

## PERCEIVED INFLUENCE OF FITNESS ACTIVITIES ON ACADEMIC PERFORMANCE OF FACULTY OF EDUCATION STUDENTS, UNIVERSITY OF ILORIN, ILORIN, KWARA STATE

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### ABSTRACT

*Fitness is a way of life in which individuals are able to carry out or perform their day to day activities without undue fatigue and still have reserved energy for emergency use. This study therefore examined how fitness activities perceived influence academic performance among University of Ilorin students, Ilorin, Kwara State. The fitness activities investigated were- cardiovascular endurance; muscular endurance; muscular strength; flexibility and body composition. Descriptive research design of survey method was used for the study. The population of the study were undergraduates of University of Ilorin, Kwara State. Stratified random sampling technique was used to select five departments in the Faculty of Education. Purposive sampling technique was used to administer a total of 139 questionnaires to respondents from the selected departments for this study. The research instrument which was critically examined and reviewed by three (3) experts in the field of Human Kinetics Education, University of Ilorin, was used for data collection. Data collection was conducted by the researcher and two research assistants. Frequency count and percentages were used to analyze the data of respondents. The findings from the study revealed that; cardiovascular endurance, muscular endurance, muscular strength, flexibility and body composition have influence on academic performance of University of Ilorin students. Based on the findings, it is recommended that- to improve academic performance the school administrators should provide free and comfortable fitness arena, enhanced nutrition, and include physical and fitness programmes into school curriculum. Availability of standard facilities and equipment which are properly maintained will motivate students to strive for improvement in performance.*

**Keywords:** Academic performance, body composition, cardiovascular endurance, fitness, physical activity, students.

### 1. INTRODUCTION

A sedentary lifestyle that leads to a lack of motivation, concentration, and behavioral problems in school is a current trend among individuals. In the school curriculum that has been proposed, physical activity is frequently missing, and increasing the amount of activity will enhance many aspects of the well-being of an individual. In classrooms, the curriculum and schedules are often full of scholars, and there is little time for action, so it is important for teachers to consider how to incorporate physical activity for academic success in a number of ways. The 'academic' definition is linked to education especially university studies. The entire processes of studying, teaching, study, and the people involved in it are involved. However the term academic performance refers to the actor's method of executing the academic task. It is the way and means by which the learning tasks of students and teachers

are carried out. Physical activity and exercise are correlated with wellness. Health benefits are associated with daily physical activity and good exercise practice in school-age children, such as increased bone mineral density, cardiovascular risk profiles, cardiorespiratory and muscle fitness, mental and brain health and body composition (Janssen, & Leblanc, 2010). In addition to the physical and mental health effects, studies in neuroscience have shown that physical activity and exercise are also related to the structure and function of the brain, through the thickness of gray matter in particular cortical regions and the integrity of white matter tracts that encourage executive function, and through changes in brain plasticity that modify the neuron structure and improve the neuron structure (Chaddock-Heyman et al., 2015).

This beneficial role of physical activity and exercise in brain structure, function, plasticity and cognition is also expected to result in an increase in academic achievement (Chaddock-Heyman et al., 2015). The relationship between physical activity, fitness and academic achievement has been explored by researchers on the basis of the belief that physical activity and fitness are beneficial or at least not detrimental to academic achievement (Kumar, & Mohammad, 2019). In order to make more time accessible for standardized didactic subjects, politicians and school administrators have gradually removed physical activity opportunities due to the importance of school education and academic achievement in society (UNESCO, 2014). A primary determinant of health outcomes over the life cycle is physical inactivity. The risk of heart disease, colon and breast cancer, diabetes mellitus, hypertension, osteoporosis, anxiety and depression, and other illnesses are increased by a lack of exercise (Mohammad, 2017). It has been stated that the global public health burden of physical inactivity exceeds that of cigarette smoking and obesity in terms of mortality. Indeed, along with this significant associated disease risk, the prevalence of physical inactivity has been identified as a pandemic.

Memory is one of the most important brain functions capable of predicting academic performance. Physical activity strengthens memory functions and in turn generates academic achievement for students who many times a week engage in moderate to intense physical activity. Students who are at higher fitness levels have superior performance on tasks that challenge working memory and standardized math and reading assessments compared to less fit students (Chaddock-Heyman et al., 2015). Fitness can be defined as a condition that makes us look, feel, and do our best. More simply, it is the ability to perform daily tasks vigorously and alertly, with energy left over to enjoy leisure time activities and meet emergency requirements. It is the ability to endure, to bear up, to withstand stress, to carry on in circumstances where an unfit person could not continue, and is a significant basis for good health and performance (Liao et al., 2013).

In the mind and body, fitness activity has many benefits. Fitness activity is known to improve heart rate and blood flow in the body, which gives more blood to the brain to produce energy and operate more efficiently. Executive performance is improved as the brain functions more effectively. Three main abilities are included in the executive function: working memory (most essential and fundamental concept).

In a number of assessment categories, including perceptual abilities, intelligence quotient (IQ), verbal and mathematical tests, positive associations were identified between physical activity and cognitive performance in school-age children. A positive relationship between increased physical activity and attention and sleep has been found in studies, and both of these factors may influence the ability to interact with school (Short et al., 2013). Fitness is on a spectrum, ranging from highly sedentary and inactive (e.g. bed ridden) to exceptionally active (e.g. professional athletes), studies also categorize participants on the basis of whether or not they comply with guidelines, such as global physical activity recommendations or country-specific recommendations, most of which are compliant with global ones.

A vital aspect of everyone's life is fitness activity and exercise, whether the aim is to improve current health, become more productive in academic success, raise aerobic fitness levels, or simply to be happier. In order for teachers to be able to incorporate the required activities into daily routines to support students, it is crucial to consider the benefits from a science point of view as well as an academic perspective for learners. There is evidence that wellness practices in school are important to students' achievement in academic success, attention, physical health and social relationships, from brain breaks to curriculum-driven running programs.

The position of exercise activities and academic success in society today has generated uncertainty, and Ilorin University is not left out. Some may have the notion that taking part in fitness activities is a time-wasting activity, considering all the well-documented benefits of fitness activities. Also teachers in non-physical education typically vote against involvement in athletic events at staff meetings, to the extent where it negatively affects students' academic success in their studies. Fitness arenas have been turned into gardens in certain schools or used to build school buildings. With a low level of exercise activities among students being a national health issue and diminishing classes in physical education, physical health, cognitive functioning and academic performance have also become increasingly concerned (Hessler, 2009). Fitness can be the solution to all of these problems. Fitness is associated with decreased obesity risks, enhanced cardiovascular fitness, better wellness, and academic success (DeBate et al., 2009). In order to correct the general misconceptions of participation in fitness activities and academic performance, particularly at Ilorin University, the present study was launched.

## **2. METHODS AND MATERIALS**

### **2.1 Research Design**

For this study the research design adopted was a descriptive survey style research design. The design of descriptive research allowed the analysis to identify the characteristics of the population being studied. This research design is considered suitable for this study since it helps the researcher to collect personal and general information for the purpose of illustrating the perceived effect of fitness activities on academic performance of University of Ilorin students.

### **2.2 Participants of the Study**

A sample of 139 respondents were selected via a stratified sampling technique. For the selection of five departments from the Faculty of Education, the sampling approach was used to pick final year students from the Department of Human Kinetics Education (n= 98), Health Promotion and Environmental Health Education (n= 212), Education Management (n= 145), Social Science Education (n= 160) and Agricultural Education (n= 96).

### **2.3 Study Procedure and Data Analysis**

The method used for this study was the established questionnaire of a researcher consisting of standardized items to obtain information from respondents on the perceived impact of fitness activities on academic performance among students at the University of Ilorin. The instrument was called perceived influence on academic performance of fitness activities (PIFAAP). The instrument was made up of two sections, section A and section B. Section 'A' consists of the demographic characteristics of the respondents, while section 'B' consists of 20 research items on variables such as cardiovascular endurance, muscle strength, muscle

endurance, flexibility, and body composition. The four-point Likert scale rate of “Strongly Agree”, “Agree”, “Disagree”, and “Strongly Disagree” responses were used. With the assistance of two (2) other research experts from the Department of Human Kinetics Education, Faculty of Education, University of Ilorin, both the content and construct validity of this method have been determined. The feedback, corrections and suggestions have been integrated into the tool. The test-retest approach was adopted to assess the reliability of the instrument by which 20 copies of the questionnaire were administered to students engaging in fitness activities at Ilorin University at an interval of two weeks while their responses were evaluated using Pearson Product Moment Correlation (PPMC) statistics.

### 3. RESULTS AND DISCUSSION

**Table 1: Frequency distribution of the respondents on the basis of gender, age range and ethnicity**

S.N.	Variables	Frequency	Percentage
1	Gender		
	Male	71	51
	Female	68	49
	<b>Total</b>	<b>139</b>	<b>100</b>
2	Age Range		
	18-21 yrs	60	43
	22-26 yrs	68	49
	33 yrs and above	11	8
	<b>Total</b>	<b>139</b>	<b>100</b>
3	Ethnicity		
	Yoruba	91	65.5
	Hausa	26	18.7
	Igbo	22	15.8
	<b>Total</b>	<b>139</b>	<b>100</b>

The frequency distribution of the respondents participating in the analysis is revealed in table one. It was revealed that 71 respondents were male (51 percent), while 68 respondents were female (49 percent). This indicates that most of the participants were male. The age of the respondents also indicates that 60 respondents (43%) were 18-21, 68 respondents (49%) were 22-26 years of age, while 11 respondents (8%) were 33 years of age and above. This indicates that most of the respondents were over 18 years old. Moreover, the ethnicity of the respondents showed that 91 respondents were Yoruba (65.5 percent), 26 respondents were Hausa (18.7 percent), while 22 respondents (15.8 percent) were Igbo. This indicates that most of the participants were Yoruba.

**Table 2: Influence of cardiovascular endurance activities on academic performance on University of Ilorin students**

S.N.	Items	SA	A	F (%)	D	SD	UF (%)
1	Participation in cardiovascular activities has positive effect on the students' performance.	73	51	124	11	4	15
2	Students get more involved with extracurricular activities thereby promoting their educational performance.	49	64	113	23	3	26
3	Cardiovascular activities improve students' self-esteem in academic performance.	57	51	108	27	4	31
4	Cardiovascular activities increase motivation, self-discipline, and teamwork resulting in positive academic performance.	62	55	117	20	2	22
<b>Total</b>		<b>115(83%)</b>			<b>94 (17%)</b>		

Table 2 revealed that 83 percent of the response was favorable while 17 percent was unfavorable. This indicates that the activities of cardiovascular endurance have a substantial effect on the academic success of students at Ilorin University.

This finding is in line with Raine et al. (2013), that stated the results observed between objectively measured physical activity and academic performance, most studies have found that cardiovascular fitness has a significant positive association with academic performance, suggesting that increasing cardiovascular fitness is important for students' cognitive development and consequently improve academic performance. Chaddock-Heyman et al. (2010) further observed differences in the basal ganglia, a subcortical structure involved in the interplay of cognition and willed action, between students with lower and higher cardiovascular fitness. Students with higher cardiovascular fitness exhibited greater volume in the dorsal striatum when compared to lower fit children. Such findings indicate that higher cardiovascular fitness is associated with better control of attention, memory and cognition. Students with better cardiovascular fitness exhibited increased inhibitory control and response resolution, and further higher basal ganglia volume was related to better task performance.

**Table 3: Perceived influence of muscular endurance activities on academic performance on University of Ilorin students**

S.N.	Items	SA	A	F (%)	D	SD	UF (%)
1	Endurance training helps students to improve their performance in general class.	44	79	123	12	4	16
2	Participating in endurance activities improves academic performance.	42	72	114	17	8	25
3	Participation in endurance activities improve student assimilation to achieve academic success.	48	58	106	24	9	33
4	Endurance training improve student performance both in school and outside school activities.	41	63	104	28	7	35
<b>Total</b>				<b>447</b> (80%)			<b>109</b> (20%)

Table 3 showed that 80% of the response was favorable while 20% was unfavorable, indicating that muscular endurance practices have a significant perceived effect on academic performance among students at Ilorin University.

The results in Table 3 showed that muscular endurance exercises had an important perceived effect on students at Ilorin University on academic success. This finding is in line with So (2012) finding, which found that higher levels of endurance activity result in a higher academic achievement association than lower levels of endurance activity. Brain and memory functions are improved by muscular endurance exercises and can have a positive effect on students. When compared to more endurance activities performed less than four times a week, particularly in boys, strengthening exercises have not shown a high correlation with academic performance.

Trudeau and Shephard (2008) also suggest that a student's physically active number of hours a week will affect their success in academic, social, and energy levels, leading them to take the initiative to put additional efforts into academics. The amount of time spent on endurance activities, specifically twenty minutes or more a day, increases academic performance in terms of perceptual and decisional tasks.



**Table 4: Muscular strength activities' influence on academic performance on University of Ilorin students**

S.N.	Items	SA	A	F (%)	D	SD	UF (%)
1	Muscular strength improves student academic performance.	50	57	107	29	3	32
2	Strength activities bring about good performance in academic.	48	60	108	26	5	31
3	Involvement in strength or co-curricular activities enhances academic performance.	42	64	106	25	8	33
4	Limited time for strength activities influence students' academic performance.	40	59	99	28	12	40
<b>Total</b>		<b>420</b> (76%)			<b>136</b> (24%)		

Table 4 showed that 76 percent of the response was favorable, while 24 percent was unfavorable, which suggests that muscle strength practices have a significant perceived effect on students at Ilorin University on academic success.

This result is consistent with So (2012), who discovered that strength exercise can improve memory functions and in turn produce academic performance for students who many times a week participate in moderate to intense strength activity. Power training has many advantages for the mind and body. Students that are at higher fitness levels have superior performance on tasks that challenge working memory and structured mathematics and reading assessments compared to less fit students, according to Chaddock-Heyman et al. (2015).

**Table 5: Perceived influence of flexibility fitness on academic performance of University of Ilorin students**

S.N.	Items	SA	A	F (%)	D	SD	UF (%)
1	Flexibility exercise increase student academic performance.	54	57	111	23	5	28
2	Student should be aware of the benefits of flexibility on academic performance.	37	78	115	19	5	24
3	Exercise such as gymnastic training leads to better academic performance.	46	67	113	22	4	26
4	Flexibility training provides activities that enhance academic performance.	45	70	115	17	7	24
<b>Column Total</b>		<b>454</b> (82%)			<b>102</b> (18%)		

Table 5 showed that 82 percent of the response was favorable, while 18 percent was unfavorable, which suggests that exercise activities of versatility have a significant perceived impact on the academic performance of students at Ilorin University.

This result corroborates the findings of Trudeau and Shephard (2008), who noted that it has the ability to improve reading skills when students are involved in versatile activities such as gymnastics. In general, flexibility exercise, which is not unique to levels of physical fitness or sports participation, has beneficial effects on academic success through improved concentration, decision-making skills, and increased levels of interest. In general, positive classroom behavior leads to more constructive attitudes during class, which leads to greater academic performance success.

**Table 6: Descriptive statistics on perceived influence of body composition on academic performance of University of Ilorin students**

S.N.	Items	SA	A	F (%)	D	SD	UF (%)
1	Obesity can leads to students low performance.	66	53	119	17	2	19
2	Obese students find it difficult to perform fitness activities in schools.	58	62	120	15	4	19
3	Underweight students do well in fitness activities.	45	59	104	27	8	35
4	Participation in fitness activities can help to prevent obesity.	67	51	118	15	6	21
				461			94
Total				(83%)			(17%)

Table 6 showed that 83 percent of the response was favorable while 17 percent was unfavorable, which suggests that the composition of the body has a significant perceived effect on the academic performance of students at the University of Ilorin.

This result corroborates the findings of Li and Hooker (2010), who said that obesity among individuals has become an urgent health concern. In classrooms, physical education programs should involve students in daily physical activity and help students learn the skills and behaviors needed to live a healthier life. School-based physical education services may assist in obesity prevention. Busto-Zapico (2014) also noted that the significance of sedentary lifestyle in overweight and obesity has been raised by scientific studies.

#### 4. CONCLUSION

Based on the findings, it was concluded that cardiovascular endurance, muscular endurance, strength, flexibility and body composition activities significantly have a perceived influence on academic performance of students in University of Ilorin.

On the basis of findings, it can be recommended that students should be exposed to exercise such as walking, swimming or bicycling to help improve their cardiovascular endurance level. School management should engage students in exercise such as running and cycling, which will help them in developing good muscular endurance.

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