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ANALYSIS OF PHYSICAL FITNESS OF FEMALE UNDERGRADUATE STUDENTS OF EDUCATION MANAGEMENT, UNIVERSITY OF PORT HARCOURT

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ABSTRACT

The primary focus of this paper is to present participation in sports and exercise as a prerequisite for enhancing the physiological and socio-psychological fitness of female students. In other to achieve this aim, this study examined and analyzed the physical fitness of two hundred and twenty three (223) female undergraduate students in the department of education management, University of Port Harcourt. Fait (1978) physical fitness testing battery was used to text the subjects physical fitness level. Data collected were subjected to descriptive statistics. The results showed a significant difference between older female students of 20-21 years old to that of younger female students of 18-19 years old. Conclusion was drawn that people can become involved in purposeful physical activity every early in life and can continue to pursue these interests throughout their lives. Based on this, it was recommended that participation in all forms of sports and exercise should be regular. Students should be exposed to the benefits of physical fitness exercises.

Key words: Physical fitness, exercise, physiology, emotional health, Test battery.

INTRODUCTION

The struggle for individual to live a healthy and keep fit has been matter of great concern throughout the world. Man has to be fit and healthy to survive in his environment and enjoy his existence. Man has always battled with the diverse nature of his environment-poor weather conditions, shortage of food, flood, earthquake, volcano, and tsunami among others in order to survive.

Fitness means different things to different individuals. To many individuals fitness may be regarded as having the power to carryout daily activities, to the absence from disease. Even among the educated physical educators, there is no concensus means and definition of what fitness is all about. Physical fitness has been used to connote a variety of conditions ranging from the absence of diseases, illness to the condition exhibited by a truck pusher. According to Clarke (1976) physical fitness is the ability to carry out tasks with vigour without undue fatigue and with ample energy to enjoy leisure time pursuits and to meet emergencies.

Siedentop (2001), Bucher and Krotee (2002), and Parkhouse (2005), they respectively talked of fitness as the ability of a person to live full and balanced existence, and of physical fitness as soundness of such body organs as the heart and lungs, a human mechanism that performs efficiently under exercise or work conditions. While Nixon and Jewett (1980) referred physical fitness as the organic capacity of the individual to perform normal tasks of daily living without undue tiredness or fatigue having a reserved of strength and energy available to meet satisfactory efficiency and emergency demand that required suddenly arising.

The Role of Physical Activity to Health

It is on medical records today, that cardiovascular diseases have posed the largest and most serious health problems in modern life. That is why physical fitness and physical activity have become so important as individual understanding of the prevention and remediation of these disease increase.

The relationship between physical activity and health has been known for some time among medical personnel and physical educators. But the general public is now in the midst of a further evolution of our understanding of that relationship. For all of the twentieth and future centuries, physical education promoted and will promote physical fitness as a primary goal. Scientists, physicians, and health professionals in Nigeria came to adopt that view also, particularly as it relates to *hypokinetic* diseases, those ailments and problems that are not caught, as are infections disease, but instead develop through inappropriate diet, lack of exercise, and a generally sedentary lifestyle. Corbin and Lindsey (1983) referred to these as "hypokinetic diseases", meaning those caused by or related to a lack of appropriate physical activity illness that are typical of the hypokinetic or degenerative group are coronary artery disease, high blood pressure, lower-back pain, obesity, diabetes and osteoporosis. The above was supported by the words of Corbin (1987)

> *"There is now little doubt that regular physical activity of the appropriate frequency, intensity, and duration produces significant health benefits. Most important is the achievement of those specific fitness components which help reduce the risk of hypokinetic conditions including heart disease, back pain, diabetes, osteoporosis, and obesity.*

As the preceding quote indicates, physical educators and other members of society must now ask what kinds of physical activity, at what frequency, for what duration, and at what intensity will be needed to enhance health.

It has been proved experimentally by studies that many ailments are as a result of lack of physical activity. For instance, Krus and Robb (1961) reported that 80% of lower back pain was due to lack of adequate physical activity. That physical activity encourages better adaptability to stress, less neuromuscular tension, and lesser fatigability, no relative overweight, stronger, with more flexibility, have greater breathing capacity and standard pulse rate.

Components of Physical Fitness

The different opinions regarding what physical fitness was have influenced the component. Some scholars listed it as; strength, power, agility, flexibility and cardiovascular endurance. Others add coordination, speed and accuracy.

Fait (1978) opined that, physical fitness level is determined by the development of each of several different components. According to him, the main components were identified as; coordination, balance muscular strength, flexibility, cardio-respiratory and muscular endurance. Fait (1978) further explained that because some of these components are more closely related to physiological capacity and others to neurological aspects (skill mastery), physical educators have found it desirable to classify them separately into physical fitness and motor fitness components. Readers Digest (2007) listed the following ten factors as the components of physical fitness;; Resistance to disease, muscular strength and muscular endurance, cardiovascular-respiratory endurance, muscular-power, flexibility, speed, agility, coordination, balance and accuracy. This listed ten factors above by Readers Digest (2007) corroborated with Larson and Vocom (1958) surveyed physiological research.

It is observed by researchers of physical fitness component that their differences in definitions which are obvious, but numerous points of agreement are equally apparent. Practically, everyone agrees of them that physical fitness is more than freedom from disease.

Ross and Pate (1987) presented a number of case studies of boys and girls at Nathaniel Hawthrown Junior High School, Yonkers, N.Y. studies of "bright kids" and low physical fitness Index (PFI) of pupils were conducted. In many instances, improvement in physical fitness were accompanied by improved scholastic success with age.

Physical educators should not claim that physical fitness is their responsibility alone. The attainment by a student of an optimal level of physical fitness is not only a question of sufficient vigorous exercise. Fitness depends on many other factors as well, such as freedom from disease, well-balanced nutrition, correction of remedial defects, state of positive mental and emotional health, and other elements that are the concern of the family, school physician, the school nurse, counselor, administrators, teachers as well as parents. The human being who is physically fit is strong and enduring and thus able to function as a productive member of the society. (Anspaugh, Dignan & Anspaugh 200; Cureton 1994; Corbin 1981).

Physical Fitness Test Batteries

There are a lot of traits of physical fitness that are not related. The differences of scholarly opinions regarding physical fitness were bound to influence the nature of tests tool used to measure the concept. Some tests measure one or two components of fitness, while others are more inclusive. Researchers may select test batteries from AAPHER 1956, Clarke 1976, Fait 1978 among others.

According to Fait (1978), the Youth Fitness Test Manual by American Alliance for Health, Physical Education and Recreation (AAHPERD) (1962), composed of the following test items; 50 metres Dash-for speed; 10 metres shuttle race-for Agility; 100 metres shuttle Race-for cardio-respiratory endurance; 200 metres-for cardio-Respiratory endurance; standing Broad Jump-for Muscular power; sit-up for muscular Endurance; Touch fingers to floor without flexing the knee-for Dynamic flexibility; Bass stick length-wise, for Balance; Rope skipping for co-ordination.

STATEMENT OF THE PROBLEM

The author is a volleyball lecturer (EDU 103.2) to first year undergraduate students of department of Education Management of University of Port Harcourt. He has taught this course for about six years now. Each year he is faced with students complaining how they do not want any physical activity courses. They do not need jumping, running, playing of any game.

This study sets out to test and analyze their physical fitness level. Having review some importance of physical fitness to man, three major physical fitness components according to Fait (1978) was applied to measure 223 students (girls) as to answer the following two obvious question stated thus:

(a) Are the 223 undergraduate students (girls) physically fit?

(b) Is age a factor in the physical fitness of these 223 undergraduate female students?

This study attempts to answer the above two questions.

METHODOLOGY

Two hundred and twenty three first year undergraduate female students from the Department of Education Management, University of Port Harcourt, (age between 18-21 years) were used for this study. All the students were in the second semester and offering this compulsory physical education course (Physical Activity course – EDU 103.2 Volley ball) during the measurement period. The measurements took place during physical activity class on the volley ball court.

Hypothesis

The main hypothesis of this study was older female first year undergraduate students of Education management will not be physically fit than the younger ones.

Measurement Techniques

The age, height and weight, sex, were determined. Fait (1978) Physical Fitness Test Battery, (base on nine components of physical fitness) was used for this measurement. General descriptive statistics was used to analyze the results.

Subjects (females) by age		
Age in years	**Group**	**No of subjects**
18	younger ones	40
19		52
20	older ones	72
21		59
Total		**223**

RESULTS AND DISCUSSIONS

Table 1. Table of means, standard Deviations and sums of ages 18-19 and 20-21

S. N0	Tests items	$\overline{X}$	SD	$\sum x$	$\overline{X}$	SD	$\sum x$
1	50 metres dash	14.659	2.09	1334	12.077	3.24	1099
2	10 metres shuttle race	14.813	2.13	1348	12.769	1.13	1162
3	100 metres race	43.33	16.36	5759	66.95	28.81	6093
4	Standing broad jump	1.16	0.33	155.13	1.5	0.19	137.02
5	Sit-up	10.04	5.10	336	20.47	9.04	1863
6	Hockey ball throw	15.47	6.49	2058.3	24.25	6.73	2206.89
7	Touching fingers on floor	17.67	4.89	2351	18.53	6.43	1687
8	Bass stick	3.54	2.84	471	8.59	10.94	782
9	Rope skipping	6.63	2.99	882	8.36	2.6	761

The table above shows means, standard deviations, and sums of the test items by the two groups age 18-19 and 20-21 years

Table 2. "t" test result of the two groups with 8 items.

S/N	Items	"t" value	P	df
1	50 metres dash	6.373	<.001	180
2	10 metres shuttle race	8.050	<.001	180
3	Standing broad jump	9.135	<.001	180
4	Sit-up	10.502	<.001	180
5	Hockey ball throw	9.607	<.001	180
6	Bass stick	1.685	<.005	180
7	Rope skipping	4.388	<.001	180
8	Touching finger on floor with flexing bones	2.604	<.001	180

This table 2 above showed the results of the "t" test of eight variables tested. The results of 100 meters and 200 meters were not included because the University team was on the training section, hence the facility was occupied.

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Table 3. "T" scale of the two groups (50 meters Dash)

S/N	Aged 18-19 years Test score		Standard Score	Aged 20-21Test Score	
1	8.3	seconds	100%	2.3	seconds
2	9.9	"	95	3.3	"
3	9.6	"	90	4.2	"
4	10.3	"	85	5.2	"
5	10.9	"	80	6.2	"
6	11.5	"	75	7.1	"
7	12.1	"	70	8.1	"
8	12.9	"	65	9.1	"
9	13.4	"	60	10.0	"
10	14.0	"	55	11.1	"
11	14.7	"	50	12.1	"
12	15.3	"	45	13.1	"
13	15.9	"	40	14.0	"
14	16.6	"	35	15.0	"
15	17.2	"	30	15.1	"
16	17.8	"	25	16.9	"
17	18.4	"	20	17.9	"
18	19.1	"	15	18.9	"
19	19.7	"	10	19.9	"
20	20.3	"	5	20.8	"
21	21.9	"	0	21.8	"

The above table 3, showed "T" scale of the two group of female, tested on 50 meters dash for speed.

DISCUSSION

The findings showed that older females undergraduate students of Department of Education Management of University of Port Harcourt, 2009/2010 academic session are more physically fit than the younger females of the same year and Department.

The tables showed that there was a significant difference in the mean between the two groups. The older females (20-21 years old) as shown on table 2 of "t" test results on variables 1, 2, 3, 4, 5, 7 and 8 at .001 and on variable 6 at .05 in favour of older females of the department.

Table 1, presented the mean scores under each variable for the two groups which reveals that, older subjects are superior to the younger ones on physical fitness. A glance through other items on this table shows better performances by the older group although in some cases, the differences are not much, like in standing broad jump.

Table 3, showed performances of individuals in percentile. However, the high degree of flexibility in female may be associated with their physiological structure. This study agrees with the observation of Fait (1978), who pointed that physical fitness level is determined by the individual development and with the support of age. The results also showed serious encouragement by the female students to show that they are physically fit. According to Ross and Pate (1987) in their study report stated, in many instances, improvements in physical fitness were accompanied by improved scholastic success and age. More complex skills are acquired and applied as one grows and develops. This study showed that most of the female students used for this study are physically fit, this result corroborated with the studies of Clarke (1976), Siedentop (2001), Bucher and Krotee (2002), Parkhouse (2005) among other scholars.

CONCLUSION AND RECOMMENDATIONS

It is now clear that lifespan involvement in sport, fitness, and physical education is possible and desirable. People can become involved in purposeful physical activity very early in life and can continue to pursue these interests throughout their lives. The 223 female students used for this study are similar as far as body weight, height, lean body. This could be due to similarities of body movements during this course.

However, the two categories are different in their level of performances during the test. The older females showed a great sense of maturity and superior in their task performances than the younger ones. This is an indication that physical fitness in youth improves according to age. This study has shown that everybody need some degree of physical activities as to be physically fit, that physical fitness enables individual to overcome some hypo kinetic diseases.

Based on the results of the finding, the following were recommended:

- University students should undergo periodical physical fitness test.
- A separate study on boys should be conducted to determine their level of physical fitness.
- Lecture free period of every Wednesday 3pm meant for sports should be observed through adequate enforcement
- Students should be exposed to the benefits of physical fitness exercise
- Participation in all forms of sports and exercise on regular basis (30 minutes for about four times weekly) is recommended for health existence.

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APPENDIX

17th National Sport Festival, 2011,

University of Port Harcourt,
Game Village.

SPORT HEALTH QUESTIONNAIRE

Dear Respondent,

We care about your health condition as you partake in the 17th national sport festival taking place in Rivers State.

Your maximum cooperation, honesty and objectivity in completing this questionnaire are solicited.

All information given shall be strictly confidential and used for research purpose only. Your name is not needed.

Thank you for your anticipated cooperation.

Yours faithfully,
Dr. Orunaboka, T &
Jonathan B.N.

SECTION A: (DEMOGRAPHIC DATA)

INSTRUCTION: Please complete the following as they apply to you by ticking (√) and writing in the appropriate box below.

1. Gender: Male ( ) Female ( )
2. Age: _____
3. Marital Status: Married ( ), Divorced ( ), widowed ( )
4. Educational Status: FSLC ( ) SSCE, WASC/NECO ( ) OND ( ) HND ( ) First Degree ( ) Post Graduate ( ) PhD ( )
5. What is your sport? _____
6. What is your height? _____
7. What is your weight? _____
8. How long have you been involved in sports? _____
9. What is your state of origin? _____
10. Where do you live? _____

SECTION B: HISTORY OF INJURY/INJURIES

11. What type of injury did you have previously? _____
12. What type of treatment did you receive at that time?

Traditional ( ) Medical ( )

13. What type of injury do you have now? _____

14. What type of treatment have you received/receiving?

Traditional ( ) Medical ( )

SPONSORSHIP OF TREATMENT

15. Did you get assistance during this period? Yes ( ) No ( )

16. Who sponsored your treatment? Self ( ) company ( )

Government ( ) others ( )

17. Where were you treated? Hospital ( ) Game village clinic ( )

On the spot ( )

18. How long did the injury last? Days ( ) weeks ( ) months ( ) years ( )

REHABILITATION PROGRAMME FOR THE INJURED/DISABLED

19. Did you stop training because of your injury? Yes ( ) No ( )

20. Did you get rehabilitated for the injury? Yes ( ) No ( )

21. Did you take part in this competition despite your injury?

Yes ( ) No ( )

22. Do you have any disabilities due to your injury? Yes ( ) No ( )

INSURANCE MEASURES

23. Have you discussed any insurance in your sports? Yes ( ) No ( )

24. Were you given any form for insurance? Yes ( ) No ( )

25. Are you paid any insurance allowance during any injury?

Yes ( ) No ( )

26. Are you insured for this completion? Yes ( ) No ( )

SAFETY EDUCATION/TRAINING

27. Did you receive any safety training for your sports? Yes ( ) No ( )

28. Do you know the health risk/hazard of your sport? Yes ( ) No ( )

29. Do you have safety measures in your sport? Yes ( ) No ( )

30. To what extent is the safety measure in place?

Not adequate ( ) adequate ( ) very adequate ( )