

PERFORMANCE ABILITY OF BAYERO UNIVERSITY FEMALE PHYSICAL AND HEALTH EDUCATION STUDENTS

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ABSTRACT

The purpose of this study was to examine the performance ability of female students of physical and health education, Bayero University Kano. Thirty female students of the department with mean age of 19.2 ± 1.2 years were sampled, measured and tested. The variables measurement and tested included, height, weight, skinfold at specific sites, vertical jump, bench step test, speed, standing long jump and push-ups. The measurement and testing were done following standard procedures. Descriptive statistics of range, means and standard deviation were used in the analysis of the data collected. The study revealed that performance related attributes of the female students were not at variance with earlier studies. The study concluded that physical education programme seems not to be intensive enough to make them top or well-trained athletes. However, this does not mean that the programme is faulty since the objective is not to produce world class athletes but PE specialists. It further recommended that each physical education department should organize periodic fitness assessment programme to know the level of fitness of her students.

Keywords: Ability, Bayero university, female, performance.

1. INTRODUCTION

Remarkable performance in sports has always been associated with several abilities (Olukunle, 2007). The development of performance related abilities are linked with gender, age, nutrition, environment and regular endeavor's of the individuals. Physical fitness has often been misinterpreted. At times, it is identified with skills in sport, at other times it is associated with only one of many components of fitness. But with the recent evolution and concern for issues relevant to physical fitness, many authorities have logically resolved that it is the capacity of individuals to perform his normal daily tasks without undue fatigue and with enough strength and energy left over to satisfactorily meet an emergency situation that calls for practical exertion (Amusa & Igbanudo, 2005). Certain optimum level of physical fitness is required by everyone, irrespective of age, sex, or occupation. These requirements according to Sinning (2001) may be anatomical (structural), physiological (functional) or both. Anatomical required fitness may demand that a person is of certain height or weight or have specified dimension of various parts of the body. Physiological fitness may require a person to be able to perform specific tasks involving muscular effort.

It is expected that a student in the department of physical and health education should have advantage or superior performance and higher level of physical fitness when compared with his/her counterparts in other departments, since they engage in compulsory and organized practical lessons as part of their academic curriculum. Therefore, this study assessed the performance ability of female students of the department of physical and health education, Bayero University Kano, Nigeria.

2. METHODS AND MATERIALS

2.1 Subjects

The respondents for this study were thirty female students of the department of Physical and Health Education, Bayero University Kano who were in the first and second year of their studies. The respondents involved had earlier been certified physically fit to take part in physical fitness activities at the point of admission. Their mean age were 19.2 ± 1.2 years.

2.2 Procedure

The respondents were measured for anthropometric, physical fitness and motor abilities. Anthropometric measurements include stature and body weight. Physical fitness/motor performance were measured using the following performance tests: vertical jump, bench step test, flexed knee sit-up, push-up, standing long jump, shuttle run and 50m dash. The measurement was conducted using standardized procedures as described in the manual of measurement of physical fitness and motor performance by FME Youth and Sports (1992). Skinfold (SF) measurement was taken from four sites (biceps, triceps, suprailiac and subscapular) in the morning using large skinfold caliper.

3. RESULTS AND DISCUSSION

The results of this study are presented in tables 1 and 2. The range, mean and standard deviation for the anthropometric measurements are shown in table 1

Table 1: Range, mean and standard deviation of anthropometric measurement

| Variable | Mean | SD | Range |
|--------------|-------|-----|-------------|
| Age(yrs) | 19.2 | 1.2 | 18.0-24.0 |
| Height(cm) | 158.2 | 6.8 | 147.0-167.0 |
| Weight(kg) | 57.1 | 9.2 | 45.0-82.0 |
| LBW(kg) | 38.5 | 7.3 | 22.0-68.5 |
| Relative fat | 22.1 | 3.6 | 18.2-29.8 |

The result showed that the body weight of the respondents ranged from 45 to 82 kilograms with mean and standard deviation of 57.1 and 9.2 while the height ranged from 147 cm to 167 cm with 158.2 ± 6.8 as means and standard deviation. Olukunle (2007) reported the range of 45kg-75kg, mean of 58.15 ± 8.76 for the weight of Delta State University female physical and health education students while they reported a standard height ranging from 156cm to 172cm, a mean of 58.1 ± 8.7 . O' Neill (1998) also reported a mean weight of 57.2 ± 8.19 and height of 164.69 ± 6.28 among female soccer players in Benue State University. In the same vein, Lawal and Oloruntoba (1999) assessing University of Benin female Physical and Health Education students reported a weight of $59.0\text{kg} \pm 9.0\text{kg}$. It was found that mean body weight of this study 57.1kg is higher than

the required weight of 55.2kg for female athletes as stated by Agbonjimi and Amusa (1991) but slightly lower than 58.18kg reported by both Olukunle (2007) and Lawal and Oloruntoba (1999) of 59.0kg. Adeniran (1995) who reported weight of 69.8kg on Physical Education Students of Obafemi Awolowo University. However, the body weight of the respondents of this study are comparable to the results reported by Sinning (2001) for female basketball players, O'Neill (1998), 57.25kg on female soccer players.

The mean height is 158cm and is lower than 164cm reported by Agbonjimi and Amusa (1991) for female athletes, Sinning (2001) for female basketball players, Vicaro (1984) for top female swimmers, Adeniran (1995) for both physical and non-physical education female students (170cm and 167cm respectively). However, it was comparable with the mean of $156\text{cm} \pm 1$ reported on female students of Delta State University by Olukunle (2007).

The body weight and the standing height revealed much variation among these respondents. This finding is supported by Olukunle (2007) who observed variations of comparable magnitude in female physical education students. Olukunle (2007) suggested the interplay of genetic and environmental factors as possibly responsible for these findings. Agbonjimi and Amusa (1991) mentioned environmental factors such as nutrition and duration, frequency, type and intensity of exercise as factors of variations for height and weight.

Table 1 further showed the range, mean and standard deviation of lean body weight and percent body fat of the respondents i.e. 38.5 ± 7.3 with a range of 22.0-68.5 and relative mean and standard deviation of 22.1 and 3.6 with a range of 18.2-29.8. The values are lower than 45.84 ± 5.66 for LBW of Delta state university female physical and health education students but higher in percent fat than the same group i.e. (19.70 ± 2.24). The lean body weight of this study is also lower than O'Neill (1998) reported 45.84kg while the percent fat is higher i.e. 19.70 as reported by O'Neill (1998). For lean body weight, the value is lower than 42.46kg, mean value reported on female athletic group by Agbonjimi and Amusa (1991) and 46.1kg reported by Nwankwo and Salawu (1995) as recorded for sedentary females.

However, the percentage fat is comparable to Lawal and Oloruntoba (1999) reported value of 22.7% and 4.9% on University of Benin female Physical and Health Education students. The value is also within the range of 15.48% recommended for adult females (Nwankwo & Salawu, 1995) and 15% recommended for college female by Amusa and Igbunugo (2005) and Owolabi (1993) who recommended 20% fat for non-athletic college females.

The results therefore showed that the students in the department of Physical and Health Education carry percent fat that is desirable and within limit. The value is in order in the opinion of carter (2006) that a certain minimum level of body fat is necessary to sustain body's biological function. However, it is suggested that they increase their physical activities to achieve better LBW and lower percent fat if they are to be compared to their university colleagues of the same profession.

Table 2: Range, mean and standard deviation of physical fitness diagnostic & motor performance ability tests (n=35)

| Variable | Mean | SD | Range |
|------------------------|-------|------|------------|
| Vertical jump (cm) | 22.8 | 7.36 | 20.7- 24.8 |
| Bench step-up (NO) | 42.9 | 5.2 | 30.0-49.0 |
| 50m dash | 7.3 | 1.0 | 6.8-11.89 |
| Sit-ups (rpt) | 20.69 | 8.04 | 17-32 |
| Shuffle run (sec) | 16.5 | 1.1 | 15.0-19.6 |
| Standing long jump (m) | 1.7 | 0.6 | 1.5-2.0 |
| Push-up (no) | 19.8 | 6.2 | 8-39 |

Table 2 shows the range, mean and standard deviation of the physical fitness diagnostic test. The result of bench step-up test ranged from 30.0-49.0 repetitions with a mean score of 42.9 ± 5.2 repetitions. It can be favorably compared with the value reported by O'Neill (1998) of 43.14 ± 3.11 reported on female soccer players and 41.2 ± 8.6 reported on Benue State University Female Physical and Health Education students. The result of the vertical jumps ranges from 20.7 cm to 24.8 cm with a mean of 22.8 ± 7.36 . The result is comparatively lower than the result reported by Agbonjimi and Amusa (1991) for physical Education students at 39.76 ± 7.23 , Olukunle (2007) reported $33\text{cm} \pm 7.36\text{cm}$ on Delta State University Physical and Health Education female students and O'Neill (1998) reported value of 43.14 ± 13.11 for female soccer players in Benue State University. The variation could be attributed to differences in the number of years the selected respondents had spent on Physical Education programme. For example, Agbonjimi and Amusa (1991) did not state the level of the respondents in his study and O'Neill (1998) used club football players who are expected to perform better due to their fitness level. This study also did not consider the effect of rotational force on body weight as was done in Agbonjimi and Amusa (1991) study. This may imply that vertical jump performance should be corrected for body weight as a measure of leg explosive muscle strength.

The score for one-minute sit-up test ranged from 17 to 32 repetitions with a mean of 20.69 ± 8.04 . The result compared well to the result of 19.7 ± 8.79 reported by Walker and Stretch (1996) on female students at the University of Fort Harare. The scores obtained on this variable might have been greatly affected by the level of the local muscle fitness of the abdominal muscle.

The result of push-up test for 60 seconds showed a mean score of 19.8 with a standard deviation of 6.2 and with a range of 8-39. This result is higher than the result reported by Nwankwo and Salawu (1995) for physical education students of University of Ibadan i.e. 14.70 ± 1.95 and a mean score of 27.07 ± 3 reported by Olukunle (2007) on Delta State University female Physical and Health Education students. When this result was compared with the result of 18.3 ± 6.3 reported by Owolabi (1993), it was fairly comparable. The differences observed could be attributed to age of the respondents and differences in data collection.

The result of 50m dash indicated a range score of 6.8-11.89 seconds with a mean of 7.3 ± 1.0 . The result is better than 10.48 ± 1.4 seconds reported by Owolabi (1993) for female respondents, 7.71 ± 1.04 reported on female Physical Education College students by Olukunle (2007) of 10.04, but is comparable with value of 6.90 ± 0.43 reported on female soccer players by O'Neill (1998). The respondents of this study might have been more involved in sprint related activities, which have contributed to their better performance over respondents involved in other studies cited.

The result of shuttle run test for agility indicated a range of 15.0-19.6 seconds with a mean and standard deviation of 16.5 ± 1.1 . The result is lower and better than 18.14 ± 5.19 reported on college Physical Education students by Olukunle (2007) and highly comparable with O'Neill (1998) reported value of 16.7 ± 0.9 on female soccer players, and 16.8 ± 0.9 reported on female University of Benin students by Lawal and Olorunfoba (1999).

4. CONCLUSION

Generally, the results obtained from comparative analysis of various abilities with other studies on collegiate and University female Physical and Health Education students, showed that the students of this study were normal, healthy and active individuals, but were not well trained individuals. It followed that physical education programme seems not to be intensive enough to make them top or well-trained athletes. However, this does not mean that the programme is faulty since the objective is not to produce world class athletes but Physical Education Specialists.

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