phenomenon. The prestige and 
glory of nation in the international sports competitions have also been 
appreciated by the society and have become a reflection on the nation's 
calibre. Thus, for achieving distinction in games and sports, a programme 
of physical fitness has universally become an essential part of educational 
curriculum. The different schemes envisaged by the government for the 
promotion of physical education contribute for the development of fitness 
and activities of games and sports.

The November, 1982 Asiad has further awakened the spirit of play. 
The government has now established sports Ministry at the central level. 
Sports authority of India has also been established to boost the sports 
programme. A national sports policy has also been framed. Comparatively 
lower standard of our performance in international sports competition has 
been analysed for a number of times and physical fitness has been reported 
to be one of the major reasons for our debacles at various inter-national 
competitions. Physical fitness has thus, become a subject of study and 
has attracted attention of scholars of physical education.

Interest for excellence in physical activities is innate in nature. From 
the dawn of civilization the human beings have been taking part in competitive 
activities. Everyone wishes to know his capabilities, his physical status. 
Studies on physical fitness have served this purpose. Studies on physical 
fitness have served this purpose. Individual knowledge of his physical abilities
also motivate him for improved abilities so that he can compete with others and finally win a competition. The studies of physical fitness also indirectly tend to achieve the educational task of developing a harmonious personality physically fit, mentally alert and emotionally sound.

Improvement in games and sports is also based on mass participation. Application of this study provides an opportunity for mass participation in physical activities. This procedure also help in spotting talented and potential sportsmen. These talented thus selected and given proper training can show better results.

The study shall serve as a motivating device. The students can easily assess their fitness level themselves and thus knowing their level. They will thus, try improving their performance capacity.

STATMENTS OF THE PROBLEM

Having keen interest in the research of physical fitness and to further the study of physical fitness the investigator has chosen the topic, “Construction of Physical Fitness Norms for the Boys of Bundelkhand Region”. The study shall not become a research document in the library but will serve as a ready reference to the teachers and researchers of physical education. Particularly, now when different agencies are coming forward to introduce physical education as a subject in schools and colleges.
AIMS AND OBJECTIVES

1. To estimate the fitness level of school boys of proposed state of Bundelkhand (age group 13+ to 16 years).

2. To establish norms for physical fitness of the said group.

3. To compare standard of physical fitness of urban and rural boys.

METHODOLOGY

For the purpose of this study, 100 boys of each district in each age group of 13+ to 14, 14+ to 15 and 15+ to 16 years of age (i.e., 50 students of rural and urban area from each age group) have been randomly selected and a test of physical fitness have been conducted on them. The investigator conducted the following popular tests:-

1. 50 metres run for speed.

2. Shot put for strength.

3. Standing Broad jump for explosive power.

4. Zig Zag Run for agility.

5. Step test for endurance.

DELIMITATION OF THE STUDY

1. The study has been limited to proposed State of Bunkelkhand.

2. The study has also been limited to boys section only.
SIGNIFICANCE

1. Norms of physical fitness have been prescribed and thus the study will serve as guide line to teacher of physical education and to further research project in this field.

2. The study shall help in spotting talented and potential athletes.

3. The study shall also be helpful in planning out a programme of physical education in schools on the basis of findings and conducting test as such.

HYPOTHEESIS

The investigator has following hypothesis for this study;

1. That there is some difference in the physical fitness and sports ability of rural and urban children.

PURPOSE OF THE STUDY

1. The study will determine the status of the students in physical fitness.

2. The study will also be helpful in measuring progress of the boys in physical fitness.

3. The study will serve as basis for setting personal fitness goal for the school boys.

4. The selected tests measures the health related component of Physical Fitness and can be administered with ease and consistency.
5. Physical Fitness measurement will help in evaluating present condition and shall assist in setting reasonable goal.

6. The tests shall serve as a highly effective-motivational device

SAMPLE:

3600 school boys (50 boys of the urban and 50 boys of the rural schools in each age group from each of the 20 districts proposed state of Bundelkhand were randomly selected as per details below:

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Age Group</th>
<th>Rural Sample</th>
<th>Urban Sample</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>13+ to 14 years</td>
<td>600</td>
<td>600</td>
<td>1200</td>
</tr>
<tr>
<td>2.</td>
<td>14+ to 15 years</td>
<td>600</td>
<td>600</td>
<td>1200</td>
</tr>
<tr>
<td>3.</td>
<td>15+ to 16 years</td>
<td>600</td>
<td>600</td>
<td>1200</td>
</tr>
</tbody>
</table>

The multi-staged randomization technique was applied to select the sample. The boys were studying classes from 7th to 11th. Performance of the boys was recorded on each of the following physical fitness items.

1. 50 Metres Run

2. Shot Put

3. Standard Broad Jump

4. Zig Zag Run

5. Sit Ups

6. Step Test
For testing the effect of environment (rural and urban) on the performance, the boys in each group were divided in three groups; rural, urban and mixed group. The performance of rural and urban boys in each group have also been compared.

**Statistical Design**

The data has been analysed by calculating the mean, standard deviation and t-ratio. The norms have been prepared in term of percentile rank for different events for each age group.

**Results and Discussion**

The results of the study have been presented in the following sections:

1. The difference between scores of the rural and urban students of different age group at different events of physical fitness.
2. Explanation of physical fitness through measures of central tendency.
3. Physical fitness norms for the boys of the age group 13+ to 14, 14+ to 15, 15+ to 16 years.

**FREQUENCY DISTRIBUTION**

Frequency distribution of all the events for different age groups have been presented in table-2 to 7. A careful review of these tables reveals that the distribution are more or less normal. The results have also been presented graphically in figure 1 to 6.
COMPARISON OF THE URBAN AND RURAL GROUP

13+ to 14 years:

The whole sample of each age group has been divided in three groups, i.e., urban group, rural group and the mixed group. Mean, S.D. and t-ratio of these groups have been presented in table 8 to 10.

In the first age group 13+ to 14 years there is no significant difference at .01 level in the event of 50 metres run, zig zag run, sit ups and step test. The urban boys have shown slightly better performance at shot put whereas rural boys have shown slightly better performance at standing broad jump, but the range of performance shows that 70% of the boys in both groups have almost shown similar pattern of performance, which means that there is no remarkable difference in the performance of urban and rural boys.

14+ to 15 years

The statistical analysis have shown that there is no significant difference at .01 level in the performance of urban and rural group in the events of 50 metres run, shot put, sit ups, and step test. Though some difference has been seen in the event of standing broad jump and zig zag run where rural group has shown better performance but the difference is not very significant as the range of performance is almost similar.

15+ to 16 years

It has been observed that there is no significant difference between rural and urban group at sit ups and the step test. However, significant
difference has been observed between two groups in the items of 50 metres run, shot put, standing broad jump and zig zag run where rural population has shown better performance. Though some difference is observed but the difference is not very significant.

The statistical analysis shown in figure 1 to 6 indicate that the performance of the boys in age group 15+ to 16 years are better than 13+ to 14 years and 14+ to 15 years whereas performance of the age group 14+ to 15 years is better than 13+ to 14 years of age.

**Norms for different events**

Norms in terms of percentile rank for three groups are presented in table 14, 15 and 16. $P_5$ and $P_{95}$ of each event in each age group are presented here for comparison.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Events</th>
<th>13+ to 14 Years</th>
<th>14+ to 15 Years</th>
<th>15+ to 16 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>of age</td>
<td>$P_5$</td>
<td>$P_{95}$</td>
<td>$P_5$</td>
</tr>
<tr>
<td>1.</td>
<td>50 Metres run</td>
<td>9.35 sec</td>
<td>7.50 sec</td>
<td>8.96 sec</td>
</tr>
<tr>
<td>2.</td>
<td>Shot Put</td>
<td>3.25 mts</td>
<td>8.15 mts</td>
<td>4.04 mts</td>
</tr>
<tr>
<td>3.</td>
<td>Standing Broad Jump</td>
<td>1.48 mts</td>
<td>2.15 mts</td>
<td>1.58 mts</td>
</tr>
<tr>
<td>4.</td>
<td>Zig Zag Run</td>
<td>30.58 sec</td>
<td>25.30 sec</td>
<td>28.90 sec</td>
</tr>
<tr>
<td>5.</td>
<td>Sit Ups</td>
<td>12</td>
<td>44</td>
<td>16</td>
</tr>
<tr>
<td>6.</td>
<td>Step Test</td>
<td>15.43</td>
<td>73.50</td>
<td>19.12</td>
</tr>
</tbody>
</table>
The above comparison indicates that the boys in upper age groups have shown better performance than the lower age group which indicate that performance has increased with growth.

The mean and S.D. comparison of these groups are given below for further comparison.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Events</th>
<th>13+ to 14 Years of age</th>
<th>14+ to 15 Years of age</th>
<th>15+ to 16 Years of age</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>mean</td>
<td>S.D</td>
<td>mean</td>
</tr>
<tr>
<td>1</td>
<td>50 Metres run</td>
<td>8.337</td>
<td>.589</td>
<td>8.079</td>
</tr>
<tr>
<td>2</td>
<td>Shot Put mts</td>
<td>5.114</td>
<td>1.027</td>
<td>5.804</td>
</tr>
<tr>
<td>3</td>
<td>Standing Broad jump mts</td>
<td>1.805</td>
<td>.196</td>
<td>1.909</td>
</tr>
<tr>
<td>4</td>
<td>Zig Zag Run sec</td>
<td>27.759</td>
<td>1.580</td>
<td>26.737</td>
</tr>
<tr>
<td>6</td>
<td>Step Test</td>
<td>43.423</td>
<td>16.488</td>
<td>46.972</td>
</tr>
</tbody>
</table>

The above comparison also indicate that with growth the mean value performance have also increased.