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Correlates of Physical Activity and Sedentary Behaviour of Academic and Non-Academic Staff in University of Ilorin, Ilorin, Nigeria

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A B S T R A C T S

This study examined the correlates of physical activity and sedentary behavior of academic and non-academic staff at the University of Ilorin. The descriptive research design of the survey method was used for the study. The population comprised academic and non-academic staff of the University of Ilorin. 142 selected through random sampling techniques were used for the study. The research instrument was a structured questionnaire validated by three experts in the field of Human Kinetics Education, University of Ilorin. Descriptive inferential statistics of Pearson Product Moment Correlation (PPMC) was used for the study. The findings revealed that age, gender; work schedule, and health status were significant correlates of physical activity and sedentary lifestyle of academic and non-academic staff. The study recommended that the University of Ilorin management should encourage her staff by working with experts to develop a program that will address the inadequacies in physical activity participation among the staff. Furthermore, the University of Ilorin staff should take advantage of the institutions' sports facilities to increase participation in physical activities and exercise.

A R T I C L E   I N F O

1. INTRODUCTION

It is of importance to note that, public servants are the major set of people affected by the industrial revolution and urbanization which results in a lifestyle of low participation in physical activity and its associated problems. A large portion of today's workforce in an office-based setting and the large number of daily working hours spent at work are related to occupation-related sedentary behavior, which is of critical public health concern. Technological advancement and increase in knowledge have provided man with so many facilities (such as cars, airplanes, and accelerators to mention a few) that have reduced physical and muscular activities which translates to a corresponding increase in the amount of time spent sitting down at workplaces. Increased exposure to the western lifestyle and eating habits which are characteristics of urban African environment and decreased participation in physical activity, has sidelined other demographic factors such as age, gender, health status, and work schedule of individuals at workplaces and its effects on physical activity participation among individuals, which are contributory factors to the lifestyle of low physical activity, thereby resulting to increase in health problems. Modern technology has also lessened the physical demand for everyday activities like cleaning the house, washing clothes, mowing the lawn, and traveling to work. What would have once required an hour of physical work can now be accomplished in a few seconds by pressing a button or setting a dial. People, therefore, sit more and work less.

Although, there is overwhelming scientific evidence highlighting the health, social and psychological benefits associated with an active lifestyle. But physical activity remains the most underutilized low-cost health resource globally. According to Dean *et al.* (2011), most deaths in the 20th and 21st centuries result from diseases that are associated with individual lifestyle/behavior. It is essential to note that, Physical inactivity is related to one of the major causes of mortality, lower quality of life, a higher risk of obesity, and other degenerative diseases.

A sedentary lifestyle is a term used to denote a lifestyle with little or inadequate participation in moderate to vigorous physical activity. Sedentary behavior is a term used to characterize those behaviors that are associated with low energy expenditure. This includes prolonged sitting at work, home, business centers, long screen time, and car driving among a host of others. A sedentary lifestyle is also a lifestyle that an individual or group adopts that does not permit regular physical activity. Demographic factors, ethnicity, socioeconomic status, technological advancements, and long working hours are major causes of a sedentary lifestyle. However, a lifestyle of low activity is a risk factor for degenerative diseases.

Regular physical activity is linked to enhancement of health and reduced chronic disorders resulting from a negative physical activity lifestyle. The benefits of physical activity include helping to build and maintain healthy bones and muscles, control body weight, reduce body fat, reduce the feeling of depression and anxiety and promote psychological wellbeing. However, most people are not inclined to participate in the exercise.

According to Thorp *et al.* (2012), University workers spend not less than eight hours a day on the job while most of them spend a considerable part of their time sitting with the little physical movement for some hours. Thus, making the staff in tertiary institutions sedentary in nature despite being exposed to pressure, tension, union problems, and other psycho-physiological compartments due to inadequate facilities and overpopulated institutions. Therefore, it is highly pertinent to assess the physical activity level and sedentary behavior among university staff on the bases of comparison on age, gender, schedule of work, and

health status, to checkmate the lifestyle of low physical activity and its repercussions on the health status of staff of the institution.

The university workplace as a unique work setting is generally perceived as the high-income establishment in Nigeria, it is essentially characterized by enhanced infrastructures and a technologically automated environment. According to Booth *et al.* (2002), such an environment has exacerbated physical inactivity and a sedentary lifestyle. Chronic diseases associated with inactivity and sedentary living are on the increase among government and industrial workers in Nigeria, and suggested the need to gain better insight into the dynamics of physical activity behavior in such workplaces.

Academic institutions seem suited for such studies since the nature of the work done in these institutions is mostly office-based. In addition, academic institutions enable the examination of differences in sedentary behavior between varied occupational roles (i.e. administrators, faculty, and/or, staff). Few studies have examined sedentary time, sedentary patterns (i.e. breaks in sedentary behavior), and/or differences in sedentary behavior between employees at academic institutions.

However, owing to the nature of Nigeria's university system, office work, and working style, the workers are engrossed with long sitting, reading, operating computer sets and other screen devices, manipulating machines, attending meetings and at the close of work, driving home under heavy traffic jam. The same has been the case with the working style of the University of Ilorin's academic and non-academic staff. These prolonged sitting periods promote a sedentary lifestyle (minimal movement with low energy expenditures), hence making it a necessity for a study among the University of Ilorin academic and non-academic staff at such a time when technology is thriving at its peak.

The following hypotheses were formulated for this study:

(i) There is no significant correlation between physical activity lifestyle and sedentary behavior of academic and non-academic staff based on age.

(ii) There is no significant correlation between physical activity level and sedentary behavior of academic and non-academic staff based on gender.

(iii) There is no significant correlation between physical activity lifestyle and sedentary behavior of academic and non-academic staff based on work schedules.

(iv) There is no significant correlation between physical activity lifestyle and sedentary behavior of academic and non-academic staff based on health status.

2. METHODS

A descriptive research design of survey type was adopted for this study. This design allowed the researcher to collect personal and some general information as regards the physical activity level and sedentary lifestyle behavior for comparison among University of Ilorin academic and non-academic staff, Ilorin, Kwara State. A structured questionnaire was used to collate data and thereafter used to assess the research topic. The population of the study comprises all Academic and Non-academic staff of the University of Ilorin, Kwara State. The University of Ilorin's Staff strength is 4,474 covering 15 faculties and over 60 academic departments. A simple random sampling technique was used to select 5 faculties from the University of Ilorin, Kwara State. The proportionate sampling technique was used to select ten percent (10%) from academic and non-academic staff in the University of Ilorin. 142 respondents were sampled for the study.

The research instrument for this study was a structured questionnaire designed by the researcher. The questionnaire was structured to elicit information from respondents on physical activity and sedentary lifestyle among University of Ilorin Staff, Kwara State. The

instrument was divided into two sections. Section "A" comprised the demographic and personal data of respondents such as gender, age, health status, and work schedule, while Section "B" contained items on physical activity and sedentary lifestyle among academic and non-academic staff in the University of Ilorin, Ilorin, Kwara State. The instrument was rated on the number of days, the number of hours or minutes, Yes or No, and the percentage of the time. This enabled participants to express the extent of their agreement or disagreement with the options supplied. The validity of this instrument was ascertained with the help of three lecturers from the Faculty of Education, University of Ilorin.

The reliability of the instrument was carried out using the test and re-test method using Pearson Product Moment Correlation Coefficient (PPMC) statistic. The demographic data of respondents were analyzed using descriptive statistics while the inferential statistic of PPMC was used to test the null hypotheses at 0.05 alpha level.

3. RESULTS AND DISCUSSION

Table 1 presents the demographic data, male respondents were 67 (47.2%), female were 75 (52.8%). The result also reveals that respondents within 18-30 years were 30 (21.1%), 31-45 years were 66 (46.5%), 46-60 years were 41 (28.9%) and 60 years above were 5 (3.5%). The result also reveals that academic staffs were 52 (36.6%) while non-academic staffs were 90 (63.4%).

Table 1. Frequency distribution of the respondent's demographic data.

Variabels	Frequency	Percentage (%)
Gender		
Male	67	47.2
Female	75	52.8
Total	**142**	**100.0**
Age		
18-30 years	30	21.1
31-45 years	66	46.5
46-60 years	41	28.9
60 years & above	5	3.5
Total	**142**	**100.0**
Work Schedule		
Academic staff	52	36.6
Non-academic staff	90	63.4
Total	**142**	**100.0**

Testing of Hypotheses
3.1. Hypothesis 1: There is no significant correlation between physical activity lifestyle and sedentary behavior of academic and non-academic staff based on age

Table 2 presents the correlation analysis on physical activity lifestyle and sedentary behaviour among academic and non-academic staff based on age. The r-value was 0.211, T-value was 0.134, at 140 degree of freedom and p= 0.012 which is significant at 0.05 alpha level. Therefore, the hypothesis which states that, there is no significant difference in physical activity lifestyle and sedentary behaviour of academic and non-academic staff based on age is rejected. The result indicated there was significant correlation between physical activity lifestyle and sedentary behaviour of academic and non-academic staff based on age.

Table 2. Correlation between physical activity lifestyle and sedentary behavior based on age.

Variabels	N	r-Value	df	Approx. Sig	Approx. T	T-Value	Decision
Pearson's R	142	0.211		0.012	2.557		
			140			0.134	**Rejected**
Age	142	0.217		0.009	2.635		

3.2 Hypothesis 2: There is no significant correlation between physical activity lifestyle and sedentary behaviour of academic and non-academic staff based on gender

Table 3 presents the correlation analysis on physical activity lifestyle and sedentary behavior among academic and non-academic staff based on gender. The r-value was 0.326, T-value was 0.134 at 140 degrees of freedom, and p= 0.000 which is significant at 0.05 alpha level. Therefore, the hypothesis which states that there is no significant correlation between physical activity lifestyle and sedentary behavior of academic and non-academic staff based on gender is rejected. The finding reveals there was a significant correlation between physical activity lifestyle and sedentary behavior of academic and non-academic staff based on age.

Table 3. Correlation between physical activity lifestyle and sedentary behavior based on gender.

Variabels	N	r-Value	df	Approx. Sig	Approx. T	T-Value	Decision
Pearson's R	142	0.326		0.000	4.083		
			140			0.134	**Rejected**
Gender	142	0.326		0.000	4.083		

3.3 Hypothesis 3: There is no significant correlation between physical activity lifestyle and sedentary behavior of academic and non-academic staff based on work schedule

Table 4 presents the results on the correlation between physical activity lifestyle and sedentary behavior among academic and non-academic staff based on work schedule. The r-value was 0.274, T-value was 0.134, at 140 degrees of freedom, and p=0.001 which is significant at 0.05 alpha level. Therefore, the hypothesis which states that there is no significant correlation between physical activity lifestyle and sedentary behavior of academic and non-academic staff based on work schedule is rejected.

Table 4. Correlation between physical activity lifestyle and sedentary behavior based on work schedule.

Variabels	N	r-Value	df	Approx. Sig	Approx. T	T-Value	Decision
Pearson's R	142	0.274		0.001	3.368		
			140			0.134	**Rejected**
Work schedule	142	0.327		0.000	4.088		

3.4 Hypothesis 4: There is no significant difference in physical activity lifestyle and sedentary behaviour of academic and non-academic staff based on health status

Table 5 presents the results on the correlation between physical activity lifestyle and sedentary behavior among academic and non-academic staff based on health status. The r-value was 0.214, T-value was 0.134, at 140 degrees of freedom, and p=0.010 which is significant at 0.05 alpha level. Therefore, the hypothesis which states that there is no

significant correlation between physical activity lifestyle and sedentary behavior of academic and non-academic staff based on health status is rejected.

Table 5. Correlation between physical activity lifestyle and sedentary behavior based on health status.

Variabels	N	r-Value	df	Approx. Sig	Approx. T	T-Value	Decision
Pearson's R	142	0.214		0.010	2.598		
			140			0.134	**Rejected**
Health status	142	0.203		0.015	2.452		

Based on the findings, there was a significant correlation between physical activity lifestyle and sedentary behavior of academic and non-academic staff based on age. Larson (1990) reported that at different ages and different days of the week (i.e. school-/work days and non-school-/non-workdays) people spend time in different social (for example students, colleagues, family) and organizational environments (such as primary school, secondary school, work) which impacts on sedentary behavior and sedentary time. Since interventions are often age-specific it is important to know age-specific effects on physical inactivity lifestyle as such knowledge may help to identify risk groups.

The findings further revealed that there was a significant correlation between physical activity lifestyle and sedentary behavior of academic and non-academic staff based on gender. Headley *et al.* (2018) reported that subjective measures of sedentary behavior are helpful to determine the type of behavior that occurs in larger observation studies and these measures can be more practical and efficient; however, there are limitations to subjective assessment of sedentary behavior. Since sedentary behavior occurs throughout the entire day, it may be more difficult for individuals to accurately recall the amount of time spent in sedentary behavior.

Also, there was a significant correlation between physical activity lifestyle and sedentary behavior of academic and non-academic staff based on work schedule. Ekelund *et al.* (2016) found that some evidence suggests that high levels of moderate-intensity physical activity (60–75 min/day) can counteract the deleterious effects of prolonged periods of sedentariness. Due to the high prevalence of sedentary behavior in modern society and the adverse health effects associated with high levels of unbroken sedentary behavior, the assessment of this component of our lives has become more important. Furthermore, since the largest percentage of the time spent sitting occurs at work, monitoring this behavior in the workplace has gained increased importance.

There was no significant correlation between physical activity lifestyle and sedentary behavior of academic and non-academic staff based on health status. This supports the affirmation of Qomariyah & Djannah (2019) who stressed that the impact of poor health contributed to prolonged periods of sedentary behavior. Participants explained that symptoms associated with health status, such as 'fatigue' and 'pain' increased sedentary behavior. Depression has been commonly linked to sedentary behavior, engaging in sedentary behavior was a common strategy used by participants to prevent declining health or further injury, and transitioning back into illness. Sedentary behavior was adopted by some as a means to recover from and manage chronic disease symptoms and rest was viewed as an important element in the recovery process, suggesting that sedentary behavior was used as a precautionary or protective behaviour.

4. CONCLUSION

Based on the findings of this study, the following conclusions were drawn:
(i) There was a significant correlation between physical activity lifestyle and sedentary behavior of academic and non-academic staff based on age.
(ii) There was a significant correlation between physical activity lifestyle and sedentary behavior of academic and non-academic staff based on gender.
(iii) There was a significant correlation between physical activity lifestyle and sedentary behavior of academic and non-academic staff based on work schedules.
(iv) There was a significant correlation between physical activity lifestyle and sedentary behavior of academic and non-academic staff based on health status.
Based on the findings of this study, the following recommendations were made:
(i) University of Ilorin management should partner with experts in the department of Human Kinetics to design physical activity and exercise programs that will address the inadequacies in physical activities among the staff.
(ii) University of Ilorin management should design an awareness program on the need for her staff to increase participation in exercise.
(iii) University of Ilorin staff should seek expert advice to design individual exercise plans to improve their health status.
(iv) More recreational facilities should be procured by the University management and made accessible to staff to increase participation in exercise.

5. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

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