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## A comparative study on Aahper youth fitness test norms and standard score of 12 years boys and girls

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### Abstract

Physical fitness is the ability to carry out tasks without undue fatigue. The AAHPERD is an older test battery developed for the older adults. The youth fitness battery was not developed through test validation research. For that purpose Researcher wants to find out the difference on AAHPERD youth fitness test and standard score between 12 years girls & boys students. 103 boys & 111 girls were randomly selected from six classes for the session 2016-2017 of different school of 24 North Parganas & Nadia district. Thus the total numbers of subject were 214 & the age of the subject was 12 years. To measure the fitness level AAHPERD Youth Fitness Test was selected as criterion measure of the present study. The test was consisted are six test item such as Pull ups (boys) & Flexed arm hang (Girls) for measuring muscular strength and muscular endurance of arm & shoulders in number of count and sec, Bent knee sit-ups for measuring muscular strength & endurance in numbers per min., Shuttle run for measuring speed & agility in sec., Standing Broad jump for measuring explosive strength of legs in feet & inches, 50 Yard. Mean, S.D and t test was considered as statistical techniques. The level of significance was set at 0.05 levels. In the conclusion the standard score norms was more acceptable and reliable than norms score for all the components of AAHPERD Youth Physical Fitness for boys and girls of 12 years group.

**Keywords:** AAHPERD youth physical fitness test, norms

### Introduction

Physical fitness is a state of health and well-being and, more specifically, the ability to perform aspects of sports, occupations and daily activities. Fitness does not only refer to being physically fit, but also refers to a person's mental state as well. Learn about the components of physical fitness: cardio respiratory endurance, muscle strength, muscle endurance, flexibility and body composition. Norms for Fitness, Performance, and Health presents data for numerous fitness components, including strength, endurance, anaerobic and aerobic capacity and power, body composition, flexibility, speed, and agility, as well as data for various health norms such as cardiovascular capacity, blood lipids, bone density, energy expenditure, and caloric values. Professionals will be able to use the information to provide a basis of comparison to others in the same category as their clients. The data also highlight various athletic populations, including athletes, in football, basketball, and baseball, and features normative data that were collected from professional sport organizations. Coaches will use these norms to gain a greater understanding of maximizing their athlete's performance and develop optimal training programs.

The American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD) functional fitness assessment is an older test battery developed for the older adults, which is an easily applied, low-cost tool of low risk since the tests resemble activities of daily living. The original MAHPERD Youth Fitness Test Battery was published in 1958 and successively revised in 1975 and 1976. This was developed by a group of physical educators who selected these test based on logic. The youth fitness battery was not developed through test validation research. In 1975 major changes were made. The straight-leg sit-up was replaced by bent - leg sit-up from the Texas test (1973), and the soft ball throw was dropped. It was thought that the straight-leg sit-up and throw for distance cause muscular-skeletal injuries. In addition the longer distance run of Texas test (1973) was offered as option in 1976 a national normative survey was completed and national norms for the Youth Fitness Test were revised (AAHPERD, 1976).

**The six test items were**

1. Pull ups (boys) or Flexed Arm Hang (Girls) for measured Muscular strength (Dynamic) and Muscular Endurance of Arm and Shoulders.
2. Bent-knee sit ups for measured Muscular Strength and Endurance (Trunk).
3. Shuttle Run (10x4 yards) for measured Speed and agility.
4. Standing Broad Jump for measured Explosive strength of legs
5. 50 Yard Dash for measured Speed
6. 600 yard Run or walk for measured Cardio-vascular Endurance

Researcher fills difficulty to define the exact norms to identify the talent of the school students for the different purpose of the games and sports. With such background researcher was to construct a norms for physical fitness in relation to AAPHERD youth fitness test on school children. Possibly the result would be helpful to the teachers & coaches for screening and constructing training programs for the future school players.

**Purpose of the study**

The purpose of the present is following:

1. To measure the motor fitness of 12 years girls students.

2. To measure the motor fitness of 12 years Boys students.
3. To observe the difference on AAHPER youth fitness test and standard score between 12 years girls & boys students.

**Methodology**

103 boys & 111 girls were randomly selected from six classes for the session 2016-2017 of different school of 24 North Parganas & Nadia district. Thus the total numbers of subject were 214 & the age of the subject was 12 years. To measure the fitness level AAHPER Youth Fitness Test was selected as criterion measure of the present study. The test was consisted are six test item such as Pull ups (boys) & Flexed arm hang (Girls) for measuring muscular strength (Dynamic) and muscular endurance of arm & shoulders in number of count and sec, Bent knee sit-ups for measuring muscular strength & endurance (Trunk) in numbers per min., Shuttle run (4x10 yards) for measuring speed & agility in sec., Standing Broad jump for measuring explosive strength of legs in feet & inches., 50 Yard Dash for measuring speed in sec. 600 Yard run walk for measuring cardio-vascular endurance. Mean, S.D and t-test was considered as statistical techniques. The level of significance was set at 0.05 levels.

**Result and Discussion**

**Table 1:** Statistical presentation of the data of Boys group

| Variables           | Score          | Mean  | SD    | t-value            |
|---------------------|----------------|-------|-------|--------------------|
| Sit Up              | Raw Score      | 30.55 | 6.88  | 1.11 <sup>NS</sup> |
|                     | Norm Score     | 33.16 | 22.74 |                    |
|                     | Standard Score | 50    | 10    | 6.88*              |
|                     | Norm Score     | 33.16 | 22.74 |                    |
| Pulled Up           | Raw Score      | 6.98  | 4.31  | 47.83*             |
|                     | Norm Score     | 80.68 | 15.03 |                    |
|                     | Standard Score | 50    | 10    | 17.25*             |
|                     | Norm Score     | 80.68 | 15.03 |                    |
| Shuttle Run         | Raw Score      | 11.25 | 0.72  | 10.46*             |
|                     | Norm Score     | 35.78 | 23.78 |                    |
|                     | Standard Score | 50.04 | 10.06 | 5.60*              |
|                     | Norm Score     | 35.78 | 23.78 |                    |
| Standing Broad Jump | Raw Score      | 5.17  | 0.57  | 10.96*             |
|                     | Norm Score     | 33.54 | 23.26 |                    |
|                     | Standard Score | 49.96 | 10.04 | 5.92*              |
|                     | Norm Score     | 33.54 | 26.26 |                    |
| 50 Yards Dash       | Raw Score      | 8.80  | 1.03  | 8.08*              |
|                     | Norm Score     | 22.60 | 17.31 |                    |
|                     | Standard Score | 49.96 | 9.96  | 13.90              |
|                     | Norm Score     | 22.60 | 17.31 |                    |
| 600 Yards Run       | Raw Score      | 2.27  | 0.22  | 21.13*             |
|                     | Norm Score     | 45.34 | 20.69 |                    |
|                     | Standard Score | 50.09 | 9.80  | 2.10*              |
|                     | Norm Score     | 45.34 | 20.69 |                    |

<sup>NS</sup>= not significant & \* significant at 0.05 level.

It appears from the Table -1 that the mean value of sit up for boys group was 30.55 and SD value was 6.88. The mean value of norm score was 33.16 and SD was 22.74. The mean of standard score was found 50 and SD was 10. To observe between raw score & norms score t value was calculated and found to be 1.11 which was not significant at 0.05 level. To observed significant different t- value was computed and found 6.88 which were significant at 0.05 level. It was also observed the mean value of norm score was to less than 50

percentile score value which was not a character of a normal probability score.

The mean value of pull up for boys group was 6.98 and SD value was 4.31. The mean value of norm score was 80.65 and SD was 15.03. The mean score of standard was found 50 and SD was 10. To observe between raw score & norms score 't'- value was calculated and found to be 47.83 which was significant at 0.05 level. To observed significant different t- value was computed and found 17.24 which was

significant at 0.05 level. It was also observed the mean value of norm score was to less than 50 percentile score value which was not a character of a normal probability score.

The mean value of shuttle run for boys group was 11.25 and SD value was 0.72. The mean value of norm score was 35.78 and SD was 23.78. The mean score of standard was found 50.04 and SD was 10.06. To observe between raw score & norms score t- value was calculated and found to be 10.46 which was significant at 0.05 level. To observed significant different t- value was computed and found 5.60 which was significant at 0.05 level. It was also observed the mean value of norm score was to less than 50 percentile score value which was not a character of a normal probability score. It also appears from the Table -1 that the mean value of SBJ for boys group was 5.17 and SD value was 0.57. The mean value of norm score was 33.54 and SD was 26.26. The mean score of standard was found 49.96 and SD was 10.04. To observe between raw score & norms, score t- value was calculated and found to be 10.96 which was significant at 0.05 level. To observed significant different t value was computed and found 5.92 which was significant at 0.05 level. It was also observed the mean value of norm score was to less than 50 percentile score value

which was not a character of a normal probability score.

In case of 50 yards for boys group the mean value of raw score was 8.80 and SD value was 1.03. The mean value of norm score was 22.60 and SD was 17.31. The mean score of standard was found 49.96 and SD was 9.96. To observe between raw score & norms score t- value was calculated and found to be 8.08 which was significant at 0.05 level. To observed significant different t value was computed and found 13.90 which was significant at 0.05 level. It was also observed the mean value of norm score was to less than 50 percentile score value which was not a character of a normal probability score.

The mean value of 600 yards for boys group was 2.27 and SD value was 0.22. The mean value of norm score was 45.34 and SD was 20.69. The mean score of standard was found 50.09 and SD was 9.80. To observe between raw score & norms score t- value was calculated and found to be 21.13 which was significant at 0.05 level. To observed significant different t- value was computed and found 2.10 which was significant at 0.05 level. It was also observed the mean value of norm score was to less than 50 percentile score value which was not a character of a normal probability score.

**Table 2:** Statistical presentation of the data of Girls group

| Variables           | Score          | Mean  | SD    | t-value            |
|---------------------|----------------|-------|-------|--------------------|
| Sit Up              | Raw Score      | 20.26 | 5.55  | 0.35 <sup>NS</sup> |
|                     | Norm Score     | 19.69 | 16.30 |                    |
|                     | Standard Score | 50    | 10.09 | 16.62*             |
|                     | Norm Score     | 19.69 | 16.30 |                    |
| Flexed Arm Hang     | Raw Score      | 31.48 | 24.26 | 14.66*             |
|                     | Norm Score     | 76.62 | 21.31 |                    |
|                     | Standard Score | 50    | 10.05 | 11.86*             |
|                     | Norm Score     | 76.62 | 21.31 |                    |
| Shuttle Run         | Raw Score      | 12.12 | 1.02  | 8.36*              |
|                     | Norm Score     | 32.70 | 28.80 |                    |
|                     | Standard Score | 49.96 | 10.08 | 6.53*              |
|                     | Norm Score     | 32.70 | 25.80 |                    |
| Standing Broad Jump | Raw Score      | 4.82  | 0.41  | 16.46*             |
|                     | Norm Score     | 36.80 | 20.38 |                    |
|                     | Standard Score | 50    | 10.10 | 6.09*              |
|                     | Norm Score     | 36.80 | 20.38 |                    |
| 50 Yards Dash       | Raw Score      | 9.35  | 0.84  | 4.50*              |
|                     | Norm Score     | 16.76 | 17.25 |                    |
|                     | Standard Score | 50.03 | 10.08 | 17.48*             |
|                     | Norm Score     | 16.76 | 17.25 |                    |
| 600 Yards Run       | Raw Score      | 2.34  | 0.28  | 35.11*             |
|                     | Norm Score     | 67.88 | 19.57 |                    |
|                     | Standard Score | 49.88 | 10.18 | 8.56*              |
|                     | Norm Score     | 67.88 | 19.57 |                    |

<sup>NS</sup>= not significant & \* significant at 0.05 level.

It appears from the Table -1 that the mean value of sit up for girls group was 20.26 and SD value was 5.55. The mean value of norm score was 19.69 and SD was 16.30. The mean score of standard was found 50 and SD was 10.04 to observe between raw score & norms score t- value was calculated and found to be 0.35 which was not significant at 0.05 levels. To observe significant different t value was computed and found or which was significant at 0.05 levels. It was also observed the mean value of norm score was to less than 50 percentile score value which was not a character of a normal probability score.

The mean value of pull up for boys group was 6.98 and SD value was 4.31. The mean value of norm score was 80.65

and SD was 15.03. The mean score of standard was found 50 and SD was 10. To observe between raw score & norms Score 't'- value was calculated and found to be 47.83 which was significant at 0.05 level. To observe significant different t- value was computed and found 17.24 which was significant at 0.05 level. It was also observed the mean value of norm score was to less than 50 percentile score value which was not a character of a normal probability score.

The mean value of flexed arm hang for girls group was 37.48 and SD value was 24.26. The mean value of norm score was 76.62 and SD was 21.31. The mean score of standard was found 50 and SD was 10.05. To observes between raw score & norms score t-value was calculated

and found to be 14.66 which were significant at 0.05 levels. To observe significant different t-value was computed and found 11.86 which was significant at 0.05 level. It was also observed the mean value of norm score was to less than 50 percentile score value which was not a character of a normal probability score.

It also appears from the table -2 that the mean value of shuttle run for girls group was 12.12 and SD value was 1.02. The mean value of norm score was 32.70 and SD was 25.80. The mean score of standard was found 49.96 and SD was 10.08. To observe between raw score & norms score t- value was calculated and found to be 8.36 which was significant at 0.05 level. To observe significant different t- value was computed and found 6.53 which was significant at 0.05 level. It was also observed the mean value of norm score was to less than 50 percentile score value which was not a character of a normal probability score.

The mean value of SBJ for girls group was 4.82 and SD value was 0.41. The mean value of norm score was 36.80 and SD was 20.38. The mean score of standard was found 50 and SD was 10.10. To observe between raw score & norms score t- value was calculated and found to be 16.46 which was significant at 0.05 level. To observe significant different t value was computed and found 6.09 which was significant at 0.05 level. It was also observed the mean value of norm score was to less than 50 percentile score value which was not a character of a normal probability score.

The mean value of 50 yards for girls group of raw score was 9.35 and SD value was 0.84. The mean value of norm score was 16.76 and SD was 17.25. The mean score of standard was found 50.03 and SD was 10.08. To observe between raw score & norms score (-value was calculated and found to be 4.50 which was significant at 0.05 level. To observe significant different t- value was computed and found 17.48 which was significant at 0.05 level. It was also observed the mean value of norm score was to less than 50 percentile score value which was not a character of a normal probability score.

In case of 600 yards for girls group, the mean value was 2.34 and SD value was 0.28. The mean value of norm score was 67.88 and SD was 19.57. The mean score of standard was found 49.88 and SD was 10.18. To observe between raw score & norms score (- value was calculated and found to be 35.11 which was significant at 0.05 level. To observe significant different t-value was computed and found 8.56 which was significant at 0.05 level. It was also observed the mean value of norm score was to less than 50 percentile score value which was not a character of a normal probability score.

## Conclusion

On the basis of result and discussion of the present study the following conclusion were drawn:

1. The standard score norms was more acceptable and reliable than norms score for all the components of AAHPER Youth Physical Fitness for boys 12 years group.
2. The standard score norms was more acceptable and reliable than norms score for all the components of AAHPER Youth Physical Fitness for girls 12 years group.

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