

SUPPORTIVENESS OF UNIVERSITY PHYSICAL ENVIRONMENT ON UNDERGRADUATE STUDENTS PARTICIPATION IN LEISURE-TIME PHYSICAL ACTIVITY IN SOUTH WEST NIGERIA

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Abstract Participation in Leisure-Time Physical Activity (LTPA) has declined among university undergraduate students in Nigeria. Studies have identified the physical environment of universities as a potential cause of the decline; however, this claim has not been verified. Therefore, this study evaluates the role of the physical environment in universities in inducing student participation in LTPA. This study is necessary, as previous research has shown the involvement in LTPA helps in developing the physical, physiological, social, emotional and mental capacities of students. It is also a factor in the relief of daily stress from the heavy academic workloads of the university students. A quantitative research methodology was adopted for this study. A total sample of 2,867 students was selected from 14 public universities in South West Nigeria using a multi-stage sampling technique. It was deduced from the study that the physical environment was a determining factor for LTPA participation among university undergraduate students in South West Nigeria. In addition, it was found that the availability of facility infrastructure that encourages students roaming and safety pre-cautions on campus would enhance participation in LTPA among the university students.

Key words built environment, occupational activity, commuting activity, weather conditions, seasonal variations, meteorology

Introduction

Physical activity broadly describes all forms of large muscle movements, such as sport, dance, games, work, lifestyle activities, walking, cycling or exercise, to improve fitness (Cutts, Welk, Curbin, Welk, 2004). It describes any form of activity that involves movements that people take part in for fun or satisfaction out of playfulness. Physical activity is undertaken in various contexts, and can be categorized into Leisure-Time Physical Activity (LTPA), commuting activity and occupational activity (Jarvie, 2006; Morgan, 2016).

Leisure-Time Physical Activity (LTPA), the focus of this study, is defined as sporting activities, exercises, chores or any other recreational activities that people engage in during their discretionary or free time. LTPA generates long-lasting energy which helps to improve quality of life (Oyeyemi, Sallis, Deforche, Oyeyemi, Dyck, 2013; Harrison, Corder, Ekelund, van Shiys, Jone, 2014). The emphasis of LTPA is on all free-time activities that require physical exertion (or coordination), such as gardening, tramping, walking, fishing, hunting, etc. For university students, LTPA activities are engaged in during their free time, possibly before or after daily academic activities.

The university environment in Nigeria is a stressful environment for students while they adapt to new educational and social-environmental loads (Burbridge, 2008; Aderonmu, 2016). Studies have shown that accumulating these stressors depletes their physical and psychological resources, and raises the probability of physical illness and psychological distress (Orodele, 2008; AgriLife Extension, 2008). One of the benefits of participation in LTPA is that it eases the daily stress caused by the demands of the academic workload (Newton, Guo, Yang, Malkin, 2012). Thus, LTPA has grown to become strategically important for securing and sustaining a good quality of life in the academic environment. Furthermore, LTPA has a potent capacity to reduce the symptoms of anxiety and depression and improve self-esteem and self-concept in the students (Chan, Ryan, 2009; Aderonmu, 2016).

The level of participation in LTPA is modulated by biological, social and environmental factors (Ewing, 2005; Hagaard, 2009). Apart from biological incapacitation, factors such as community design, facility proximity and accessibility, safety, security, weather conditions and their seasonal variations (key elements of the physical environment that can dissuade interest in leisure programs), have little scholarly attention. Previous related studies have focused on the participation of university students in organised sporting activities as a way of expending energy or gaining favourable health outcomes. There are varieties of ways university students can achieve this outside participation in organised sports. And an area that has been largely neglected in previous investigations is the context (physical environment) within which the physical activities take place. Consequently, this study has evaluated how the physical environment of the universities has affected student engagement in LTPA, with the anticipation of improving the wellness of the students. This was achieved through a study of the physical environmental (built environment, weather conditions and seasonal variations) factors that influences participation in LTPA among undergraduate students in South West Nigeria.

Literature

Traditionally, Nigerians are inherently active people, especially during social events such as cultural and religious festivals, weddings, naming and coronation ceremonies. They also engage in intense physical activities such as local boxing, acrobatic dances, tree and hill-climbing, hunting and fishing, as well as mental activities such as hide and seek, craft and sculpture works, and social activities (Polinkas, 2001; Lahti, 2011; Audu, 2013). These activities are done mostly after daily works as leisure and have been valued as a unifying force among the people. Consequently, participation in a leisure activity is part of the culture and tradition of Nigerians. Similarly, studies have shown that a lifestyle that involves leisure activities is encouraged by the Nigerian government through the integration of Physical and Health Education (PHE) as part of the educational curriculum from primary school to university level (Merril, Shields, White, Druce, 2008, Bakare, 2015).

Although the levels and modes of participation in LTPA depend solely on the individual, motivating factors such as environmental cues for LTPA participation are very important. Most human behaviours, LTPA inclusive, are environment-related. Environmental variables may serve as facilitators or inhibitors to LTPA. For instance,

extreme changes in the physical environment have an extreme impact on the human body, indicating that the status of human beings can be altered by the physical environment to dissuade them from participating in LTPA. The survival of the species would at least partly dependent upon adaptation and the suitability of their environment (Karbir, Sulaiman, 2011).

LTPA among university students can be categorized into organised and unorganised physical activity. Organised activity is supported by environmental design and the availability of sporting infrastructure, while unorganised activity can derive from lifestyle activities such as household chores, stair climbing, walking from a hostel to classes, or from hobbies such as dancing, skating and cycling. A recent study has shown that both organised and unorganised forms of LTPA are on the decline in Nigerian universities (Asagba, Ibraheem, 2006) due to changes in university orientation and programmes that now focused more on rigorous academic pursuits, neglecting the place of leisure (Polinkas, 2001). The emphasis of University management is more on the lecture halls, theatres, hostels and libraries, with little interest in environmental designs that motivate sporting or recreation activities. Likewise, other factors such as environmental challenges, poor weather, over-engagement in academic workload, and a lack of consideration for sporting elements have led to a decline in LTPA among university students. People can face a variety of threats while engaging in LTPA in their environment, such as crime, street barbarism and terrorism (Owolabi, Adebayo, 2013). A lack of serenity, a perception of a lack of security, and fear of victimization are threats to the use of public spaces.

Previous studies have shown that the perception of environmental challenges such as safety and security in the physical environment are an important predictor of participation in physical activities (Gebel, King, Bauman, Vital, Gill, Rigby, Capon, 2005; Corbin, Welk, Corbin, Welk, 2009). It has been argued that the behaviour of physical activity would be more influenced by how individuals perceive their environment safety than by the absolute safety measure. People are more reluctant to walk, bicycle, jog or play in environments that are considered unsafe, which in turn leads to less physical activity.

The issue of communal relationship between students and the physical environment of the university is of particular importance today. Students require space and facilities better suited to their needs. The space designed for leisure activities in universities in Nigeria is not commensurate with the populations of the students (Shuval, Wiessblueth, Brezis, Dipiero, 2009; Sallis et al., 2015). Again, facilities available for sport and leisure such as parks, playgrounds, sporting grounds and gymnasiums in the universities today remain mostly inaccessible and grossly inadequate. Accessibility includes the availability of opportunities to engage in LTPA and the proximity to facilities that may encourage the activity (Committee on Physical Activity, 2005; Canpllat, Yildiz, Dorak, 2016).

With the aforementioned views, this study investigated the challenges of the physical environment of universities in South West Nigeria. The study evaluates the physical environment of the university as a determining factor for LTPA participation among the students.

Methods

The study examined the supportiveness of the physical environment toward undergraduate student participation in LTPA in South West Nigeria. The study sample (n = 219,964) was taken from all public-owned universities in South West Nigeria. Selection of the studied sample size involved four (4) stages, from general to specific and from wide to small and representatively constituent, using multi-stage sampling techniques. Seven public universities (4 State and 3 Federal Universities) out of 14 public-owned universities in South West Nigeria

were selected at stage one, and 50% of that population was selected from the faculties and departments in stages two and three respectively. Then, 10% of the stage three sample population, comprising students from the penultimate and final classes, were selected for the fourth stage, with a final study sample size of $n = 2,867$. The two most senior level classes were chosen from the perception of knowledge of the customs and practices of students in the various universities under study. A self-constructed instrument, "Leisure Activity Questionnaire (LAQ)", was created for the study. The subjects responded to various questions that captured physical environmental variables established in the literature, such as security and safety of university environment, the availability and accessibility of LTPA facilities, weather conditions and seasonal variations. The questionnaire was based on 4-point Likert scale of "Strongly Agree" (SA), "Agree" (A), "Disagree" (D) and "Strongly Disagree" (SD). The content validity of the instrument was established by five experts in the Human Kinetics and Test and Measurement departments from the University of Ilorin, Kwara State and Obafemi Awolowo University, Ile-Ife, Osun State, in Nigeria. The instrument for the study was subjected to a pilot test, during which it was administered twice within two weeks interval using a "test re-test" method at Joseph Ayo Bablola University, Ikeji, Arakeji, Osun State, which was not one of the universities in the study. A reliability test was carried out using Cronbach's Alpha statistics, which helps to measure the reliability and consistency of the instrument. The result showed a Cronbach's Alpha of 0.87, which is reliable for the study. The data collected were analyzed using descriptive statistics of frequency counts, percentages for the demographic data, while the inferential statistics of Chi-square was used to analyze the hypothesis formulated for the study. The model used LTPA as the dependent variable and other risk factors such as demographics, built environment and meteorological factors, as independent variables. The demographic factors used were gender, age, field of specialization, religion and disability.

Results

The demographic data shown in Table 1 reveal that 47.3% of the respondents were male and 52.7% were female. Table 1 shows that the youngest age bracket was 16–18 years (16.5%) and 41.7% of the respondents were 19–21 years old. This age category is not unexpected as the majority of the respondents were in their semi or final classes.

Table 1. Demographic distribution of the respondents

Variable	Measure	Frequency	Percentage
Gender	Male	1,290	47.3
	Female	1,440	52.7
Age	16–18 yrs	451	16.5
	19–21 yrs	1,139	41.7
	22–24 yrs	504	18.5
	25 yrs and above	636	23.3
Field of specialization	Science	1,031	37.8
	Art	1,699	62.2
Religion	Christianity	1,871	68.5
	Muslim	859	31.5
Disability	Yes	359	13.2
	No	2,371	86.8

The majority of respondents specialized in Art subjects (62.2%), while the religion distribution showed 68.5% Christian and 31.5% Muslim faiths. The majority of respondents had no physical challenge, with just 13% indicating a disability.

The study further tested whether the physical environment (built environment, weather conditions and seasonal variations) was a significant determinant of LTPA among undergraduate students in Universities in South West Nigeria. In order to test this hypothesis, the sets of data required were subjected to Chi-square analysis through the use of SPSS 16.0 at an $\alpha = 0.05$. The Chi-square results in Table 2 showed that $p = 0.000$, which is less than 0.05, therefore the hypothesis was accepted. This suggests that the physical environmental factors such as the built environment, weather conditions and seasonal variations, were the determinants of LTPA among university undergraduate students in South West Nigeria.

Table 2 shows that respondents (66.9%) feel secure in their university environment to participate in LTPA. The students (68.2%) concurred that the safety of their environment affects their involvement in LTPA. The respondents were requested to identify the characteristics of the physical environment that made them feel safer to participate in LTPA. In response, they agreed that the availability of streetlight (57.3%), more public open place for sports and recreation (65.1%), slower speed limit of cars and motorcycles (65.2%), better sidewalks (59.5%), street connectivity (57.1%) and favourable weather conditions (59.6%) would make them feel safer to participate in LTPA in their universities. The findings indicated that respondents (71%) would participate in LTPA if their environment were safer.

Table 2. Frequency distribution and Chi-Square Analysis Showing the relationship between Physical Environment and LTPA among University Students in South West Nigeria

Items	SD	D	A	SA	Cal	df	ASYMP .SIG.
1. You feel secure in your university physical environment to participate in LTPA	285 (10.4%)	620 (22.7%)	1,168 (42.7%)	657 (24.0%)			
2. The safety of your university physical environment affects your participation in LTPA	152 (5.6%)	717 (26.2%)	977 (35.8%)	884 (32.4%)			
3. The following will make you feel safer to participate in LTPA in your university physical environment							
i. More street lights	237 (8.7%)	926 (33.9%)	1,047 (38.3%)	520 (19.0%)			
ii. More public open spaces for sports	326 (11.9%)	626 (22.9%)	729 (26.7%)	1,049 (38.4%)			
iii. Slower speed limit of cars and motorcycles	193 (7.1%)	757 (27.7%)	660 (24.2%)	1,120 (41.0%)			
iv. Better sidewalks	214 (7.8%)	891 (32.6%)	1,130 (41.4%)	495 (18.1%)			
v. Street connectivity	342 (12.5%)	827 (30.2%)	1,153 (42.2%)	408 (14.9%)	2017.568	54	000*
vi. Favourable weather	308 (11.2%)	772 (28.3%)	875 (32.0%)	775 (27.6%)			
4. You will participate in LTPA if your university physical environment is safer	137 (6%)	544 (19.9%)	1,112 (40.7%)	937 (34.3%)			
5. You will participate more in LTPA if there is easy access to safe sport and recreation facilities in your university	208 (7.6%)	974 (35.7%)	1,080 (39.5%)	468 (17.8%)			
6. There are attractive sport/recreation facilities in your university	298 (10.9%)	736 (27%)	1,186 (43.4%)	510 (18.7%)			
7. You have the following exercise equipment in your hostel/school e.g. treadmill, bicycle ergometer, elliptical machine, rowing machine, stepper, free weight etc.	357 (13.1%)	736 (26.9%)	1,020 (37.3%)	617 (22.6%)			

* Significant.

The results also showed that respondents (57.3%) would participate in LTPA more if they have easy access to safe sports and recreation facilities. Respondents (59.9%) revealed that they have exercise equipment such as treadmill, bicycle ergometer, elliptical machine, rowing machine, stepper free weight of different sizes, etc., in their hostels and schools. Also, respondents indicated that they participated in LTPA both in dry (58.4%) and wet season (60.8%).

Table 3. Physical Environment as Determinant Cont'd

Items	SD	D	A	SA	Cal	Df	ASYMP.SIG
1. In which of these seasons do you like participating in LTPA?							
i. Wet (raining) season	288 (10.5%)	779 (28.5%)	950 (34.7%)	713 (26.1%)			
ii. Dry season	325 (11.9%)	810 (29.6%)	686 (25.1%)	909 (33.3%)			
2. Which of the weather parameters mostly affects your participation in LTPA in your university?							
i. Rainfall/precipitation	156 (5.7%)	693 (25.4%)	905 (33.1%)	976 (35.7%)			
ii. Temperature	191 (7%)	694 (25.4%)	935 (34.2%)	910 (33.3%)			
iii. Wind velocity/wind direction	255 (9.3%)	954 (34.9%)	988 (36.2%)	533 (19.5%)			
iv. Relative humidity	331 (12.1%)	767 (28.1%)	879 (32.2%)	753 (27.6%)			
3. Which of the under-listed do the weather affect most when on campus?							
i. Your state of mind	181 (6.6%)	879 (32.2%)	914 (33.5%)	756 (27.7%)			
ii. Equipment and facility surfaces	209 (7.7%)	690 (25.3%)	1,233 (45.1%)	598 (21.9%)			
iii. Types of apparel/clothing	186 (6.8%)	903 (33.0%)	957 (35.0%)	684 (25.0%)			

If $p < 0.05$, there is a significant difference.

In response to the question of “which of the weather parameters mostly influence you to participate in LTPA?” the respondents claimed that rainfall/precipitation (68.8%) was the weather parameter that mostly affected their participation in LTPA. After rainfall, temperature (67.5%) determines participation in LTPA. According to the respondents, wind velocity and direction (55.7%) and relative humidity (59.8%) affected their participation in LTPA. The respondents indicated that weather parameter affects their state of minds (61.2%), equipment and facility surfaces (67%), and apparel/clothing (60%).

Discussion

When the hypothesis was tested, it revealed that the physical environment (built environment, weather conditions and seasonal variations) was a significant determinant of LTPA among university undergraduate students in South West Nigeria. It thus means that the characteristics of the built environment and meteorological parameters are determinants of LTPA engagement. This is in accord with the study which hypothesized that environmental variables were associated with participation in LTPA (Cutts, Dirby, Boone, Brewis, 2009). The physical environment characteristics were as significant as the personal characteristics (age, gender, socioeconomic status, positive outcome expectancy, self-perception, intention, attitude, self-efficacy, motive and household demography) in determining the likelihood of participation in LTPA (Doyle, Kelly-Schwartz, Schlossberg, Stockard, 2006). The physical environment variables that are believed to be associated with LTPA are safety, traffic level, street connectivity, accessibility to open leisure infrastructure, public transportation and weather conditions (Cutts, Dirby,

Boone, Brewis, 2009; Sallis, Floyd, Rodriguez, Saelens, 2012). Therefore, it can be said that those who live in activity-friendly environments are likely to be more physically active during their leisure time.

The study revealed that the respondents had a keen interest in participating in LTPA in an environment that satisfied some conditions of their needs. The study showed that the physical environment must be perceived as safe and secure if participation in LTPA is to be encouraged. Safety in the university environment is a prominent worry that could impede participation in LTPA. A study in Nigeria has found that the perception of safety without crime within an environment was positively associated with both objectively moderate-to-vigorous physical activity and self-reported activity (Spasova, 2011). Individuals living in an unsafe environment participated less in LTPA than those living in a well-secured environment (Evenson, Mota, 2011). The immediate surroundings of leisure facilities are very critical in determining the attendance, density and frequency of LTPA. People may have the necessary knowledge, skills, attitudes and motivation to be physically active, but if the activity environment is insecure, they may be constrained from participating in it. Thus, creating a sense of security and safety is an essential pre-requisite for successful LTPA engagement.

Furthermore, one study has discovered that the availability of open spaces is a factor determining participation in LTPA (Shuval, Weissblueth, Brezis, Dipiero, 2009). The results of this study also showed that students would participate in LTPA if there were more open spaces for recreation and sport activities in their university. The previous study found that participants who had access to open spaces were 2.6 times more likely to be physically active than participants without access to open spaces (Shuval et al., 2009). Consequently, students are motivated to participate in LTPA when open spaces and parks are available, attractive, near to their dwellings, accessible and are perceived safe to use. The sports facilities in public universities today in Nigeria were actually meant to serve 450,000 students at a time of 1,252,913 enrolled students: 85% undergraduates, 5% sub-degrees, 3% postgraduate Diplomas, 5% Masters and 2% PhD (Okebukola, 2014). This also supports the view that hypothesised that the availability of public open spaces and parks was associated with recreational and possibly transport activities (Kabir, Sulaiman, 2011). With this background, it is clear that the facilities and open spaces in Southwest Nigerian universities have exceeded their carrying capacity and therefore cannot encourage LTPA.

The results corroborated an earlier study (Ladani, 1999) which claimed that the availability and attractiveness of LTPA sites were directly associated to the level of LTPA. Access to leisure facilities plays a critical role in LTPA engagement which is a direct result of the built environment or the layout of the community (Canolat et al., 2016). Research has indicated that the number of people who would show interest in LTPA would be determined by the nature and accessibility of leisure facilities. It thus means that achieving a greater LTPA depends largely on an environmental stimulus such as open space. It must be noted that if facilities are poorly located within a community, it matters little how well that facility is designed, as it is unlikely to be well-patronised. Furthermore, positive venue atmosphere (aesthetics), which is a product of facility design, has been discovered to be a key factor in encouraging people to participate in LTPA (Mulin, Hardy, Sutton, 2007). Therefore, the likelihood of achieving a greater LTPA depends on the physical environmental stimuli.

Access to equipment is a motivating factor for habitual participation in LTPA. The results of this study indicated that university undergraduate students in South West Nigeria would engage more in LTPA if they had access to training equipment in their schools/hostels. Stressing the correlations between the availability of exercise equipment and exercise engagement (Trost, Owen, Bauman, Sallis, Brown, 2002), propounded that access to exercise equipment supported exercise engagement and adherence. The results of this study also agreed with

(Spasova, 2011) in their study on physical activity determinants in obese and non-obese children which showed that irrespective of the weight status of the child, access to exercise equipment such as treadmills, bicycle ergometer, elliptical machine, rowing machine, stepper, free weight, etc., in schools/hostels were positively associated with an active lifestyle.

This study further demonstrated that students would be encouraged to be active in their neighbourhoods if the streets were well connected. This view corroborated (Mehta, 2006; Kamruzzaman et al., 2014; Sallis et al., 2015) who maintained that walking for transportation would be encouraged when the street network was more connected. They argued that the street pattern or connectivity affected the directness of travel and proximity of the destination and made travel more efficient, and that people who lived in well-connected streets tended to drive less than those who lived in car-dependent and not well-connected communities (Hansen et al., 2012). In examining existing literature concerning street connectivity, it was discovered that grid street designs create connectivity between the streets and more direct route choices for pedestrians, while curvilinear street designs (cul-de-sac) decrease community connectivity and discourage pedestrian activities in favour of automobiles.

The availability of street lighting was another attribute of a good environment that encouraged student exploration of their environment. The findings of this study indicate that students would engage more in LTPA in their neighbourhood if there were more streetlights. Street lighting is an attribute that is needed for nighttime activities (Sallis, Floyd, Rodriguez, Saelens, 2012; Kamruzzaman et al., 2014; Williams, 2015), increasing the feeling of security among LTPA participants (Nabofa, 2010). The lack of street lighting may hinder individual students from participating in LTPA in the evenings, during which they have more time to engage in LTPA as academic activities take a substantial part of the day.

The results of the study further indicate that meteorological factors were determinants of LTPA among university undergraduate students in South West Nigeria. The findings demonstrated that students would engage in LTPA if the weather conditions were favourable. This supports the findings (Ojeme, 2014) which explained that when there was congruence between individual and weather conditions, they would be happier, better adjusted and more likely to achieve personal goals such as active involvement in LTPA. Weather conditions can strongly promote LTPA (Turker, Gulliland, 2007). The attributes such as the amount of daylight, temperature, wind direction and velocity can hinder or promote participation in LTPA. The data in Table 2 show that rainfall/precipitation affected LTPA most, followed by temperature, relative humidity and wind velocity/direction, in that order. This agreed with (Junior, Reis, Hallal, 2014; Adesoye, Ajibua, 2017) which had earlier asserted that rainfall was negatively associated with physical activity. Studies showed that rainfall decreased the pleasure derived from outdoor activity (Coghill, 2012). Moreover, during rain or wet conditions, visibility reduces the satisfaction of physical activity programmes.

However, the data in Table 2 shows that university students participated in LTPA both in wet and dry seasons. One striking finding is that respondents engaged more in LTPA in the wet season than in the dry season. This is contrary to (Naser, Evans-Cowley, 2007) which posited that physical activity in the wet season was less than that of warmer seasons as it was inconvenient and inaccessible compared to warmer seasons. Likewise, A. Toker and J. Gulliland (2007) remarked that physical activity among the general population increases from cold weather to warm weather. It should be noted that studies which examined the effects of weather and seasonality on LTPA were undertaken in Europe and America. These results should not be the same as those in Nigeria because of differences in weather conditions and seasonality. The reason that could be advanced for the results of the

present study is that there are no extreme weather conditions in South West Nigeria. In addition, South West Nigeria is located on the coast of Atlantic Ocean, which makes dwellers more water/cold weather friendly.

Again, this study revealed that weather parameters influenced the students' state of the mind. This corroborated research which compared cold temperatures with mental processes where low temperatures influenced the concentration of attention, memory and general cognitive practices (Staiano, Broyles, Kartzmaryk, 2015). From another research standpoint, it was discovered that extreme temperature might lead to mood disturbances such as nervousness, irritability, aggressiveness and reduced concentration of attention (Merril, Shields, White, Bruce, 2008). In the same vein, a study postulated that human physical vigour was influenced by temperature, humidity and wind. Consequently, high temperature and humidity tend to decrease physical and mental vigour and could adversely affect attitudes towards LTPA (Silva, Lott, Mota, Welk, 2013).

It was stressed that weather conditions influenced environmental resources, as indicated in this present study (Turker, Gulliland, 2007). Weather has great effects on physical activities (sports) such as football, baseball, golf, tennis, etc. Any game that involves objects flying through the air is affected by wind. In football, players must determine which way the wind is blowing (head or tail) to achieve accuracy and precision. In hot and humid weather, an object like a baseball travels further. The surface of leisure facilities is affected by venue atmospherics and are very crucial in people's interest in physical activity (Adesoye, Ajibua, 2017). Rainfall can also make the surfaces of sports facilities become inconvenient and impede the free flow of games.

The results of the present study affirmed that weather conditions affected the type of clothing participants use during physical activity. Research agrees that not only does the human body absorb heat from the environment, but it also creates heat (AgriLife Extension, 2008). In order to protect against overheating, it is important that people outdoors wear light-coloured and loose clothing during warmer periods for physical training. In the same vein, (American College of Medicine, 2006) was of the view that physical activity caused people to produce heat, so it recommended light-coloured cotton or cotton blended clothing to reflected sunlight in warmer seasons, and dark layered clothes in the wet season (American College of Medicine, 2006). This was based on similar results from the American College of Sport (Amuchie, 2002) suggesting that proper clothing was a very essential preventive strategy against health hazards when engaging in LTPA during extreme weather conditions.

Conclusion

This study found that the physical environment (built environment and weather condition) was a determining factor for participation in LTPA among university undergraduate students in South West Nigeria. In addition, the good location of facilities and the perception of safety were other factors that must be given serious consideration during the design of the environment. The present study suggested the need for more open spaces, strategic installation of street lights, better sidewalks, and better connections between areas of interest through intentional pedestrian-oriented development. Furthermore, there is a need for policymakers to put in place measures for vehicular speed control to promote the perception of safety in the built environment. The weather should be considered to ensure that outdoor and indoor facilities are put in locations that ensure students can be active in all the seasons of the year. The results of this study will help Sport Managers, Coaches and Fitness Trainers understand the need to suggest an activity-friendly environment during university infrastructural development programmes. It will also encourage an activity-friendly design of the university environment.

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