

CONSTRUCTION OF NORMATIVE SCALE FOR TESTING SELECTED HEALTH RELATED PHYSICAL FITNESS OF SCHOOL CHILDREN



Utpal Pal
M.Phil Scholar College of Physical Education Bharati Vidyapeeth University, Pune.

Short Profile

Utpal Pal is a M.Phil. Scholar at College of Physical Education Bharati Vidyapeeth University, Pune.

Co-Author Details :

Vinay Pawar
PhD Assist Professor, College of Physical Education Bharati Vidyapeeth University, Pune.



ABSTRACT:

The purpose of the study was to construct the normative scale for evaluating performance of school level boys on health related physical fitness. For this 300 were selected as subject with mean age of 15+/-1.25 year from different school of Pune city. The chosen health related physical fitness were muscular strength was measured by pull up assess in maximum number of pull up and muscular endurance was measured by sit up test evaluate in number of maximums sit up in one

minute respectively. All the collected data were analyzed as per the pre determined objective of construction of norm. T scale was constructed to provide qualities score to all the selected health related physical fitness performance.

KEYWORDS

physical fitness, normative scale.

INTRODUCTION:

State government and central government had made the physical education program mandatory in school. The purpose is to build a strong nation because children are considered as building block for any nation. (Report, Central Advisory Board of Physical Education and Recreation, 1958) Physically fit and healthy children play a significant role in developing the nation. In present situation this statement is proved to be wrong and surprising. In previous time period children are found to be more involved in physical activity then recent time period. Now days children are mostly pass their time at home rather than playing on the field. Even, studies conduct in recent times shows that most of the children population is suffering with various diseases which are origin due to non involvement of physical activities and increase due to comfortable life style (Russell R. Pate, 2006, Peter Gray (2013), Alice Park, 2012). Participation in sports leads to development of overall personality of children. Survey found that sports involvement can help to build self-esteem and confidence this can motivate children to excel academically and can help to develop social skills. Participation also can teach children the benefits of goal-setting and practice.

School contribution is very much questionable regarding development of physical fitness in current situation. In previous time school authorities had made the physical activities mandatory in their school syllabus. But now day's academic pressure is more from school side to achieve good mark in the examination which is one of the major hinder for children to not involving themselves in physical activities (Gretchen Reynolds (2013); Mercola (2009)).

Even for children, it is important to start a regular routine of participating in healthy exercise as early as possible which helps them to perform at their best in all the aspects of life. However, such activity is a means of improving more than just the body through building muscle strength and endurance. In fact, many studies are showed that children who are participating in physical activities are more physically fit and also performing better in the classroom (Stewart Trost, 2009, Jill U. Adams 2013).

METHODOLOGY

The present study was conducted on a 300 school level boy's student of Pune city. Since the purpose of this study was to develop norms of health related physical fitness for school level boy's students in grades Seven to Ten of Pune city. Researcher had selected 8 different schools from Pune city which were selected randomly to have true representation of the population. The health related physical fitness was muscular strength which was assessed with maximum number of pull up test and muscular endurance was measured with one minute sit up test. All the selected tests were considered as appropriate to evaluate the health related physical fitness of selected subjects of this study. The data were collected with due permission of respected school and obtained with the help of physical education teachers of respected schools. T scale was used as statistical tool for preparation of norm for all the selected health related physical fitness.

RESULTS

The data collected from 300 school boys on selected health related physical fitness that is muscular strength and muscular endurance were converted in scores with the help of T scale to provide certain score to the performance executed from the subjects and presented in table 1 & 2.

Table-1
T scores for the performance of muscular strength of school boy

Pull-up Performance	Frequency (f)	CF	Last CF + 1/2 (diff. of CF)	% of (4) scores	T-scores
17	3	300	298.5	99.5	76
15	6	297	294	98	71
13	13	291	284.5	94.83	66
11	18	278	269	89.66	63
9	23	260	248.5	82.83	59
7	37	237	218.5	72.83	55
5	54	200	173	57.66	51
3	62	146	115	38.3	46
1	84	84	42	14	39
300					

Table-1 shows that performance of 300 boys on the pull up test was converted into certain score with the help of T scale which were as follows.

The student performing 1 pull up has given 39 point, student performing 3 pull up has given 46 point, student executing 5 pull up has given 51 point. Student performed 7 pull up has obtained 55 point, student performing 9 pull up has given 59 point, 11 pull up performing has found 63 point, student done 13 pull up has given 66 point, student 15 pull up received 71 point, student done 17 pull up has given 76 point. The subjects performing 1 will receive 39 point which is lowest and subjects performing 17 maximum pull up will receive 76 point on pull up performance.

Table-2
T scores for the performance of muscular endurance of school boy

Bent Knee Sit-Up performance	f	CF	Last CF + 1/2 (diff. of CF)	% of (4) scores	T-scores
71	2	300	299	99.67	77
65	1	298	297.5	99.17	73
59	7	297	293.5	97.83	71
53	13	290	283.5	94.50	66
47	21	277	266.5	88.83	62
41	70	256	221	73.67	55
35	79	186	146.5	48.83	49
29	74	107	70	23.33	42
23	23	33	21.5	7.17	35
17	7	10	6.5	2.17	30
11	2	3	2	0.67	24
5	1	1	0.5	0.17	20
300					

Table-2 shows that performance of 300 boys on the bent knee sit up test was converted into certain score with the help of T scale which were as follows.

The student performing 5 sit up has given 20 point, student performing 11 sit up has given 24

point, student executing 17 sit up has given 30 point. Student performed 23 sit up has obtained 35 point, student performing 29 sit up has given 42 point, 35 sit up performing has found 49 point, student done 41 sit up has given 55 point, student 47 sit up received 62 point, student done 53 sit up has given 66 point. The student done 59 sit up has found 71 point, student performing 65 sit up has given 73 point and student performing 71 sit up has given 77 point.

OBSERVATION AND FINDINGS

In present scenario it is very significant to measure the performance of an individual to provide them a quantity rating so their performance is measurable (Dale Mood, 1971). Construction of normative scale study is vital step in this way where performance is converted into grade or some score. For school going children health related physical fitness is essential to bring them appropriate growth and development (Jaana H. Suni, 1996). This study was an endeavor from researcher side to provide a normative scale for health related physical fitness for school going boy of age seven to tenth grade (Joseph, James, 1990).

The selected health related fitness taken for this study was muscular strength and muscular endurance. The data were collected from 300 students from different school of Pune city. Researcher had distributed the performance of 300 boys on selected health related physical fitness on T scale and converted them into certain point which might be given to subjects if they performance these score.

REFERENCE

1. Adams, Jill, U., (2013) Physical activity may help kids do better in school; studies say article available on health and science retrieved from http://www.washingtonpost.com/national/health-science/physical-activity-may-help-kids-do-better-in-school-studies-say/2013/10/21/e7f86306-2b87-11e3-97a3-ff2758228523_story.html
2. Central Advisory Board of Physical Education and Recreation, (1958) Report on the Development Programme of Physical Education, Sports and Games, Scouting and Guiding, And National Discipline Scheme retrieved from <http://www.teindia.nic.in/mhrd/50yrsedu/g/12/24/12240C01.htm>.
3. Gray, Peter, (2013) Children today are cosseted and pressured in equal measure. Without the freedom to play they will never grow up article available on <http://aeon.co/magazine/culture/children-today-are-suffering-a-severe-deficit-of-play/>
4. H., Suni, Jaana et al, (1996) Health-related fitness test battery for adults", aspects of reliability archives of physical medicine and rehabilitation volume 77, issue 4, ,
5. James, Joseph, , (1990) "Survey of Physical Fitness of Kendriya Vidyalaya Boys in Kerala State." Retrieved on 14 Aug from http://shodhganga.inflibnet.ac.in/bitstream/10603/5529/11/12_chapter%202.pdf
6. Mercola (2009) Proven: Kids Get Smarter Just from exercising article available on <http://fitness.mercola.com/sites/fitness/archive/2012/01/20/physically-active-children-perform-better-academically.aspx>
7. Mood, Dale, (1971) Test of Physical Fitness Knowledge: Construction, Administration and Norms". Journal of Research Quarterly American Association for Health, Physical Education and Recreation, Volume 42, Issue 4.
8. Park, Alice, (2012) Lack of Exercise as Deadly as Smoking, Study Finds available on times retrieved from <http://healthland.time.com/2012/07/18/lack-of-exercise-as-deadly-as-smoking-study-finds/>

- 9.R. ,Pate, Russell , (2006). Promoting Physical Activity in Children and Youth article available at AHA Scientific Statement America Heart Association
- 10.Reynolds, Gretchen, (2013) How Physical Fitness May Promote School Success retrieved from well.blogs.nytimes.com/2013/09/18/how-physical-fitness-may-promote-school-success/?_r=0
- 11.Trost, Stewart, (2009) Active Education: Physical Education, Physical Activity and Academic Performance article available on active living research retrieved from <http://activelivingresearch.org/active-education-physical-education-physical-activity-and-academic-performance>.