

Health Implications of Students Recreation in Obafemi Awolowo University, Ile-Ife, Nigeria

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Abstract: This paper examines the health implications of recreation activities among undergraduate students of Obafemi Awolowo University, Ile-Ife, Nigeria. A multi-stage sampling procedure was employed for the study. Eight undergraduate's hall of residence comprising four each for male and female were identified, three halls of residence each from male and female hostel were randomly selected. 1018 rooms were identified across the selected halls of residence out of which 102 rooms which represents 10% of the total number of rooms were selected for questionnaire administration. The study revealed that academic work schedule, mood, personal interest and awareness are the significant deterring factors to students participation in recreational activities, also, majority of the students perceived recreation as beneficial to their health and wellbeing. The correlation analysis between proximity to recreational facility and duration of recreation also showed that proximity does not influence recreational participation with an R value of 19.5%. A regression model with R= 92.7% revealed a strong relationship between hours spent recreating and health benefits experienced. The study concludes that policies that will encourage participation in recreational activities should be encouraged.

Keywords: Undergraduate Students, Health Implications, Recreational Activities, Hall of Residence, Participation

I. INTRODUCTION

Recreation activity is an important ingredient for long life. It is an experience or activity that is carried out within leisure, chosen voluntarily and providing pleasure for individuals of all age group (Akintunde, 2001, Adigun *et al*, 2016, Fatih *et al*, 2020) and according to Agbabiaka *et al* (2020) recreation is from the concept of creating again, reforming, or restoring the mind. It encompasses relaxation and recuperation; as it reforms and makes the individual to continue to perform on the job without undue stress. Recreation activities can be at community or individual level, it can be active or passive, indoor or outdoor and healthy or harmful. Simon (2015) emphasized that proper recreation is important as eating a healthy diet. Researches has shown also that people's involvement in recreation activities plays a significant role in integrating society, affiliating them with institutions, and enhancing their educational, health and developmental outcomes (Bloom, Michael and Douglas, 2005; Kim *et al*, 2017). The implication of recreation on

health and educational performance of students makes it an important subject in any academic environment. Campus recreational facilities planning and provision is an important criterion in the accreditation of both public and private universities in Nigeria. The Nigerian Universities Commission (NUC) as part of its processes for granting the commencement of university education at a location rates among other things the availability and adequacy of recreational facilities on ground to determine the takeoff of the proposed university. This made the provision of campus recreational facilities a major part of campus master plan. Recreation does not only recharge man's battery for performance but also improve the health of participants.

The patterns of student's participation in campus recreation include students that use on-campus recreation center facilities, programs, and services with the aim of garnering one or more benefits, according to Udokanma *et al* (2016), students who participate in recreational activities when in school enjoy a wide range of life improving benefits. One of such benefits is the health outcome. Campus recreation enhances the physical, mental and social health of individuals and students at large (Schwazeneger, Chrisman and Coleman, 2005, Adeyemo, 2013). Campus recreation is designed to provide an on-campus leisure opportunity for college life and providing a wise use of their leisure time (Atare, 2017). Recreation can be likened to physical therapy in the health profession. Physical therapy is a form of physical activity which health practitioners use in healing certain ailments. A man that is ill in health is distracted, depressed, mentally disturbed, emotionally discouraged or/and physically disabled from partaking in all activities, including that which is to boost his academic outcome as a student. Therefore, campus recreation is not only important for its health implication but also for its contribution to students' academic performance (Bloom, *et al*, 2005).

Students in the United States and California attributed the following health benefits to participating in campus recreation; feeling of wellbeing, overall health, level of fitness, physical strength, management of stress, athletic ability, weight loss and control, self-confidence, balance/coordination and ability to concentrate (Forrester, 2014). Student's involvement in active recreation enhances

their physical fitness, mental stability, aids blood circulation and reduces the effect of ailments which can be fast deteriorating when the patient does not engage in such activity.

The location, accessibility and distance of these recreational facilities to students' domicile affect their participation to a great extent (Montano *et al.*, 2008). This can deprive the students of recreation benefits and leave them to a life of medical care rather than improved medical conditions through active recreation. Active recreation has been reported to reduce depression and the effects of other health disorderliness (Schwazeneger *et al.*, 2005), release their anxiety and stress (Gao *et al.*, 2020). It is therefore believed that the promotion of active campus recreation through empirically supported policies on facility provision, management and awareness of the benefits of recreation among students will alleviate the institution's spending on student's health. This study is therefore necessary at this time to assess the availability of recreation facilities, participation and its health effect on Obafemi Awolowo University undergraduate students.

II. LITERATURE REVIEW

2.1 Concept of Recreation

Recreation consists of an activity or experience, usually chosen voluntarily by the participant, either because of the immediate satisfaction to be derived from it, or because he perceives some personal or social values to be achieved by it. It is carried on in leisure time, and has no work connotations. It is usually enjoyable and when it is carried on as part of organised or community services, it is designed to meet constructive and socially worthwhile goals of the individual participant, the group and society at large (Kraus, 1966 cited in Veal, 1992).

Recreation can be viewed as personal experience that is what it does to a person, it can also be viewed as an activity (the appearance it takes) or as an institution (the format in which it is made available to the community). Recreation can also be viewed as a process (what happens to an individual) and as a structure (the framework in which recreation is practiced) (Torkildsen, 1986). Recreation is an emotional condition within an individual human being that flows from a feeling of well-being and satisfaction. It is characterised by feelings of mastery, achievement, exhilaration, acceptance, success, personal worth and pleasure. It reinforces a positive self-image. Recreation is a response to aesthetic experience, achievement of a person's goals, or positive feedback from others. It is independent of activity, leisure or social acceptance (Gray and Pelegrino, 1973 cited in Veal, 1992, Omolawon & Ibraheem, 2014).

Recreation refers to experiences and activities chosen and pursued by the individual in his/her free time; the basis being that the experience sought and activities pursued, in the real sense of the word, 're-creates' the individual so that he/she

may be refreshed to enable him/her to resume daily obligations, whatever those may be. It has been proposed that play or recreational activities are outlets of or expression for excess energy, channeling it into socially acceptable activities that fulfill individual as well as societal needs, without need for compulsion, and providing satisfaction and pleasure for the participant (Yukic, 1970).

2.2 Socio-Economic Characteristics and Recreational Participation

Associated with the factors influencing recreational participation is the need to understand the socio-economic characteristics and the circumstances under which participation in campus recreation occurs (Naiman, 2001, Agbabiaka, 2016). This requires the knowledge of participants' social characteristics, the reasons for participating, constraints and problems in relation to participation among students. The followings are some of the factors influencing individual participation in recreational activities, noticeable among them include physical, socio-cultural, economic, level of education, mobility and institutional factor.

- i. **Physical Factors:** Physical factors classified as land and water bodies have been particularly important determinants of patterns of recreation activities. Land (space) is needed for almost all kinds of recreation activities. Land features provide opportunity for recreation activities like mountaineering, swimming and sailing.
- ii. **Socio-Cultural Factor:** Socio-cultural factors such as age and sex influence the pattern of recreation of groups or community.
 - a. **Age:** age is significant with regard to outdoor recreation. Burton (1970) pointed out that age between 18-25 years have maximum participation in outdoor recreation activities. Thereafter, it declines progressively with age.
 - b. **Sex:** Once again Burton (1970) points out that sex affect the type rather than the level of participation in the recreation activities. Males engaged in more recreation activities than female like football, boxing, fishing, hiking, while handball and photographing are more associated with female.
 - c. **Economic Factors:** Income has some bearing on the level and type of participation in recreation. Those with higher income are more likely to participate more frequently in recreation activities. This is more so with recreation pursuits such as polo, golf that requires substantial amount of money for equipments.
 - d. **Educational Factor:** Educational level shows some relationship with leisure patterns. It affects both type and level of participation. A study conducted by Outdoor Recreation Resources Review Commission in

USA revealed that those with higher education engaged in greater number in outdoor recreation activities than those with less education. The contention here is that, higher education exposes one to a variety of ideas and experiences with the recreation habits one engages in.

- e. Awareness of the benefits of recreation also influences participation in recreation as a planned behavior. It is a purpose driven adventure which is pursued for derived benefits such as physical, social, mental and health.
- f. Available free time is also an important determinant for recreation participation. This is the amount discretionary of time which can be used for recreation. Among students, academic level comes with varying discretionary time which implies that people with more free time tend to expend more time on recreation.
- g. Accessibility to facility and mobility: Transportation is a determinant of participation in recreational activities. Available and affordable transportation facilities enhances access to and patronage of recreational facilities.

2.3 Recreation and Health

The main purpose of recreation is basically the relaxation and revitalization of people so that they may efficiently return to their routine activities, which are not recreational but economically gainful (Chiesura, 2004). It involves physical, mental and emotional activities. It can reward the participants in terms of intellectual, physical and social growth, better health, improved citizenship and other qualities of personal development (Akinola, 2013). Bhatta (1982) further advanced that outdoor recreation introduces young people to a range of worthwhile leisure pursuits which will enrich their future lives, and develops the skills and knowledge essential for safe participation. Outdoor exercise contributes greatly to health and fitness and continuing participation in outdoor pursuits encourages the maintenance of a healthy lifestyle into middle age and beyond (English Outdoor Council, 2018). This is further asserted in Healthy Campus (2010) which identified physical inactivity as one of the six priority health risk behaviors for college students.

Participating actively in recreational activities reduces excess fat in the body, which according to Dikki (1990) lower the supply of blood brain tissues which have the tendency of leading to stroke and heart failure. Also, participating in recreation activities afford the participants the privilege of avoiding sicknesses associated with age. Regular exercise which is a form of recreation also helps in reducing some health challenges associated with age. According to Weiss (1993) participating actively in recreational activity is essential in sustaining healthy bones and helps in preventing regimen for osteoporosis i.e. a disease that causes bone to weaken and become easily breakable.

According to Breslow (2001), tiredness may result from poor circulation, which arises from lack of physical activity; people

who engage in physical activity are not prone to chronic fatigue. They have an enhanced feeling or well-being and are not vulnerable to depression. Active people have lesser problems of weight, sleep better and feel better about themselves. This is further asserted in Recreation on Campus (1985) which identified six priority areas of health risk behaviours among university students among which is physical inactivity. Claudia (2005) stated that recreation is essential to the longevity of human beings, especially as it helps to counteract stress. Stress is a major factor in many of the leading causes of death all over the world (Schwazzenger *et al*, 2005). According to Landers (1977) participating in physical outdoor recreation reduces depression of mental illness. Okunrotifa (1995) corroborates that recreation reduces depression among the individuals that participate in it after the day's tedious work. Issa (2007) also supported the values of recreation in stress management by asserting that recreation activities are the most pleasant stress reliever ever invented. Schwazener *et al* (2005) enumerates other health benefits to include reduction of obesity, reduction of the risk of chronic disease, boosting of the immune system and increase in life expectancy.

III. MATERIALS AND METHODS

3.1 The Study Area

Obafemi Awolowo University (OAU) is one of the first generation universities located in the heart of Ile-Ife in Ife-central Local Government Area of Osun State, Nigeria (figure 1), Ile-Ife is about 50 kilometers away from Osogbo, the state capital. Ife is also about 171 kilometers north-east of Lagos and 80 kilometers Northeast of Ibadan, the capital of Oyo State. Ile-Ife lies between latitudes $7^{\circ}21'N$ and $7^{\circ}33'N$ North of the equator and longitude $4^{\circ}27'$ and $4^{\circ}39'$ East of the Greenwich Meridian (figure 2) while OAU campus lies between latitude $7^{\circ}31'$ and $7^{\circ}32'N$ of the equator and $4^{\circ}28'$ and $4^{\circ}32'$ East of the meridian, with an approximate land area of 5,608 hectares (Makinde *et al*, 2021), accommodating over 35,000 students.

There are nine (9) halls of residence in OAU, eight (8) of which are for the Undergraduate students while the remaining one is for the postgraduate student, these hostels include Angola hall, Awolowo hall, Fajuyi hall and Education Trust Fund hall which are the male hostels while Mozambique hall, Alumni hall, Moremi hall and Akintola hall are the female hostels and Muritala Mohammed hall for the postgraduate students (Figure 3). Obafemi Awolowo University has ample recreational facilities within its territory. These recreational facilities include a football pitch, training pitches, cricket pitch, squash hall, basketball courts, handball courts, swimming pool, indoor sports hall, lawn tennis courts, volleyball courts and gymnasiums. Some of which are located within the halls of residence while a bulk of them are located at the sport center.



Fig. 1: Osun State in the National Context
Source: Ministry of Lands and Physical Planning, Osogbo, 2020

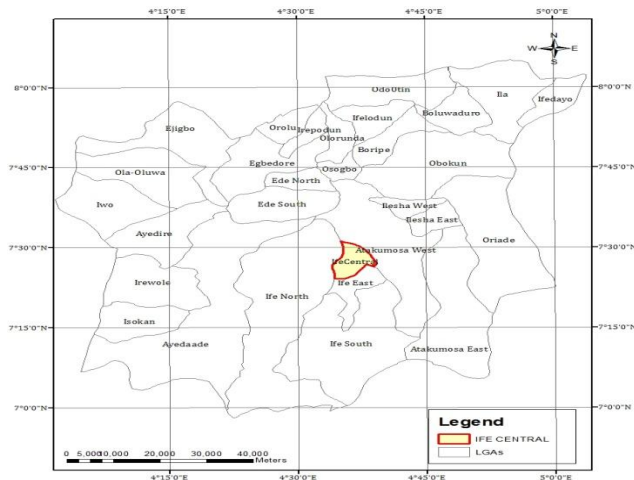


Fig. 2: Map of Osun State showing Ife Central
Source: Ministry of Lands and Physical Planning, Osogbo, 2020

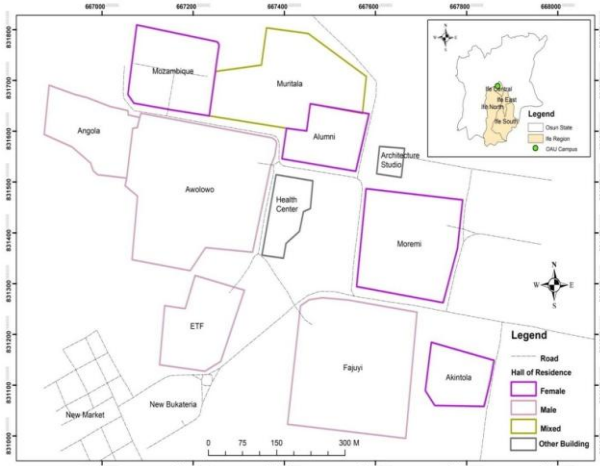


Fig. 3: Hall of Residence in Obafemi Awolowo University, Ile-Ife
Source: Iloabanofor *et al*, 2020

3.2 Research Methodology

All undergraduate students of Obafemi Awolowo University constitute the study population. Students residing in the university halls of residence only are the specific target population. The sampling frame for this study comprises of both male and female undergraduate student halls of residence within Obafemi Awolowo University. These halls are Awolowo, Fajuyi, Angola and ETF halls for the male and Moremi, Akintola, Alumni and Mozambique as the female halls. Primary and secondary data were used for this study. Primary data were sourced through the administration of questionnaire which was administered on identified students in the different halls of residence. The multi-stage sampling technique was adopted for this study. The first stage is the selection of all undergraduate halls of residence, eight (8) halls were identified. The second stage involves a random selection of three halls of residences each from male and female hostels. A total of six halls were selected making up a 75% representation from the study population (Table 1). The total number of rooms in the selected halls of residence was used in the study, owing to the fact that squatting among students has made the identification of the actual number of students residing in the halls difficult. The third stage also involves a random selection of 10% of the total number of rooms across the selected halls of residence. A questionnaire was administered on each student from the selected room. The first rooms were randomly selected after which every 9th room was picked to make up a total of 102 samples as presented in Table 1.

Table 1: Sampling Across the Selected Halls of Residence.

S/No	Halls of Residence	Number of rooms	Samples per hall
1	Fajuyi	352	35
2	Moremi	250	25
3	Akintola	140	14
4	Alumni	96	10
5	Angola	110	11
6	E. T. F.	70	7
	TOTAL	1018	102

Source: Field compilation 2019

Information elicited from questionnaire and field survey was subjected to both descriptive and inferential statistical analysis so as to draw conclusions and inferences for the population.

IV. RESULTS AND DISCUSSION

4.1 Respondents' Deterrence to Participation in Recreation

The Lickert's scale of Strongly Agree (SA), Agree (A), Indifferent (I), Disagree (D) and Strongly Disagree (SD) were used in rating respondents' deterrence to recreation. Weight value of 5, 4, 3, 2 and 1 were respectively assigned to the ratings. The Weighted Values for each deterring factor was

computed by summing the product of the number of responses for each rating to a measure and the respective weighted value. The Relative Deterrence Index (RDI) of each factor was arrived at by dividing its Sum of Weighted Value (SWV) by the summation of the respondents to each of the five ratings of deterrence (N). The Relative Deterrence Index can be represented mathematically as:

$$RDI = \frac{\sum SWV}{N}$$

Where N is the total number of responses to each rating

SWV is Sum of Weight Value = Relative Index * Number of response to each rating

RDI is Relative Deterrence Index

MDI is the mean or average RDI

MD is the Mean Deviation; it represents the difference between each RDI and the MDI. Positive MDI denotes significance while a negative value indicates no significance.

Various factors which deter students' recreational participation exist in literature (Morrison, 2001; Issa, 2007; Masmanidis *et al*, 2015). These factors include academic work schedule, mood, personal interest, awareness of recreational benefits and facilities availability, health issues, proximity to facilities, weather condition and disposable income. This was later used for determining whether such factor is significant relative to other factors. This is based on the assumption that any factor that scores below the MDI is considered insignificant (Masmanidis *et al*, 2015).

Presented in Table 2 is the Relative Deterrence Index of the rated factors. The Table shows that work schedule, mood, personal interest and awareness are the significant factors influencing the respondents participation with 3.92, 3.44, 3.40 and 3.18 Relative Deterrence Index at 3.16 Mean Deterrence Index.

Table 2: Relative Deterrence Index of Respondents' Participation in Recreation

FACTORS	SA (5)	A (4)	I (3)	D (2)	SD (1)	SWV	RDI	MD	SIGNIFICANCE (MDI=3.16)
Work schedule	38 (190)	32 (128)	24 (72)	2 (4)	6 (6)	400	3.92	0.76	Significant
Mood	25 (125)	20 (80)	24 (72)	11 (22)	10 (11)	310	3.44	0.28	Significant
Personal interest	23 (115)	33 (132)	24 (72)	6 (12)	16 (16)	347	3.40	0.24	Significant
Awareness	17 (85)	24 (96)	34 (102)	10 (20)	15 (15)	318	3.18	0.02	Significant
Health issue	16 (80)	33 (132)	34 (68)	6 (12)	13 (13)	305	2.99	-0.17	Not significant
Weather	16	23	21	23	18	299	2.9	-	Not

r condition	(80)	(92)	(63)	(46)	(18)		6	0.20	significant
Proximity to facility	15 (75)	16 (64)	27 (81)	25 (50)	19 (19)	289	2.83	-0.33	Not significant
Income	9 (45)	21 (84)	14 (42)	30 (60)	28 (28)	259	2.54	-0.62	Not Significant
Total						2527	25.26		

Key: SA-Strongly Agree, A-Agree, I-Indifferent, D-Disagree, SD-Strongly Disagree.

Note: The closer the RDI of a deterrence factor is to five, the more its significance.

Correlation among factors influencing respondents' recreational participation in Table 3 shows the relationship, strength of association and significance of such relationship.

Table 3: Correlation of Factors Deterring Respondents' Participation in Recreation

	A	B	C	D	E	F	G
B	-.049						
C	.041	.595** (35.4%)					
D	.202* (4.1%)	.206* (4.2%)	.551** (30.4%)				
E	.263** (6.9%)	.358** (12.8%)	.369** (13.6%)	.453** (20.5%)			
F	.250* (6.3%)	.012	.186	.204* (4.2%)	.352** (12.4%)		
G	.130	-.013	.341** (11.6%)	.229* (5.2%)	.203* (4.1%)	.686** (47.1%)	
H	-.129	.214* (4.6%)	.361** (13.0%)	.365** (13.0%)	.658** (43.3%)	.343** (11.8%)	.493** (24.3%)

*. Correlation is significant at the 0.05 level (2-tailed).

** . Correlation is significant at the 0.01 level (2-tailed).

Note: values in parenthesis are the percentage variability between alternating variables

- A-Work schedule
- B-Personal interest
- C-Awareness
- D-Proximity to facility
- E-Income
- F-Mood
- G-Weather Condition
- H-Health Issues

The correlation coefficient squared (the coefficient of determination, R^2) is a measure of the amount of variability in one variable that is shared by the other. For example, one may look at the relationship between personal interest and awareness. Personal interest may vary from person to person because of many factors such as experience, age, academic level among others. If we sum up all of this variability, we would then have an estimate of how much variability exists in Personal interest. We can then use R^2 to determine how much of this variability is shared by Awareness. These two variables had a correlation of 0.595 (which is significant at 0.001) and so the value of R^2 will be $(0.595)^2 = 0.354$. This value tells us how much of the variability in personal interest that is shared by awareness. When this value is converted into a percentage (multiply by 100) we can conclude that personal interest shares 35.4% of the variability in awareness.

4.2 Respondents' Perception of Recreation Activities

Perception is the personal view of a phenomenon which is based on consciousness as a thought, intuition, deduction, experience etc, of such phenomenon. Respondents' perceptions of recreational activities were examined as beneficial and waste of time. Majority of the respondents (91.2%) sees the recreational activities as a beneficial engagement to their health and wellbeing, 4.9% sees it as a waste of time, while another 3.9% were indifferent (Table 4). This is in tandem with the findings of Schwazenger *et al* (2005) in their study on health and social benefits of recreation, where the authors established that many people see recreation as a beneficial activity.

Table 4: Respondents' Perception of Recreational Activities

PERCEPTIONS	FREQUENCY	PERCENTAGE
Beneficial	93	91.2
Waste of time	5	4.9
Indifferent	4	3.9
Total	102	100.0

Source: Field compilation 2021

4.3 Respondents' Improvement in Ailments as a Result of Participation in Recreation Activities

The respondents' improvement in ailments in Table 5 reveals that majority of the respondents experienced improvement in obesity, heart-related disease, depression, fatigue, muscle pull and insomnia with 81.4%, 60.8%, 59.8%, 56.9%, 67.7% and 80.4% respectively by participation in recreational activities. Forrester (2014), in his study on campus recreation discovered that respondents expressed an improvement in the above listed ailments, including diabetes, cancer, headache and body pain, also Plotnikoff *et al*, (2015) submitted that lack of recreation constitute greater risks of some health problems such as obesity, cancer and psychological problems. These studies are corroborated with the above findings.

Table 5: Respondents Improvement in Ailments as a Result of their Participation in Recreation Activities

AILMENTS	YES (%)	NO (%)
Obesity	83 (81.4)	19 (18.6)
hearth diseases	62 (60.8)	43 (39.2)
Depression	61 (59.8)	41 (40.2)
Fatigue	58 (56.9)	44 (43.13)
Headache	19 (18.6)	83 (81.4)
Body pain	33 (32.4)	69 (67.7)
Muscle pull	69 (67.7)	33 (32.4)
Insomnia (sleeplessness)	82 (80.4)	20 (19.6)

Source: Field compilation 2021

*percentages in parenthesis are column percentage

A relationship between respondents' duration of recreation

and reported health benefits were also examined using a regression model. The summary as presented in Table 6 provides the value of *R* and *R*² for the model. *R* has a value of .927 and because there is only one predictor, this value represents the simple correlation between health benefits and duration of participation in recreation. The value of *R*² is .859, which reveals that the hours spent on recreation accounted for 85.9% variation in reported health benefits.

Table 6: Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.927(a)	.859	.850	3.40662

Source: Field compilation 2021

Predictors in the model include: did you experience improvement in insomnia as a result of engaging in recreational activities, did you experience improvement in headache as a result of your participation in recreational activities, did you experience improvement in depression by participating in recreational activities, did you experience improvement in fatigue as a result of participation in recreational activities, did you experience improvement in body pain as a result of your engagement in recreational activities, did you experience improvement in muscle pull by getting engaged in recreational activities

For these data, *F-value* 94.175 was significant at *p* <.000 (Table 7). The implication is that duration of participation is a significant factor influencing respondents' derived health benefits.

Table 7: ANOVA of the Regression Model

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	6557.477	6	1092.913	94.175	.000(a)
	Residual	1079.273	93	11.605		
	Total	7636.750	99			

Source: Field compilation 2020

The coefficient Table shows the magnitude and direction of individual predictor on the general outcome of the model as shown in Table 8.

Table 8: Coefficients of Recreational Health Benefits and Duration of Participation

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta	B	Std. Error
(Constant)	102.104	5.008		20.389	.000
improvement in fatigue	-.111	.748	-.006	-.148	.882
improvement in depression	-.47356	2.104	-.924	-22.503	.000

improvement in headache	-.345	.749	-.019	-.461	.646
improvement in body pain	-1.071	.814	-.058	-1.317	.191
improvement in muscle pull	.314	.818	.017	.384	.702
improvement in insomnia	-.595	1.168	-.021	-.509	.612

Source: Field compilation 2021

Dependent Variable: How long do you participate in recreational activities per week

4.4 Other Improvements in Respondents' Health

The respondents also reported other health benefits derived as a result of their recreational participation. These include physical fitness (40.1%), mental alertness (30.9%), fat reduction (11.5%), depression reduction (4.4%), immunity to sickness (2.7%), normalized heart rate and regulated blood pressure (1.8%) as shown in Table 9.

Table 9: Other Improvements in Respondents' Health

	FREQUENCY	PERCENTAGE
Physical fitness	41	40.8
Mental alertness	35	35.7
Fat reduction	13	13.2
Depression reduction	5	5.1
Immunity to sickness	3	3.6
Normalized heart rate	3	3.6
Regulated blood pressure	2	1.8
Total	102	100.0

Source: Field compilation 2020

V. CONCLUSIONS

This research work has examined the relationship between recreational activities and health implications of undergraduate students of tertiary institutions. The study revealed that academic work schedule, mood, personal interest and awareness are the significant factors influencing the students participation in recreational activities, also, majority of the students perceived recreation as beneficial to their health and wellbeing. The correlation analysis between proximity to recreational facility and duration of recreation also showed that proximity does not influence recreational participation with an R value of 19.5%. A regression model with R= 92.7% revealed a strong relationship between hours spent recreating and health benefits experienced. The study also showed that larger percentage of the students experienced improvement in their health condition by participating actively in recreation. It was also revealed that duration of participation is a significant factor influencing respondents' derived health benefits.

Based on the findings of this study and problems identified as hindrances to recreation which include male to female disparity in recreation, academic workload, mood, personal interest and awareness, the following recommendations were

proposed to encourage recreational participation among students towards harnessing the health benefits of recreation. Engendering policies that will encourage female participation in recreational activities; deliberate creation of more hours for active recreation in the school time table; creation of a special elective in physical and health education which every student must undertake; sensitization of the University community on the health benefits of recreation through lectures at orientation and the E-portal page where every student can read; strict directive on the use of campus recreational facilities, especially those in halls of residence for recreation alone.

REFERENCES

- [1] Adeyemo, O. A. (2013). Recreational Pattern of Students in Nigeria Tertiary Institutions: A Study of Ekiti States of Nigeria. *International Journal of Research in Education* 7(1): 114–129
- [2] Adigun, F. O., Abolade, O. and Adegboye, I. D. (2016). Patronage Pattern of Idanre Hills as Eco-Tourism Centre. *Journal of Research on Humanities and Social Sciences* 7 (9): 35–42
- [3] Agbabiaka, H. I. (2016). Physical Planning Implication of Eyo festival in Lagos Island, Nigeria. *Cogent Social Sciences* 2(1): 1257461
- [4] Agbabiaka, H., Omisore, E., Oparinde, R., Dada, O., Adeyemi, S., Oyedokun, A. and Sulaiman, G. (2020). Attitude toward Recreation: A case Study of Nigerian Academic Staff in Public Institution. *International Journal of the Constructed Environment*, 11(2), 1-16
- [5] Atare, F. U. (2017). Leisure Utilization Constraints as Perceived by Undergraduate Students of University of Uyo, Nigeria. *European Journal of Physical Education and Sport Science*. 3(8), 120-133
- [6] Akintunde, P. G. (2001). *Administration and organisation of physical and health education. Sports and Recreation*. Ibadan: Yew Printers.
- [7] Allan, J. P. (1983). *Recreation and resources*. Oxford: Blackwell.
- [8] Bloom, K., Michael, S. and Douglas, C. (2005). Strengthening Canada: The Socio-economic benefits of sport participation in Canada. Proceeding from the Conference Board of Canada. Retrieved from www.spra.sk.ca/index.php?option=com_content&task=view&id=70&Itemid=97.
- [9] Bhatta, A. (1982). *Tourism Development Principles and Practices*. New Delhi India: Sterling, Private Ltd.
- [10] Breslow, M. (2001). The impact of tourism development on residents. Perception of Community life. *Journal of Travel Research*, 4(1): 235-256.
- [11] Burton, W. (1970). *Tourism development and its impacts in the Senegalese Petite Cote: A Geographical Case Study in Centre-Periphery Relations*. London: Sage publisher.
- [12] Chiesura, A. (2004). The Role of Urban Parks for the Sustainable City. *Journal of Landscape and Urban Planning*, 68(1): 129-138.
- [13] Dikki, A. (1991). *The political economy of tourism development in Africa Cognizant Road and Rail Network Corporation*. New York: Elvis Publications.
- [14] [English Outdoor Council (2018). An Umbrella body for those involved in Outdoor Education, Training and Recreation. www.englishoutdoorcouncil.org/publication
- [15] Fatih, H, Jung-Hoon, Y. and Iulian, A. D. (2020). Participation in Physical Activities as Recreational Activity. *Science, Movement and Health*. 20(2), 113-116
- [16] Forrester, S. (2014). *The benefits of campus recreation*. Corvallis, OR: NIRSA. Retrieved from www.nirsa.org/research.
- [17] Gao, L., Liu, Z., Liu, R. and Wang, J. (2020). Design of University Campus Recreation Opportunity Spectrum Based on Environmental Psychology. *Revista Argentina de Clínica Psicológica*. 24(2), 40-49
- [18] Healthy Campus (2010). Task Force embraces Healthy Campus Initiative.

- <https://news.psu.edu/story/200629/2006/10/24/task-force-embraces-healthy-campus-2010-initiative>
- [19] Iloabanafor, T. A., Olawole, M. O. and Eludoyin, A. O. (2020). Weekday trip patterns of students in Obafemi Awolowo University, Ile-Ife, Nigeria. *Interdisciplinary Environmental Review*, 20(2), 159-185
- [20] Issa, A. Y. (2007). Effects of recreation activities in stress reduction among the Staff and Students of Tertiary Institutions in Ado-Ekiti. *Journal of Educational Research and Development*, 2(3): 56-63.
- [21] Kim, K. R, Sparvero, E. S. and Olmeda, N. (2016). Benefits of Campus Recreational Sports: A Rasch Calibration. *Recreational Sports Journal*. 40(2), 165-178
- [22] Landers, D.M. (1997). *The influence of exercise on mental health, physical health and sports*. London: Sage publications.
- [23] Masmanidis, T., Tsigilis, N., and Kosta, G. (2015). Perceived constraints of campus recreational sports programs: Development and Validation of an Instrument. *Journal of Physical Education and Sport Management*, 6(2): 8-18. ISSN 1996-0794.
- [24] Montano, D. E., and Kasprzyk, D. (2008). Theory of reasoned action, theory of planned behavior and the integrated behavioral model. In K. Glanz, B. Rimer, & K. Viswanath (Eds.), *Health Education and Health Behavior- Theory, Research and Practice* (4thed.). San Francisco: Jossey-Bass.
- [25] Morrison, L. (2001). An evaluation of leisure and recreational habit. Research report presented to the National Institute for Hotel and Tourism Studies (NIHOTOURS), Abuja.
- [26] Nieman, D.C. (2001). Does exercise alter immune function and respiratory infections? *Presidents Council for Physical Fitness & Sports Research Digest*, 3(13).
- [27] Okunrotifa, E. (1995). *Contemporary trends in special sport education programme*. Ado Ekiti: FAMFAL Publications.
- [28] Omolawon, K. O. and Ibraheem T. O. (2011). Social Factors Predicting Recreational Sports Participation among Academic Staff of Tertiary Institutions in Kwara and Kogi States, Nigeria. *International Journal of Sport Management, Recreation and Tourism* 7 (c): 30-43.
- [29] Plotnikoff, R. C., Costigan, S. A., Williams, R. L., Hutchesson, M. J., Kennedy, S. G., Robards, S. L., ... & Germov, J., (2015). Effectiveness of interventions targeting physical activity, nutrition and healthy weight for university and college students: a systematic review and meta-analysis. *International Journal of Behavioral Nutrition and Physical Activity*, 12(1), 45
- [30] Recreation on Campus: The New Building Boom. (1985). *Athletic business*, 9(4): 10-16.
- [31] Schwazenegger, A., Chrisman, M., & Coleman, R. (2005). The Health and Social Benefits of Recreation. (working paper). California State Parks. www.parks.ca.gov/pages/795/files/benefits%20final%20online%20v6-1-05.pdf
- [32] Simon, F. R. (2015). Prevalence and usage of open recreational spaces in Ibadan, Southwest Nigeria. (Doctoral dissertation). Department of Architecture, Covenant University, Ogun State, Nigeria.
- [33] Torkildsen, G. (1986). *Leisure and Recreation Management*. (2nd ed.), London: E. & F. N. Spon.
- [34] Udokanma, E. E., Akpu, E. E. & Onwunaka, C. C. (2016). Factors Affecting Participation in Recreational Sports Activities among Secondary School Students in Awka-South LGA of Anambra State. *Unizik Journal of Education Graduates*, 3(1), 68-88
- [35] Veal, A. J. (1992). Definitions of leisure and recreation. *Australian Journal of Leisure and Recreation*, 2(4): 44-48. Retrieved from www.business.uts.edu.au/1st/research.
- [36] Weiss, M. D. (1993). *Guide to good health: Consumers Union of the United States*. New York: Yonkens Inc.
- [37] Yukic, T.S. (1970). *Fundamentals of Recreation*. (2nd ed.), New York: Harper & Row.