



Construction of Physical Fitness Norms for College Students of Gujarat State

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Abstract:

The purpose of the study is to construct physical fitness norms for college students of Gujarat state. For this study different colleges of Gujarat state are selected and only male college students are selected. A total of 1000 students are selected, 250 from each group i.e. 18-19, 20-21, 22-23, and 24-25 years are selected. For the purpose of study different variables are selected.

Keywords: Construction of Physical Fitness, Physical Education, Age Group.

Introduction:

Physical education starts from very birth of a child. The very moments it's comes into being; it begins to cry and move its limbs. Thus is necessary for its very survival. The parents are its first physical instructors. It is they who instructs it how to work, run, jump or leap.

The need to be fit isn't a new phenomenon. In fact 2000 years ago, the ability to run fast, lift heavy things and punch hard was arguably much more important than it is today. For many civilizations it was matter of life and death. Some of the training was natural.

According to Williams, "Physical education is the sum of man's physical activities selected as to kind and conducted as to outcomes." According to a documents published by the National Plan Of Physical Education and Recreation, "Physical education is an education through physical activities for the total personality of the child to its fullness and perfection in body, mind and spirit." Physical education involves the process of acting in a particular way. The worth of physical education can be obvious from the examination of the objectives and their fulfillment.

As Swami Vivekananda said that prosperity of the nation depends on steel nerves, iron muscles and diamond mind citizens. Physical Education is the sum of those experiences which comes to individual through movements – said by Oberteutter.

Method:

For this study 250 students were selected from each group i.e. 18-19 years, 20-21 years, 22-23 years, and 24-25 years and only male students was selected for the study.

To construct the norms different variables were selected. After selecting the variables different tests were selected to measure the variables.

Table 1: Age group of Student

	Frequency	Valid Percent	Cumulative Percent
Valid 18 to 19	250	25.0	25.0
20 to 21	250	25.0	50.0
22 to 23	250	25.0	75.0
24 to 25	250	25.0	100.0
Total	1000	100.0	

Selection of Variables:

Following are the different variables with their test to measure their effectiveness.

Table 2 : Selected Physical Fitness Variables and Their Tests and Units of Measurement

Sr. No	Variables	Test to be used	Unit/ Author
1	Explosive leg strength	Standing Broad Jump	Centimeters
2	Arm strength	Pull-ups	Numbers
3	Abdominal strength	Sit-ups	Numbers
4	Speed	50 Meter Run	Seconds
5	Agility	10*4 Shuttle Run	Seconds
6	Cardio-respiratory endurance	600 Meter Run	Seconds
7	Flexibility	Sit and Reach Test	Inches

.Statistical Analysis:

- To characterize college students of Gujarat State by their selected Physical Fitness Variables, Descriptive Statistics will be used.
- To construct physical fitness norms for college students of Gujarat State, Percentile scale and Hull Scale will be used.
- To compare physical fitness variables among the students of four different age groups of college students of Gujarat State, Analysis Of Variance (ANOVA) will be used at .05 level of significance.

Standing Broad Jump:

Objective:

To measure the explosive power of legs.

Equipment:

A measuring steel tape.

Procedure:

One meter take-off line was marked on the edge of sandy pit. The subject stood behind the marked line with his feet slightly apart and parallel. He took a crouch position by bending his knees and swinging his arms backwards then took jump forward as far as he could at a stretch, with one maximum effort along with arm swing and landed in front.

Scoring:

The distance between the nearest hell mark and the standing line was recorded. Three trials were given and the best of the trials was recorded in centimeters.

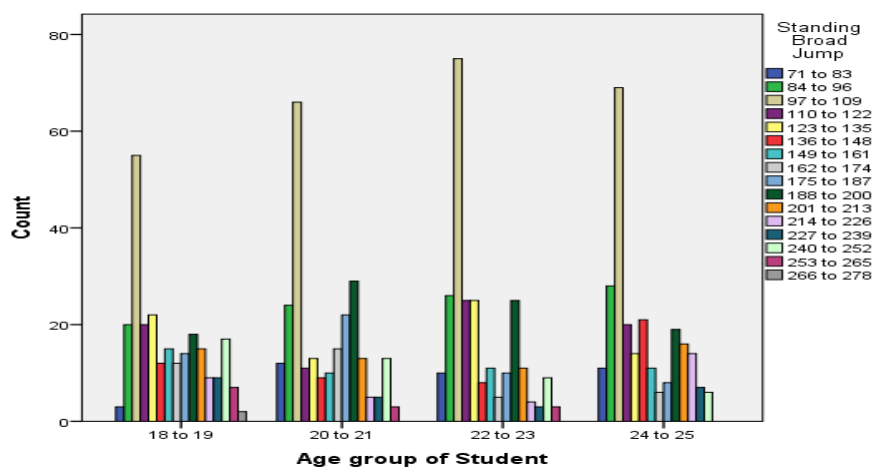
Following is the frequency of Standing Broad Jump. With the help of this test we can measure the Explosive Leg Strength. And its measurement is in centimeter.

Table 3 : Frequency of Standing Broad Jump

	Frequency	Valid Percent	Cumulative Percent
Valid	71 to 83	36	3.6
	84 to 96	98	13.4
	97 to 109	265	39.9
	110 to 122	76	47.5
	123 to 135	74	54.9
	136 to 148	50	59.9
	149 to 161	47	64.6
	162 to 174	38	68.4
	175 to 187	54	73.8
	188 to 200	91	82.9
	201 to 213	55	88.4
	214 to 226	32	91.6
	227 to 239	24	94.0
	240 to 252	45	98.5
	253 to 265	13	99.8
	266 to 278	2	100.0
	Total	1000	100.0

In the above table the highest number of student's performance is in the 97 to 109 frequency. And the lowest number of student's performance is in the 266 to 278 frequency. Same was described in the following chart.

Graph 1 : Bar Chart of Age Group of Students



Following is the comparison of four different age groups of students in Standing Broad Jump.

Table 4 : Age group of Student * Standing Broad Jump Cross tabulation

		Standing Broad Jump															Total	
		71 to 83	84 to 96	97 to 109	110 to 122	123 to 135	136 to 148	149 to 161	162 to 174	175 to 187	188 to 200	201 to 213	214 to 226	227 to 239	240 to 252	253 to 265		266 to 278
Age group of students	18 Count	3	20	55	20	22	12	15	12	14	18	15	9	9	17	7	2	250
	18 % of Total	0.3%	2.0%	5.5%	2.0%	2.2%	1.2%	1.5%	1.2%	1.4%	1.8%	1.5%	0.9%	0.9%	1.7%	0.7%	0.2%	25.0%
	20 Count	12	24	66	11	13	9	10	15	22	29	13	5	5	13	3	0	250
	20 % of Total	1.2%	2.4%	6.6%	1.1%	1.3%	0.9%	1.0%	1.5%	2.2%	2.9%	1.3%	0.5%	0.5%	1.3%	0.3%	0.0%	25.0%
	22 Count	10	26	75	25	25	8	11	5	10	25	11	4	3	9	3	0	250
22 % of Total	1.0%	2.6%	7.5%	2.5%	2.5%	0.8%	1.1%	0.5%	1.0%	2.5%	1.1%	0.4%	0.3%	0.9%	0.3%	0.0%	25.0%	
24 Count	11	28	69	20	14	21	11	6	8	19	16	14	7	6	0	0	250	
24 % of Total	1.1%	2.8%	6.9%	2.0%	1.4%	2.1%	1.1%	0.6%	0.8%	1.9%	1.6%	1.4%	0.7%	0.6%	0.0%	0.0%	25.0%	
Count		36	98	265	76	74	50	47	38	54	91	55	32	24	45	13	2	1000
% of Total		3.6%	9.8%	26.5%	7.6%	7.4%	5.0%	4.7%	3.8%	5.4%	9.1%	5.5%	3.2%	2.4%	4.5%	1.3%	0.2%	100.0%

Above table is the cross tabulation of Standing Broad Jump between the four age groups of students.

It can be seen that in the age group of 18 to 19 years the highest performance of the students is 55, which comes in the frequency 97 to 109, and lowest performance is 2, which comes in the frequency 268 to 278.

In the age group of 20 to 21 years the highest performance of the students is 66, which comes in the frequency 97 to 109, and lowest performance is 0, which comes in the frequency 266 to 278.

In the age group of 22 to 23 years the highest performance of the students is 75, which comes in the frequency 97 to 109, and lowest performance is 0, which comes in the frequency 266 to 278.

In the age group of 24 to 25 years the highest performance of the students is 69, which comes in the frequency 97 to 109, and lowest performance is 0, which comes in the frequency 266 to 278.

So, from the above table we can conclude that performance of the students is best in the frequency 97 to 109, which is 265, and the lowest performance is 2 which come in the frequency 266 to 278.

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