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# ASSESSMENT OF PHYSICAL ACTIVITY AND EXERCISE BEHAVIOR OF STAFF OF KADUNA POLYTECHNIC, KADUNA STATE, NIGERIA

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## ABSTRACT

***This examines the phenomena of exercise behavior and physical activities among staff in Kaduna Polytechnic. From reviewed literature, the study explores the extent to which demographic variables such as sex, age, division of duty and duty post influence the exercise behavior and physical activities of staff of the institution. This study adopts Self-Determination Theory (SDT) as the standpoint for interpretation of the data collected. Descriptive survey was adopted for the study, while Cluster and simple random sampling was used to select academic, nonacademic and administrative staff of the Polytechnic as respondents in the study. The study samples were 503 and the instrumentation adopted was questionnaire. Data collected were analyzed using SPSS version 24 and Excel 2013 which elicited the descriptive and inferential statistics measured in mean and standard deviation that were subjected to t-test and Analysis of Variances. The findings reveal that; lack of physical activity in the respondents is acute where in the last one year only 17% reported more activeness, while 45.5% are less active and up to 15.5% are none active. In addition, up to 60% of the respondents get less physical activities as they would have needed; as only 38% of the respondents walk at least one mile without resting, once in many weeks, 23.5% of the respondents reported walking once in a week, as only 6% of respondents reported walking a mile every day of the week. The study conclude that there is less active pattern of exercise behavior in a cross section of the staff of Kaduna polytechnic, in Nigeria. Hence, recommends among other things that, Federal Government through the TETFUND provides sports equipment such as bike, dumbbells and sport physical fitness tools to tertiary institutions. The Polytechnic (Kaduna Polytechnic) should revitalize competitive sport among staffs in the campuses and colleges of the institutions. That the three staff unions in the polytechnic should, tap into their yearly incomes (membership check-dues) to purchase sporting equipment such as treadmills, bikes, weightlifting and dumbbells for colleges, departments and units.***

**KEYWORD:** ***Physical Activity, Exercise Behavior, Academic Staff, Polytechnic***

## INTRODUCTION

Clinical and epidemiological studies have demonstrated that regular physical activity and exercise reduce the risk of death due to heart diseases and stroke, aids in reducing weight, helps prevent diabetes mellitus, strengthens bones, and enhance immune function (Medical News Today, 2004; American Heritage Medical Dictionary, 2007; Myers, 2009; Collaborating for Health, 2011 & Kenny, 2012). The general trend towards inactive (sedentary) and other unhealthy lifestyle has led to a crisis in most national health care system with an increase in personal health-related tragedies (WHO, 2020). However, desired as the importance of physical activity to healthy life style as clinically proven, physical inactivity is gaining ground in most population world over, this has to do a lot with increasing technological use brought about by general development and globalization (Kruk, 2009). On important aspect of global prosperity as an aspect of globalization is sedentary behaviours, which relates to excessive use of computer

games, use of telephone, and internet surfing for educational or social networking, which consumed most adult time and often conducted while sitting and laying on sofa (Ho & Lee, 2001).

Sedentary behaviour has been reported to be associated with deleterious health outcomes, which may include increase in the risk of obesity, diabetes, heart disease and cancer (Kenny, 2012). The increasing prevalence of overweight and obesity has been attributed, in part, to reduced physical activity and increased involvement in sedentary behaviours, such as television viewing (Lobstein, Baur, Uauy, 2004). The issue of inactivity has become an epidemic in Nigerian society, because of the sedentary lifestyle of a large proportion of Nigerian citizens, especially administrators, managers, public servants and a host of others. People are not favourably disposed to participation in physical exercises for fitness and for effective job performance (Akindutire, et al 2013).

Most people in Nigeria are dying from stress related disorders in greater numbers than before, due to increase in tension, hardship and sedentary behaviour. This observation holds good for some members of staff in the tertiary institutions in Kaduna Polytechnic, Kaduna State, Nigeria. However, it seems reasonable to assume that senior academic and administrative staff of Kaduna Polytechnic are showing more interest in participating in physical activity and exercises for the purpose of attaining wellness status for enhanced job performance, the extent to which they do so has not been empirically determined. Little or no research has been carried out to ascertain the physical activities and exercise behaviour of academic and administrative staff of Kaduna Polytechnic, hence, the present study will be undertaken to provide sufficient and reliable data. It is in the light of this that the project is designed to assess Physical Activity and Exercise Behaviour of Staff of Kaduna Polytechnic, Kaduna.

## Problem Statement

The world is witnessing a significant increase of the global burden of non-communicable diseases such as cardiovascular diseases, cancer and chronic respiratory diseases. Globally, the most prevalent non-communicable or chronic diseases include heart disease and stroke, cancer, chronic respiratory disease, and diabetes (WHO, 2005; 2008). These and other chronic diseases are the major causes of death (60%) and disability worldwide, taking the lives of over 35 million people, including many young and those in middle age (WHO, 2005). All these diseases are preventable or the risks are reduced through participation in exercises. Therefore, regular and appropriate physical activity could promote health by reducing the risk of death through reduction in occurrence of heart diseases, reduction of blood pressure, blood cholesterol, risk of colon and breast cancers, as well as reduction in the risk of developing diabetes. Exercise in several ways contributes to human happiness, posture, mood, decreased anxiety, depression and elevated level of self-esteem among others (Centre for Disease Control, 1999). Affirmatively, it is reported that individuals who remain physically active or physically fit during middle and older ages live longer than their sedentary counterparts and exercise is recommended for secondary prevention of other diseases.

Therefore, given the various health benefits of PA, the hazards of being inactive are clear. Staff in the Polytechnic depict class of learned people, who are tasked with disseminating knowledge on technology, developing skilled forces for the society, directing the national research area and giving a lead in national development, hold a special position and their efficiency is of great importance in the large scale national development which makes their wholistic health indispensable. Their productivity and the environmental factors affecting them and the efficiency of this strategic human resource cannot be left behind without assessment; otherwise, such negligence will bring about great costs because of the amount invested on higher education. Therefore, the community which is supposed to benefit from scientific and technological development and ultimately the sustainable development in educational, cultural economic and political aspect will be at a loss.

The authors further assert that lecturers and administrative staff in particular do not take part in regular physical activity (PA). A related study in Iranian universities comparing active and inactive academic staff and administrative staff general health using the General Health Questionnaire revealed that women and married academic and administrative staff enjoyed better health than their counterpart.

### Objectives of the study

**1.** Assess and describe physical activity and exercise behaviours of staff of Kaduna Polytechnic, Kaduna, Nigeria

2. Describe the extent and difference in the physical activity and exercise behavior in the cadre, division and duty post of staff in Kaduna Polytechnic, Kaduna, Nigeria.
3. Describe how demographic variables such as sex and age influence PA in Kaduna Polytechnic.

## REVIEWED LITERATURE

### Physical Activity conceptualized

The concept of Physical Activity (PA) is one of the most frequently used word in the world of health, recreation and sport. The most concise definition of the concept was provided by Caspersen et al. (1985:126) "any bodily movement produced by skeletal muscles that results in energy expenditure." However, criticized, this definition remains compact and loaded regarding conceptualizing PA when it is considered that human body is made of skeleton and the skeletal movement were proved to expend energy, many of which are proven antithetical to healthy body (WHO, 2020). In this dimension, in 1995 the US National Institutes of Health (NIH) observed, accepted and adjusted the Caspersen conceptualization of PA to include "health benefits." Hence, defining physical activity, as "bodily movement produced by skeletal muscles that requires energy expenditure' and produces healthy benefits."

Owoeye, el. al. (2013) provided a more precise conception of PA as activities that include exercise as well as other physicality that involves bodily movement done as part of playing, working, active transportation, house chores and recreational activities. Accordingly, it is posited that physical activities is performed in different domains of life such as work, transport and leisure time, and patterns varies across different settings, cultures and environments (Owoeye, el. al.2013). Piggin, J. (2020) reviewed several definitions of the concept PA and suggested a newer and broader definition, which is relevant to this understanding. Where, PA was conceived as: physical activity that involves people moving, acting and performing within culturally specific spaces and contexts, and influenced by a unique array of interests, emotions, ideas, instructions and relationships.

The perceived proven significance of physical activities to good health at low cost has enhanced global appraisal of the phenomenon (WHO, 2020). In developing countries like Nigeria, reports on level of pa especially among public servants is not encouraging. Owoeye et. al. (2013) studied PA among staff in Lagos state public service and found extreme low level of PA in male and female categories of the sample. The study found that PA is more consistent in the lower cadre than the higher cadre of the civil service with poor personal motivation to pa and exercise and dearth of sport infrastructure as compounding factors. In a similar vein, Samson-Akpan, Eyo and Joshua (2013) examined PA in academic staff of universities and understood that though the subjects of the study have high perception of the necessity of physical activities for quality living, their level of involvement in PA was low. Thus, to avert this trend the scholars advocated for individual motivation and official policy readjustment to support PA in work place.

### Polytechnic, work place and PA in Nigeria

In workplaces, researchers have identified certain factors which influence participation in regular PA. They include job satisfaction, (Olorunsola, 2012), occupational demand and provision of sport facilities and equipment (Omolawon & Sanusi, 2006), lack of time due to responsibilities related to family and environment (Daskapan, Tunzun & Eker, 2006, Omolawon & Sanusi, 2006) and level of awareness of PA benefits (Umeifekwem, 2011). The Polytechnic workplace as a unique work setting is generally perceived as high income establishments. In Nigeria, it is essentially characterized by enhanced infrastructural and technologically automated environment. According to Emiola (2008) such environment has exacerbated physical inactivity and sedentary lifestyle. Incidentally, Akindutire and Adegboyega ( 2012) reported that 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 PA behavior in such workplaces. However, for positive PA behavior to be effectively promoted and entrenched among diverse working population, research-based information on staff readiness and status of participation becomes not only a necessity but important major step for categorizing, characterizing and describing target populations according to respective levels of participation with the goal of developing population-based interventions.

**Theoretical Framework**

***Self-Determination Theory (SDT)***

This study adopts Self-Determination Theory (SDT) as the standpoint for the study. The Self-Determination Theory (SDT) incorporated several important physicality, health and social factors in the variables such as intrinsic and extrinsic values to describe people orientation towards engagement in physical activities. Importantly the theory suggested that people have dispositional tendencies, named causality orientations which describe the way they preferentially orient towards their environments, resulting in characteristic motivational and behavioral patterns (Teixeira, et. al, 2012). Additionally, SDT becomes a crucial point of reference for the study, where it is shown that the theory emphasizes the importance of focusing not just on the quantity but also on the quality of motivation to engage in behaviors such as PA (Ntoumanis, et. al. 2018). As the data in this study shows only a negligible percentage of the respondents holds an intrinsic value to PA. The study data also is interpreted to mean this negligible portion of the sample is it that held an extrinsic value to PA based on the surveyed questions. However, critical to interpretation of the data using the theory was the fact that 'causality orientations' is critically the missed factor in conditioning the PA orientation of the respondents as studied.

## METHODOLOGY

***Study Area***

This study was conducted in Kaduna Polytechnic established in 1965 This institution is the largest Polytechnic in sub-Saharan Africa is administered on five (5) campuses, the College Of Engineering (COE) College Of Science And Technology (CST) College Of Environmental Studies (CES) College Of Business And Management Studies (CBMS) College Of Administrative Studies And Social Sciences (CASSS), College Of Technical And Vocational Education (CTVE) and expanse administrative structure known as the Central Administration (CA), that manages a total workforce of currently 5300 academic and non-academic staff.

***Research Design***

Descriptive survey was adopted for the study. This method was found suitable because of the possibility of reaching the subjects scattered across allocation (Afolabi, 1993). *Sample*: research design, using Cluster and simple random sampling to explore Physical activity and exercise behavior of select academic, nonacademic and administrative staff of the Polytechnic. The sample used were 503 senior academic and administrative staff in Kaduna Polytechnic, Kaduna in Kaduna State. *instrumentation:* The study adopts and modify the United States of America Adult Physical Activity Question On The National Health Interview Survy:1975-2012 questionnaire which consist of two sections, as the major instrument of the study. The first part of the questionnaire elicit the demographic of the sample through the variables such as gender, age, division and duty post of respondents. The second section assesses the Physical activity and exercise behavior of the sample in the year under study (January, 2022-2023). *procedure:* four trained research assistants in collaboration with the researchers help administered the questionnaire.

**Data Analysis**

Data collected were analyzed using SPSS version 24 and Excel 2013 are used for the analysis which elicited the descriptive and inferential statistics measured in mean and standard deviation that were subjected to t-test and Analysis of Variances investigation of significant differences, in sample submissions. Statistical significance at p-value <0.05 and at a confidence level of 95% was considered significant.

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## RESULTS

**Table 1: Socio-Demographic characteristics**

| Variables | Categories | Frequency | Percent |
|---|---|---|---|
| Gender | Male | 314 | 62.4% |
| | Female | 189 | 37.6% |
| Age | 27-35 years | 103 | 20.5% |
| | 36-45 years | 155 | 30.8% |
| | >45 years | 245 | 48.7% |
| Division | Academic | 273 | 54.3% |
| | Non-academic | 122 | 24.3% |
| | Administrative | 79 | 15.7% |
| | Security | 29 | 5.8% |
| Duty Post | CA | 49 | 9.7% |
| | COE | 94 | 18.7% |
| | CST | 63 | 12.5% |
| | CES | 19 | 3.8% |
| | CBMS | 133 | 26.4% |
| | CASSS | 74 | 14.7% |
| | CTVE | 71 | 14.1% |
| Years spent in the service of the polytechnic | 1-5 years | 73 | 14.5% |
| | 6-10 years | 93 | 18.5% |
| | 11-15 years | 151 | 30.0% |
| | >15 years | 186 | 37.0% |

CA= Central Administration, COE = College of Engineering, CST = College of Science and Technology, CES = College of Environmental Studies, CBMS = College of Business and Management Studies, CASSS = College of Social Sciences Studies, CTVE = College of Technical and Vocational Education

Table 1 shows that 62% of the respondents are male, 21% are less than 35 years, while 51% are less than 45 years while the remaining 49% aged above 45, the distribution of respondents based on division shows that 54% of respondents are academic staff, 24% are non-academic staff, while the remaining 16% and 6% are administrative staff and security respectively. The distribution of staff based on duty post shows that majority (26%) of the respondents are staff of CBMS, smallest percentage (4%) of the respondents are staff of CES, while the staff of CA are 10%, in terms of year of service, 14.5% of respondents spend less than 5 years in service of the polytechnic, 33% have less than 10 years of service, 63% spend less than 15 years in service, while up to 37% spend more than 15 years in the service of the polytechnic.

**Table 2: Respondents Exercise Habit**

| Variable | Response | Frequency | Percent |
|---|---|---|---|
| Do you do any of these exercises on regular basis? | Yes | 207 | 41.2 |
| | No | 296 | 58.8 |
| | Total | 503 | 100.0 |
| If yes tick as appropriate | Ride a bicycle | 50 | 24.15 |
| | Do callisthenic | 0 | 0.00 |
| | Jogging | 104 | 50.24 |
| | Lift weight | 49 | 23.67 |
| | Swim | 29 | 14.01 |
| | Walk for exercise | 89 | 43.00 |

Table 2 presented that 41% of the respondents do some of the listed exercise, jogging and walking are the exercises carried out by most of the respondents, 50% and 43% respectively.

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**Table 3: Exercise Participation**

| Question | Response | Frequency | Percentage |
|---|---|---|---|
| During this past twelve (12) months have you participated in any of these sports | Basket ball | 19 | 3.78 |
| | Football | 225 | 44.73 |
| | Golf | 8 | 1.59 |
| | Gymnastics | 0 | 0.00 |
| | Handball | 25 | 4.97 |
| | Swimming | 0 | 0.00 |
| | Tennis | 23 | 4.57 |
| | Track and field. | 11 | 2.19 |
| | Volleyball | 41 | 8.15 |
| | Wresting | 0 | 0.00 |
| Did you participate in-as a member of an organized team? | Yes | 187 | 37.2% |
| | No | 316 | 62.8% |

It is revealed from Table 4.3 that football is the sport in which most (45%) of the respondents participated in the last 12 months and only 37% of the respondents participated in-as a member of an organized team.

**Table 4: Extent of physical activity in respondents**

| | | Frequency | Percent |
|---|---|---|---|
| In the last one year how would you describe your physicality: | more active | 84 | 16.7% |
| | less active | 229 | 45.5% |
| | about as active | 112 | 22.3% |
| | none active | 78 | 15.5% |
| Do you feel that you get more exercise as you need or less than you needed? | yes much as I feel | 201 | 40.0% |
| | less than needed | 302 | 60.0% |
| Do you follow a regular routine of physical activities? | Yes | 188 | 37.4% |
| | No | 315 | 62.6% |
| How often do you walk a mile or more at a time without resting? | Everyday | 29 | 5.8% |
| | 4-6days a week | 48 | 9.5% |
| | 2-3 days a week | 49 | 9.7% |
| | 1 day a week | 118 | 23.5% |
| | less than a day a week | 192 | 38.2% |
| | Never | 67 | 13.3% |

It is observed from the report in Table 4 that only 17% of respondents are more active in the last one year, while 45.5% are less active and up to 15.5% are none active at all; up to 60% of the respondents confide that they get or less than they need; 38% of the respondents walk at least one mile without resting for once in many weeks, 23.5% do the walk once in a week, only 6% do it every day of the week, 9.5% and 9.7% perform the walk between 4 to 6 days and between 2 to 3 days in a week respectively, while the remaining 13% did not perform this walk at all.

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**Table 5: Respondents' Nature of Exercise, Sport or Physical Activities in the Past 2 Weeks (Monday to Saturday) and its perceived consequences to the Heart Rate**

| Exercise | Duration | | | | Consequence to the heart | | | |
|---|---|---|---|---|---|---|---|---|
| | 15m | 30m | 1hr | >1hr | None | Small | Moderate | Large |
| Jogging or running | 77 (15.31%) | 122 (24.25%) | 255 (50.7%) | 49 (9.74%) | 49 (9.74%) | 105 (20.87%) | 289 (57.46%) | 60 (11.93%) |
| Gardening or yard work | 215 (42.74%) | 269 (53.48%) | 0 (0%) | 19 (3.78%) | 111 (22.07%) | 260 (51.69%) | 73 (14.51%) | 59 (11.73%) |
| Aerobic dancing | 68 (13.52%) | 163 (32.41%) | 0 (0%) | 0 (0%) | 68 (13.52%) | 138 (27.44%) | 25 (4.97%) | 0 (0%) |
| Callisthenic or general exercise | 107 (21.27%) | 48 (9.54%) | 300 (59.64%) | 48 (9.54%) | 30 (5.96%) | 74 (14.71%) | 258 (51.29%) | 141 (28.03%) |
| Golf | 0 (0%) | 0 (0%) | 19 (3.78%) | 30 (5.96%) | 0 (0%) | 0 (0%) | 30 (5.96%) | 0 (0%) |
| Tennis | 29 (5.77%) | 29 (5.77%) | 49 (9.74%) | 0 (0%) | 29 (5.77%) | 19 (3.78%) | 59 (11.73%) | 0 (0%) |
| Biking | 19 (3.78%) | 142 (28.23%) | 49 (9.74%) | 0 (0%) | 49 (9.74%) | 58 (11.53%) | 103 (20.48%) | 0 (0%) |
| Swimming or water exercise | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Yoga | 19 (3.78%) | 49 (9.74%) | 78 (15.51%) | 0 (0%) | 30 (5.96%) | 49 (9.74%) | 67 (13.32%) | 0 (0%) |
| Weight lifting or training | 25 (4.97%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 25 (4.97%) | 0 (0%) | 0 (0%) |
| Basketball | 0 (0%) | 0 (0%) | 25 (4.97%) | 84 (16.7%) | 0 (0%) | 0 (0%) | 50 (9.94%) | 59 (11.73%) |
| Football | 30 (5.96%) | 48 (9.54%) | 130 (25.84%) | 139 (27.63%) | 0 (0%) | 54 (10.74%) | 86 (17.1%) | 207 (41.15%) |
| Volley ball | 0 (0%) | 30 (5.96%) | 29 (5.77%) | 0 (0%) | 0 (0%) | 30 (5.96%) | 29 (5.77%) | 0 (0%) |
| Handball | 0 (0%) | 0 (0%) | 19 (3.78%) | 0 (0%) | 0 (0%) | 0 (0%) | 19 (3.78%) | 0 (0%) |

Values are: frequency (percentage)

Table 5 present the frequency and percentages of the duration of different exercises, sport or physical activities by respondents in the past 2 weeks (Monday to Saturday) and their corresponding consequences to the heart.

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**Table 6: Perceived Physicality in Office Duty, Availability of Exercise Facilities and Programme in Work Place**

| Question | Item | Frequency | Percent |
|---|---|---|---|
| How much hard physical work is required on your job? | Great deal | 29 | 5.8 |
| | Moderate | 48 | 9.5 |
| | Little | 78 | 15.5 |
| | None | 348 | 69.2 |
| | Total | 503 | 100.0 |
| Which exercise facilities are available to you for exercise in your work premises from start of work to closing? | Gymnasium/ exercise room | 29 | 5.77 |
| | Weightlifting equipment | 29 | 5.77 |
| | Office Fitness treads | 19 | 3.78 |
| | Biking paths | 440 | 87.48 |
| | Swimming pools. | 0 | 0.00 |
| | Football pitch | 309 | 61.43 |
| | Table tennis courts | 195 | 38.77 |
| | Badminton courts | 269 | 53.48 |
| Which of these exercise programmes are made available to you by the institution? | Walking groups | 0 | 0.00 |
| | Jogging/running groups. | 0 | 0.00 |
| | Biking/cycling classes | 0 | 0.00 |
| | Swimming classes. | 0 | 0.00 |
| | Weightlifting classes | 29 | 5.77 |
| | Physical activities or exercise (competitions/games) | 83 | 16.50 |

It is seen in Table 6 that up to 69% percent of the respondents reported that hard physical work is not required on their job, while about 6% of them report that great deal of it is need in their job, 9.5% and 15.5% of them reported the need of hard physical work as moderate and little, respectively. The exercise facilities that are reported to be available for exercise in work premises from start of work to closing include; Biking paths (87%), Football pitch (61%), Badminton courts (53%), and Table tennis courts (39%), about 6% each, reported that Gymnasium/exercise room and Weightlifting equipment are available. Physical activities or exercise (competitions/games) is the only exercise programmes that is made available to the respondents by the institution among the listed progammees in the table, with exception of 5.8% that reported Weightlifting classes.

***Inferential Analysis***

**Table 7: Compared Mean of Ages and Exercise Beheviour in Respondents**

| Variables | Categories | Exercise behavior | F | p-value |
|---|---|---|---|---|
| Gender | Male | 3.04 ±0.12[b] | 8.098* | .000 |
| | Female | 1.58 ±0.12[a] | | |
| Age | 27-35 years | 2.48 ±0.20[b] | 30.179 | .000 |
| | 36-45 years | 3.46 ±0.17[c] | | |
| | >45 years | 1.89 ±0.12[a] | | |
| Division | Academic | 2.17 ±0.10[b] | 29.189 | .000 |
| | Non-academic | 2.34 ±0.21[b] | | |
| | Administrative | 1.33 ±0.01[a] | | |
| | Security | 4.29 ±0.25[c] | | |
| Duty Post | CA | 1.36 ±0.13[a] | 18.515 | .000 |
| | COE | 4.05 ±0.40[d] | | |
| | CST | 1.54 ±0.15[a,b] | | |
| | CES | 4.67 ±0.01[d] | | |

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| | | | | |
|---|---|---|---|---|
| | CBMS | 2.97 ±0.17[c] | | |
| | CASSS | 2.29 ±0.32[b,c] | | |
| | CTVE | 2.23 ±0.13[b,c] | | |
| Year spend in the service of the polytechnic | 1-5 years | 2.61 ±0.20[b] | 25.686 | .000 |
| | 6-10 years | 4.27 ±0.16[c] | | |
| | 11-15 years | 2.04 ±0.17[a] | | |
| | >15 years | 2.11 ±0.15[a,b] | | |

values are mean ±standard error
*t-statistic
categories with different superscript within a variable, indicates a significant difference
CA= Central Administration, COE = College of Engineering, CST = College of Science and Technology, CES = College of Environmental Sciences, CBMS = College of Business and Management Studies, CASSS = College of Social Sciences Studies, CTVE = College of Technical and Vocational Education

The hypotheses of significant difference in exercise behavior based on the socio-demographic variables is tested and presented in Table 8, the p-value of the t-test of significance based on gender is less than 0.05 we therefore conclude that the exercise behavior of male senior staff is significantly higher than that of female senior staff. The p-values for all the ANOVA tests are less than 0.05, we therefore conclude that there is a significant difference in the exercise behavior of senior staff based on age, division, duty post, and year of service. The post hoc analysis revealed that staff aged between 36 to 45 have significantly highest exercise behavior in terms of age while staff aged above 45 have significantly lowest exercise behavior. The analysis revealed that security staff have significantly highest exercise behavior based on division while administrative staff have significantly lowest exercise behavior. Based on duty post, it is observed that CES and COE staff have significantly highest exercise behavior while CA staff have significantly lowest exercise behavior. The analysis revealed that staff with year of service between 6 to 10 years have significantly highest exercise behavior while those with above 15 years of service have significantly lowest exercise behavior.

**Table 8: Exercise behavior**

| Variable | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|
| Exercise behavior | 0.00 | 6.25 | 2.4940 | 2.08178 |

Respondents were scored based on their reported exercise behaviors in the question and Table 8 presents the description of the dependent variable, exercise behavior, the variable have a minimum score of 0.0 and a maximum score of 6.25, the average score is 2.49 with a standard deviation of 2.08.

## SUMMARY OF MAJOR FINDINGS

a. This study reported lack of physical activity in the respondents as studied where only 17% of the respondents reported more activeness in the last one year, while 45.5% are less active and up to 15.5% are none active. In addition, up to 60% of the respondents confide that they get less physical activities they needed; as only 38% of the respondents walk at least one mile without resting, once in many weeks, 23.5% of the respondents reported walking once in a week, as only 6% of respondents reported walking a mile every day of the week. 9.5% and 9.7% perform the walk between 4 to 6 days and between 2 to 3 days in a week respectively, while the remaining 13% did not perform this walk at all.
b. The post hoc analysis of the study revealed that staff aged between 36 to 45 have significantly highest exercise behavior in terms of age while staff aged above 45 have significantly lowest exercise behavior. The analysis revealed that security staff have significantly highest exercise behavior based on division while administrative staff have significantly lowest exercise behavior.
c. Based on duty post, it is observed that CES and COE staff have significantly highest exercise behavior while CA staff have significantly lowest exercise behavior. The analysis revealed that staff with year of service between 6 to 10 years have significantly highest exercise behavior while those with above 15 years of service have significantly lowest exercise behavior.

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## DISCUSSION

a. This study shows poor personal motivation in staff and dearth of sport facilities and orientation as major hindrances to exercise bahaviour in staff of Kaduna Polytechnic. The study reports availability of exercise facilities from start of work to closing which include; Biking paths, Football pitch (61%), Badminton courts (53%), and Table tennis courts (39%), about 6% each, reported that Gymnasium/exercise room and Weightlifting equipments are available. While, respondents reported availability of sporting facilities there are reported discrepancy in sample physicality across colleges where CES and COE (largely populated by academic staff and closed to the sport complex hosting; 2 football pitches, one badminton court, one basketball court. The gym is located in the central administration (CA) of the polytechnic) staff have significantly highest exercise behavior while CA staff have significantly lowest exercise behavior. The analysis revealed that staff with year of service between 6 to 10 years have significantly highest exercise behavior while those with above 15 years of service have significantly lowest exercise behavior. This is a dangerous pattern that suggested the higher a staff grows in the system, the lesser his physicality. Senior cadre staff in polytechnic institution in Nigeria like Kaduna polytechnic spend longer hour sitting in meeting such as academic board, appointment and promotion, examination malpractice and general management. They also enjoy, luxury of catches of assistants who helped move files and document and also have access to computer and internet that ease inter-departmental communications.

b. Another, key issue this study has raised is the fact that respondents lacked in the participation in organized sport. Organized sports have lots of physical, social and even economic benefits. While, institution such as KadPoly organized competition known as *Rectors Cup* for both staff and students, the sport unit and departments also designed competition for colleges and departments annually. Higher institutions in Nigeria, are meant to participate in organized sports in NUGA, NIPOSGA and West African Polytechnic Games. Nevertheless, this study revealed in Table 3 that football is the sport in which most (45%) of the respondents participated in the last 12 months and only 37% of the respondents participated in-as a member of an organized team. Track and field events has only 2% representation, tennis has 5% reportage, basketball 4%, and handball 5%. Other sports however simple and less resources needed such as wrestling, gymnastic are not reported to have been engaged in by respondents.

c. The overall nature of exercise and physical activities reported by the respondents and their consequences to heart rate (as perceived by the respondents) also mirror susceptibility to physical inactivity as table 5 shows. Dancing is a simple exercise that is fun, improve health and needed less equipment to be conducted. The data shows that only 13% of the respondents engage in aerobic exercise for 1hr in the preceding 2weeks and the consequence on heart rate is moderate at 5%. Biking is another simple and fun filled form of exercise that can be performed in work place. Only 28% of respondents reported biking for 30m, the impact on heart rate are between small and moderate at 33%.

## CONCLUSION

This explorative study revealed a less active pattern of exercise behavior in a cross section of the staff of Kaduna polytechnic, in Nigeria. Reinforcing other studies in Nigeria, this study affirmed that leisure and sport orientation among tertiary institutions staff is increasingly being compromised in Nigeria, as roles and official duties are increasingly simplified due to adaptation of technology (official cars, computer, monitored board, internet) reducing physicality in work place such as walking and in the long run ensuring sedentariness in roles and duties. And, in the long run, where deliberate efforts are not made by staff and importantly the institutions administration to reverse this trend through social and physical procedures staff health and productivity are the victim.

## RECOMMENDATIONS

From the foregoing, this study recommends thus:

a. The federal Government should:
   i. through the TETFUND in addition to provision and renovation of sporting centres and complex in schools, provide sports equipment such as bike, dumbbells and sport physical fitness tools to tertiary institutions.

ii. TETFUND should create special sponsorship and improve training grants for sport instructors in tertiary institutions to update and equip themselves with trends in managing physical inactivity in populations.
iii. Overall the ministry of education and sport need to improve sport organization and execution in tertiary institutions in Nigeria, through increased support in funding and increasing spread and frequency of games and competition.
iv. The ministries should collaborate with tertiary institutions in locally sourcing resources (equipment) for sports such as weightlifting and cycling as part of innovative drive and exercises encouragement.

b. The Polytechnic (Kaduna Polytechnic) should:

i. Revitalize competitive sport among staffs in the campuses and colleges of the institutions. This as has both mental, physical, social and economic significance.
ii. The institution's sports unit need to be vibrant in synergizing with management and College Dean's HODs in building sporting communities and clubs. This will increase coordination, control and guidance to staff on healthy physical activities.
iii. The institution must improve its yearly budgetary allocation to sport in their submission to the budget office, capturing innovative tools and gadget that help reduce physical inactivity such as treadmills and stationary bike/bicycles in offices.

c. the staff unions of the polytechnic should:

i. The polytechnic has three (3) strong and vibrant union (the Academic Staff Union Of The Polytechnic ASUP, KadPoly branch and the Senior Staff Association Of Polytechnic, KadPoly branch and Non-Academic Staff Union Of Polytechnic, KadPoly branch) engage in and sponsor sensitization programs across campuses on the importance of physical activities at work and the health implications of lack of physical activities in general.
ii. Owing to the staff strength in the institution targeting almost 5000, these unions administered monthly and yearly check-off (monthly contributions) of members that run into millions. Congregation of the institution can present routine (daily, weekly and monthly) robust health and sporting programmes and projects for these unions execution.
iii. In addition these unions' yearly incomes and expenses could be tapped to include purchasing sporting equipment such as treadmills, bikes, weightlifting and dumbbells for colleges, departments and units.

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