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SPORTS AND DANCE (NAPHER-SD)**

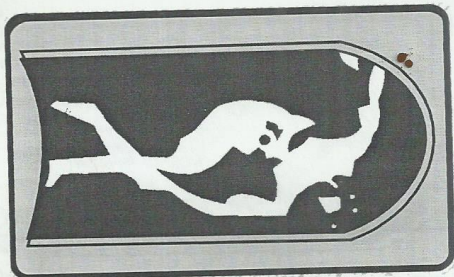


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(NAPHER-SD)

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PHYSICAL FITNESS LEVEL OF UNDERGRADUATE'S OF FACULTY OF
EDUCATION IN UNIVERSITY OF ILORIN

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Abstract

This study was undertaken to examine the physical fitness level of undergraduates of Faculty of Education, University of Ilorin within the age range of 20 – 29 years. The population for the study comprised the entire students of Human Kinetics Education and Health Promotion and Environmental Health Education Department, University of Ilorin. Purposive sampling technique was used to select a sample of one hundred and twenty students (120) in the Departments of Human Kinetics Education and Health Promotion and Environmental Health Education, University of Ilorin. An ex-post facto research design was used and because these categories of students were subjected to various fitness performances. The instrument was already validated because it has met the standard norms. The students in Human Kinetics Education and Health Promotion and Environmental Health Education were exposed to 12 min run/walk test, push-up, sit-up trunk, flexibility and waist circumference respectively. Descriptive statistics of means, standard deviation with inferential statistical test were used to determine the significant difference of the groups. The findings of the study shows that there is no significant difference in the influence of exercise on the health status of students of Human Kinetics Education and Health Promotion and Environmental Health Education students in: cardio-respiratory endurance (12 minutes run/walk test), Muscular strength (push up test) and flexibility level. While there was significant difference in the influence of exercise on health status of Human Kinetics Education and Health Promotion and Environmental Health Education students in: Muscular endurance (sit up test) and body composition. This implies that, hypotheses 1, 2 & 4 were not rejected while hypotheses 3 & 5 were rejected. It was recommended in the study that, both young and old, students should regularly partake in exercise on a daily basis as this would improve their health and longevity of life.

Introduction

To enjoy a long and healthy life, everyone should make lifestyle choices that include a healthy diet, regular exercise and maintaining normal weight. The combination of inactivity and eating the wrong food is the second most common preventable cause of death in the United States (The President's Council on Physical Fitness and Sports, 2008). According to the president's council on physical fitness sports (2008) they find it was further stated that even people at higher risk for disease may gain important protection from exercising.

In another vein, Haruna (2008); Blair and Church, (2004) observed that exercise, as a least expensive medicine is commonly recommended in the treatment of obesity. Obese individuals with least moderate cardio-respiratory fitness have fewer rates of cardiovascular disease and exercise is effective in the management of diabetes as it has been shown to improve glucose homeostasis. Burnton, (2004) is of the opinion that regular exercise is an effective secondary prevention strategy for the maintenance of bone health. Fox, (1999) is of the view that exercise can be effective in improving mental well-being in students largely through the improved mood and physical self perception.

The concept of regular physical exercise programme has significant and reliable benefit for the health of every individual student. Venkateswarlu, (2011) is also of the opinion that sedentary nature of students is still leading to the members of health related problems like high level of cholesterol, diabetes, hypertension and a host of others. According to Stacher and Bradford, (2003), students must stay healthy to succeed in school. This must start with a healthy diet and regular physical activity. A study performed by Sallis, McKenzie, Kolody, et al, Marshall and Kosenzgard (1999) stated that students who exercise regularly are able to learn faster than their inactive counterparts.

Physical activity increases blood flow to the brain at greater rates, improves neural activity, and causes an increase in certain neurotransmitters associated with memory storage and retrieval. Exercise prepares the brain for optimal learning and development, blood traveling to our body and the brain at greater rates feeds the brain with needed nutrient of oxygen and glucose. Physical activities give the brain the body its nutrient.

Field, Miguel and Sanders, (2005) opined that when we exercise, the brain is put into homeostatic state balancing brain chemicals, hormones and system functions. When the brain is out of balance because of poor nutrition and the lack

of exercise, the student is not in good learning state. Exercise changes the learning state into one appropriate for retention, retrieval of memory and a general state of good health status.

Babalola, (1999); Bakinde (2003) were of the opinion that the result of exercise is an overall development in health. It is an increased ability of the body to resist fatigue and to carry on sustained efforts. Exercise does more than develop physical power, they promote physical alertness, rapid thinking, quick decision, sportsmanship and social adjustment.

American College of Sport Medicine, (2000), Bakinde, Olaitan, Ajayi-Vincent, Ibrahim (2013); Emiola (2015) defines exercise as a subset of physical activity planned, structured, repetitive movement of the body designed specifically to improve or maintain physical fitness.

Okorie, (2011) also submitted that exercise is crucial to the growth and strengthening of bones and muscles. The effort of exercise on health risk factors may not be significant if the individual lives a sedentary lifestyle for a few days or week. However, physical activity over a long period of time, for example (20 years) may result into significant health risk.

Fitness is referred to the state which characterized the degree to which a person is able to live most effectively with the potential ability to function depends upon the physical, mental, emotional, social and spiritual components of fitness all of which are related to each other and are naturally interdependent (Amusa & Udoh, 2001; Bakinde, 2003; Olaitan, Bakinde, Ajayi-Vincent & Adeshina, 2012; Emiola, 2008; Emiola, 2015).

Physical fitness comprises two related concepts; general fitness (a state of health and well-being) and specific fitness (a task-oriented definition based on the ability to perform specific aspect of sports or skills). It is therefore, important to note here that the healthy active student is less likely to be ill or injured and deals with stress and work easily. Exercise enriches the lives of participants in various ways, such as physical developments, physical fitness, cognitive, emotional and mental development, (Burton, 2007).

Sports has the capacity to transform lives of individuals, it bolsters physical, psychological, emotional and social well-being and development. At the same time, sports play a significant role in culture and communities around the world. These factors alone justify investment on sports programming but there is also a growing understanding that sports programs merit support because they are

erful vehicles for achieving broader goals and development, (United States Agency for International Development, 2004). According to Olajide, (2015), Pakinde (2014) sports is an institutionalized physical activity operates with a fixed externally. He described sports as activities with clear standard of competition, with goal of achieving some reward. Casprsen, (2009) define physical activity as any body movement produced by skeletal muscles that results in energy expenditure above resting level. This includes activities like walking, jogging, gardening and dancing. Physical activities are essential for improving health and well-being, to the achievement of the millennium developmental goals United Nations Millennium Development Goals, 2003) consequently, physical activity is an effective method of disease prevention of the individual and nations, a cost effective way towards development (Haigh, 2003).

European Heart Network, (1999) it is accepted that regular physical activities can contribute to the reduction of the following incidence:

- i) Obesity
- ii) Heart Disease
- iii) Stroke
- iv) Cardiovascular Disease
- v) Osteoporosis

Statement of the Problem

Physical exercise can have influence on health status of human beings is disputable. This is perhaps the reason why many researchers have been conducted on exercise. According to Echero (2003) exercise is of great important it contributes positively to the health status of immigration officers and civil n. This was discovered in research work conducted in 2003 on the contribution physical activities to the health status and to the development of the Nigeria Immigration Officers and Civil men.

Furthermore, Kolapo, (2012) carried out research on contributions of sport the development of students in University of Ilorin. In this study, it was discovered that, there is positive relationship between participation in sport to the physiological, psychological, emotional, academic and social development of students. Nevertheless, Abati, (2012) carried out findings on comparative study of a physical fitness level of Human Kinetics and Health Education students, University of Ilorin. This study revealed that Human Kinetics students are fitter

than Health Education students in cardio-respiratory test, flexibility, waist and hip ratio and muscular endurance.

None of these research works, to the best of this researcher's knowledge specifically studied the influence of exercise on health status of Human Kinetics Education and Health Promotion and Environmental Health Education students of University of Ilorin as respondents for the study.

Meanwhile, exercise is believed to have influence on health status of man, hence there is need to identify such influence. This has thus, created a researchable gap, part of which this study intends filling up by finding out the influence of exercise on health status of Human Kinetics Education and Health Promotion and Environmental Health Education students of University of Ilorin. However, most of these students have little knowledge on how exercise can influence their health status. This has in one way or the other influence their attitude towards physical exercise.

Therefore, addressing this lack of knowledge of influence of exercise on health status, not willing to participate in exercise and feeling of reluctance among the students of Human Kinetics Education and Health Promotion and Environmental Health Education students constitutes problem for this study.

Research Questions

The following research questions were raised and answered in the study.

- What is the cardio-respiratory endurance (12minutes run/walk test) exercise of Human Kinetics Education and Health Promotion and Environmental Health Education students?
1. What is the muscular strength (push-up test) exercise of Human Kinetics Education and Health Promotion and Environmental Health Education students?
2. What is the flexibility (stand and reach) exercise of Human Kinetics Education and Health Promotion and Environmental health Education students.
3. What is the muscular endurance (sit-up test) exercise of Human Kinetics Education and Health Promotion and Environmental Health Education students.
4. What is the body composition (body fat between waist and hip test) exercise of Human Kinetics Education and Health Promotion and Environmental Health Education students?

Hypotheses

The following hypotheses are formulated as guidelines for this study.

There will be no significant difference in the cardio-respiratory endurance of Human Kinetics Education and Health Promotion and Environmental Education students of Unilorin.

There will be no significant difference in the muscular strength level of Kinetics Education and Health Promotion and Environmental Health Promotion students of Unilorin.

There will be no significant difference in the flexibility level of Human Kinetics Education and Health Promotion and Environmental Health Promotion students of Unilorin.

There will be no significant difference in the body composition level of Kinetics Education and Health Promotion and Environmental Health Promotion students of Unilorin.

There will be no significant difference in the cardio-respiratory endurance level of Kinetics Education and Health Promotion and Environmental Health Promotion students of Unilorin.

Methodology

This research work is an ex-post facto research design. The population for this study is the entire students of Faculty of Education, University of Ilorin while the sample size is 940. Simple random sampling technique was used to draw a total number of One Hundred and Twenty (120) respondents.

To accomplish this study, a variety of equipment that is standardised, and tested was used in conducting the test, they are;

Measuring tape, Stop watch, Mats, Flexibility meter, Whistle, Four hundred meter track.

The instrument for this study are measuring tape, stopwatch, mats, meter, whistle and four hundred meter track have been approved by the Human Kinetics Education and Health Promotion and Environmental Health Promotion and consistently used in sporting activities. They are therefore considered valid enough to carry out the study.

The reliability of the instrument used in the course of this study was established by using specific measuring tools for the test.

The instrument include 12minutes run/walk for cardio-respiratory endurance, push-up for muscular strength, sit-up for muscular endurance, stand and reach test for flexibility and measuring tape for the waist and hip circumference to be able to obtain the waist hip ratio.

Test location was in the fitness centre of University of Ilorin and the University main-bowl, University of Ilorin.

Procedure for Data Collection

A fitness recording sheet was given to each of the students, in which the scores obtained from each variables test were recorded by the researcher or the research assistant in the columns. Variables to which data will be obtained include:-

- ❖ Cardio-respiratory endurance, Muscular strength, Flexibility, Muscular endurance
 - ❖ Body composition
- Test used to determine the physical fitness level students on each component in the subject are:-

- ❖ Cardio-respiratory endurance – 12 minutes run test
- ❖ Muscular strength – push-up test, Muscular endurance – sit-up, Flexibility – stand and reach, Body composition – waist and hip circumference and waist to hip ratio.

Test Administration

Cardio-respiratory – 12 minutes run/walk test.

- Equipment: stopwatch and whistle
- location: University Sports Complex
- Purpose: to cover the greatest distance within the allocated time.

Procedure

- Subject was position at the starting point on the track.
- In a ready position, research assistant blown the whistle to start the race.
- When the whistle has been blown, the stop watch was started.
- At the end of 12minutes, the whistle was blown again for the subject to stop and remain in their position until the data were collected.
- An appropriate warm up were initiated.

Muscular strength – push-up

Equipment: Whistle and stop watch
Location: University Fitness Centre

Purpose: to do as many consecutive push-ups without rest within 60seconds.

Procedure

- Subjects assumed a down position
- Hands are place at a forward position under the shoulder
- The back kept straight, head up using the toes as the pivotal points.
- Students raise their body by straightening the elbows and returning to the down position until the chin touches the mat not their stomach.

Muscular endurance – Sit-up

Equipment: Mats, Whistle and Stop watch
Location: Gymnasium

Purpose: to evaluate the abdominal endurance of the muscle groups consecutively without rest For 60 seconds.

Procedure

- Students assume a supine position on a mat, leg flexible at the knees.
- The heel of their feet was close to their buttocks and palm place behind head.
- The kneel and feet was immobilized while the students were instructed to move their upper body forward and downward.
- During the forward movement, the chest should made contact with the knees the back should formed 90 with the floor.

Flexibility – Stand and Reach test

Equipment: Flexibillimeter
Location: Fitness Laboratory

Purpose: to assess the degree of flexibility of the Trunk

Procedure

- Subject stand on the flexibillimeter with the shoe off.
- Gradually bending until the middle finger tip made with the measuring box on the meter.
- Subject push down the box downward with the head tucked in, until they reached their unit and stayed for 3 seconds.

During this procedure, the finger was parallel to each other and the knee was straight.

Body composition – waist & hip circumference and waist hip ratio

Equipment: Measuring tape
Location: Fitness Laboratory
Purpose: to determine body fat distribution

Procedure**Waist Circumference**

- Students in standing position arm loose at the sides, feet together and abdomen should be relaxed.
- Measuring tape was placed on their skin surface without compressing the subcutaneous adipose tissue.
- A horizontal measuring was taken at the narrowest part of the torso for hip circumference.
- Subject standing erect with their feet together.
- A horizontal measuring was taken at the maximum circumference of the buttocks.

Waist to hip

- The waist circumference was divided by hip circumference to get the waist hip ratio.

Method of Data Analysis

Descriptive statistic of mean and standard deviation with inferential statistic of t-test was used to test significance difference between Human Kinetics Education and Health Promotion and environmental Health Education students.

Results

The fitness scores obtained was analyzed and interpreted using statistical methods of mean, standard deviation and T-test and result obtained was compared with standardized norms.

Table 1: Demographic Distribution of Respondents base on Gender and age range Human Kinetics Education and Health Promotion and Environmental Health Education.

Variable	Frequency	Percentage %
Male	69	57.5
Female	51	42.5
Total	120	100
Age Range		
15 – 20 years	46	38.3
21 – 26 years	56	46.7
27 – 32 years	18	15.0
Total	120	100%

The result in table 1 revealed that 69 participants (57.5%) were male while participants (42.5%) of the respondent were female. This connotes that more participants in the study than female. Also, the age distribution of the participants showed that is 46 participants (38.3%) were 15 – 20 years old, 56 participants (46.7%) were 21-25 years while 18 participants (15%) were 27-32 years old. This means majority of the participants were between 21-26 years.

Hypothesis Testing

Hypothesis 1: There would be no significance difference in the influence of exercise on the health status of Human Kinetics Education and Health Promotion and Environmental Health Education students in cardio-respiratory endurance.

Table 2: Analysis of cardio-respiratory endurance test

Department	N	Mean	SD	t-cal.	t-crit.	df	P	Decision
HIKE	60	1790.5	452.					Ho ₂
HPEHE	60	1862.5	419.	5	1.14	119	.258	Rejected
								9

The result in table 2 shows that the calculated t-value of 1.14 was obtained against the critical t-value of 1.98 with 119 degree of freedom. Therefore, since the calculated t-value is greater than calculated t-value; the hypothesis is accepted at 0.05 alpha level, $p = .258$, $\alpha = .05$. This means that there is no difference in the influence of exercise on health status of Human Kinetics Education and Health

Promotion and Environmental Health Education student in 12 min run/walk test. Thus, the acceptance of the hypothesis.

Hypothesis 2: There would be no significance difference in influence of exercise on Health Status of Human Kinetics Education and Health Promotion and Environmental Health Education students in push-up test.

Table 3: Analysis of Muscular Strength (push-up) of the groups

Department	N	Mean	SD	t-cal.	t-crit.	df	P	Decision
HIKE	60	28.6	7.2					Ho ₂
HPEHE	60	31.8	5.8	2.70	1.98	119	.009	Rejected

The result in table 3 revealed that the calculated t-value is 2.70 was obtained against the critical t-value of 1.98 with 119 degree of freedom. Therefore, since the calculated t-value is greater than the critical t-value the hypothesis (Ho₂) is rejected at 0.05 alpha level. $p = .009$, $\alpha = .05$. This means that, there is significant difference in the influence of exercise on health status of human kinetics education and health promotion and environmental health education students in push-up exercise.

Hypothesis 3: There would be no significance difference in the influence of exercise on the health status of Human Kinetics education and Health Promotion and Environmental Health Education students in Muscular Endurance (sit-up).

Table 4: Analysis of Muscular Endurance (sit-up) of the groups

Department	N	Mean	SD	t-cal.	t-crit.	df	P	Decision
HIKE	60	37.9	6.3					Ho ₃ Not
HPEHE	60	36.8	6.7	0.96	1.98	119	.341	rejected

The result in table 4 revealed that the calculated t-value is 0.96 was obtained against the critical t-value of 1.98 with 119 degree of freedom. Therefore, since the calculated t-value is less than the critical t-value, the hypothesis Ho₃ is hereby rejected at 0.05 alpha level. $p = .341$, $\alpha = .05$. This means that there is no difference in the influence of Exercise on health status of Human Kinetics

Education and Health Promotion and Environmental Health Education students in up exercise. Thus, the acceptance of the hypothesis.

hypothesis 4: There would be no significance difference in the influence of Exercise on Health Status of Human Kinetics Education and Health Promotion and Environmental Health Education students in flexibility level.

Table 5: Analysis of Flexibility (stand and reach) of the groups

Department	N	Mean	SD	t-cal.	t-crit.	df	P	Decision
HE	60	19.3	4.5					Ho ₄ Not
EHHE	60	18.6	6.1	0.74	1.98	119	.462	rejected

The result in table 5 shows that the calculated t-value of 0.74 was obtained just the critical t-value of 1.98 with 119 degree of freedom. The hypothesis (H₀) is hereby accepted at 0.05 alpha level. $p = .341$, $\alpha = .05$. This means that there is no difference in the influence of Exercise on health status of Human Kinetics Education and Health Promotion and Environmental Health Education students in stand and reach test. Thus, the acceptance of the hypothesis.

hypothesis 5: There would be no significance difference in the influence of Exercise on Health status of human kinetics education and health promotion and Environmental health education students in body composition.

Table 6: Analysis of body composition (waist-to-hip ratio)

Department	N	Mean	SD	t-cal.	t-crit.	df	P	Decision
HE	60	0.84	0.05	2.57	1.98	119	.013	Ho ₅
EHHE	60	0.82	0.04					Rejected

The result in table 6 revealed that the calculated t-value is 2.57 was against critical t-value of 1.98 with 119 degree of freedom. Therefore, since the calculated t-value is greater than the critical t-value the hypothesis (H₀) is hereby rejected at 0.05 alpha level. $p = .341$, $\alpha = .05$. This means that, there is difference in the body composition and health status of human kinetics education and health promotion and environmental health education students. Thus, the rejection of the hypothesis.

Discussion of Findings

All the subjects used for the study was within the age range of physiological fitness (15 – 32 years) Jackson Wier, Ayers Beard and Blair (1996), Okorie (2011) claimed that the best age range for peer performance is between 20 – 35 years. This prime age when the physiological capacity of the body are already formed and could performed at their best under the condition in which the tests was undertaken.

In cardio-respiratory endurance test of Human Kinetics Education and Health Promotion and Environmental Health Education students, when compared with the established standard norms, they fell in the category of good range, though there is no existed significant difference, for a prospective Human Kinetics Education and Health Promotion and Environmental Health Education teachers, an excellent superior good level of cardio-respiratory endurance is expected. A report of www.sciencedaily.com (2008), European Heart Network (1999) noted that regular exercise improve the cardio-respiratory endurance and reduce the risk of having heart attacks, stroke, arteriosclerosis and even depression.

The means of muscular strength when compared with established norms shows that exercise has influence on Health status of Human Kinetics Education and Health Promotion and Environmental Health Education students. It was shown that their muscular strength is very good. This implies that maximum strength demanding sports was done by the students.

Bacchile and Earle (2000) stated that muscular strength is a motor determinant of a person's ability to maintain a high quality life style; Meaning that Human Kinetics Education and Health Promotion and Environmental Health Education students improve their muscular strength, then they will be living active and have quality lifestyle which is expected of them and which may likely improve their health status and performance.

In muscular endurance, the entire groups studied were not significantly different and when compared with the norms they were poor. This is rather surprising especially with the department's full semesters practical exposure to varieties of sporting activities e.g. soccer, handball, athletics, badminton, squash, volleyball and gymnasiums which are enough to develop the abdominal endurance, had a poor level of endurance test. This implies that Human Kinetics Education and Health Promotion and Environmental Health Education students do not partake in co-curricular activities as expected and lack fitness lifestyle in muscular

endurance. Anyanwu (1997) pointed out that muscular endurance can be achieved through regular and meaningful repetitive exercise which involves the muscles.

Moreover, no significant difference found in flexibility of the groups studied and the established norms. The means of the group fell above 25cm. It relation to the established norms despite the exercise program done thrice in a week. However, before sporting activities are done during physical education practical classes, students are always implored to do stretching activities, it is shown in the test carried out that a good score have not been established compared with the norms.

Hartig and Anderson (1999) added that lack of flexibility increase risk of tight neck muscles. The body composition (waist to hip ratio) of the participants showed a significant difference with the norms. This implies that the students have a normal body fat ratio distribution and are free from risk of obesity and associated disease. This view is supported by experts on their site www.sciencedaily.com (2007), that appropriate body fat distribution can be achieved during exercise and physical activities of which the primary fuel used by the muscles are carbohydrate and fats which does not give room for weight gain when participating in exercise.

Conclusively, it is observed from the study that exercise have influence on health status of Human Kinetics Education and Health Promotion and Environmental Health Education students, because it is has improve and develop their health status and performance for healthy professional lifestyle.

Conclusion

There is no significant difference between the cardio-respiratory endurance on the physical fitness level of undergraduate student of Human Kinetics Education and Health Promotion and Environmental Health Education students in relation to standardized norms.

There is significant difference between the muscular strength on the physical fitness level of undergraduate student of Human Kinetics Education and Health Promotion and Environmental Health Education students in relation to standardized norms.

There is no significant difference between the muscular endurance on the physical fitness level of undergraduate student of Human Kinetics Education and Health Promotion and Environmental Health Education students in relation to standardized norms.

There is no significant difference between the flexibility bid test on the physical fitness level of undergraduate student of Human Kinetics Education and Health Promotion and Environmental health Education students in relation to standardized norms.

There is a significant difference between the waist-to-hip ratio on the physical fitness level of undergraduate student of Human Kinetics Education and Health Promotion and Environmental Health Education students in relation to standardized norms.

Recommendations

On the basis of the findings, the following recommendation was made:

In light of fitness and exercise activities programs, all components of fitness and regular exercise should be emphasized and stress, so as to achieve all round health status and excellent in performance during sporting activities. Also, both young and old prospective students that are enrolling into the department should therefore be made help both to attain a good and healthy lifestyle. In addition, students should be encouraged to participate in physical activities, especially during their leisure hours and the university sports day may be used as a starting point.

It is strongly recommended that the department should continue the fitness programme and it should be throughout the session bearing in mind that exercise is dynamic, the department should take fitness assessment of her students, so as to develop programs that will assist in improving more on their health status. Finally, the value of exercise on health status should be continuous jingles on radio programmes by the expert in the field.

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