

Tertiary Institutions' Student Fitness Aspirants and Recreation Enthusiasts' Perceived Influence of Sleep Deprivation on Their Lifestyles

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KEYWORDS Family Obligations. Students. Health. Recreational Activities. Fitness Activities

ABSTRACT The study investigated the influence of sleep deprivation on lifestyles as perceived by student fitness aspirants and recreation enthusiasts in tertiary institutions located in Edo State of Nigeria. Four research questions were raised for the study. A self-structured research instrument was administered on 250 respondents whereas 200 respondents (80%) formed the sampling unit. Simple percentages and frequency counts were used for data analysis. Among others the following are the findings:

- Adequate sleep helped 97% respondents to live healthy lifestyles, while 94% agreed that resting the body after participating in fitness and recreational activities made them healthy.
- Majority of the respondents 86.5% and 88.5% respectively who reported sleeping in noisy rooms at bedtime and rooms with lights on, claimed to have experienced sleep deprivation.
- Also, 88.5% respondents affirmed that their hostel rooms were not well ventilated as to allow sound sleep.
- A total of 74% respondents supported the idea that the duration of time they participated in fitness and recreational activities depended on the number of hours they slept.
- Several respondents 85% indicated that how fit they were was dependent on the duration of time they slept before participating in fitness and recreational activities.
- Majority of the respondents 70% also indicated that inadequate sleep militated against their withstanding the rigours of participation in fitness and recreational activities.

Students should therefore adopt the habit of engaging in sound and enough sleep in order to create a better lifestyle platform for actively and purposefully participating in recreational and fitness activities.

INTRODUCTION

Many people view sleep as a luxury or a waste of time. Being able to function without sleep is considered macho (Fahey et al. 2003). Undoubtedly, sleep is absolutely essential to life and sound health. Its deprivation takes a huge toll on society as a whole. Students in tertiary institutions are particularly vulnerable to sleep deprivation and poor quality sleep. Some of them lead hectic lives as they juggle studies, work, socializing and family obligations. Those who live in halls of residence are often awakened by conversation and night-time noise. Partying, especially if alcohol and other drugs are used, further disrupts sleep. Students who are out several times a week are likely to be significantly sleep deprived, increasing the risk of failure in examinations, car crashes, illnesses and exhaustion during exercise participation (Fahey et al. 2003).

The body is composed of different parts functioning together which can be pulled to elastic limits when subjected to physical exertion.

Student fitness aspirants and recreation enthusiasts who cannot get enough sleep cannot perform at their peak because of loss of energy resulting in tiredness or fatigue (Omughele 2002). Fatigue indicates that there is need for rest and stoppage of a physical activity during extreme exertion. This is probably because persistence or continuity in more vigorous activity, generates reduction in the general output of individuals. Records of performance in fitness and recreational activities indicate that more females find it difficult to cope with stressful situations in sports and related activities (Olayiwola 1995). When this occurs, a change in activity is desirable. The change in some cases may take the form of engagement in passive activity, relaxation or even total stoppage of the activity leading to sleep. Individuals who are deprived of sleep should sleep for extra hours as it may help to improve their daytime alertness and mental abilities. Some students have adopted the habit of depriving themselves of sleep when they are preparing for examinations or because of some social

engagements. This issue has agitated the minds of these individuals and therefore are compelled to ask various questions. For example, is it possible to maximize efforts after a considerable number of sleepless nights? On the other hand, which is more profitable, to sleep or keep awake before participating in any activity? Can lack of sleep be both a cause and effect of excess stress? Can sufficient sleep cause individuals' mental and physical processes to steadily deteriorate? Can individuals deprived of sleep become irritable, have headaches, be unable to concentrate and be more susceptible to incidents of illness?

While some individuals deliberately remain sleepless because of certain jobs or work in hand, others claim that sleep is part of nature and cannot be cheated. In terms of exercise participation, the confusion remains the same, unless individuals endeavour not only to identify but also to analyse which is better. This was why the writers of this paper decided to investigate the influence of sleep deprivation on lifestyles as perceived by tertiary institutions' fitness aspirants and recreational enthusiasts.

Statement of the Problem

The relationship between sleep and healthy lifestyle has generated a lot of controversy among students of tertiary institutions. Student fitness aspirants and recreation enthusiasts in such institutions do not create enough time daily for sleep or rest so as to enable them to be refreshed. Several factors which tend to militate against exercise participation of students in tertiary institutions include juggling studies, work, socializing and family obligations. Those who live in halls of residence are often awakened by night time noise and partying for several nights under the influence of drugs and alcohol. Inability to create time for sleep often brings about low level participation in fitness and recreational pursuits. To date, tertiary institutions in Nigeria have made little or no significant organizational changes to help promote fitness and recreational activities, and so the writers feel it is time for such institutions to take a plunge.

There are several additional services management of tertiary institutions ought to provide for fitness aspirants, recreation enthusiasts and employees that should be the basis for making increases in organizational changes. Coupled with this, the inability of organizers and coaches

to guide student participants in fitness and recreational activities on how to balance participation with sleep as well as how to implement amateur sports and exercise programmes have created gaps in the Nigerian fitness and recreation literature and hence the study. The theoretical framework of this study hinges on the recreation theory. Bucher (1975) quoting Guts-Maths stated that this theory has as its premise the idea that the human body needs some form of play as a means of revitalization.

The results of this study may give fitness and recreation programmers as well as management of tertiary institutions an insight into how profitably they can structure their programmes so as to allow fitness aspirants and recreation enthusiasts rest and sleep adequately. Also, the findings of this study may be utilized to fashion specific interventions for tertiary institutions fitness and recreational programmes.

Purpose of the Study

The purpose of this study was to investigate the influence of sleep deprivation on student fitness aspirants and recreation enthusiasts in tertiary institutions located in Edo State of Nigeria.

Research Questions

Four research questions generated for this study are as follows:

1. Is there any relationship between adequate sleep and healthy lifestyle among student fitness aspirants and recreation enthusiasts in Edo State tertiary institutions?
2. Are student fitness aspirants and recreation enthusiasts sleeping in unconducive environments deprived of sound sleep in Edo State tertiary institutions?
3. How do student fitness aspirants and recreation enthusiasts in Edo State tertiary institutions perceive adequate sleep as an avenue for generating maximum performance in exercise-related activities?
4. Is there any relationship between inadequate sleep and low performance in exercise-related activities on the part of student fitness aspirants and recreation enthusiasts in Edo State tertiary institutions?

METHODOLOGY

Population and Sample

The descriptive survey research design was adopted for this study. The sample for this study consisted of fitness aspirants and recreation enthusiasts selected by cluster sampling from five tertiary institutions in Edo State namely: University of Benin, Benin City, Igbinedion University, Okada, Benson Idahosa University, Benin City, College of Education, Ekiadolor and Auchi Polytechnic, Auchi. A total of two hundred and fifty respondents (145 males and 95 females) with age range of 18 to 25 years were used for the study. The purpose and procedure of the test were explained to participants. Informed consent forms were obtained from the respondents before the commencement of the test.

Research Instrument

The research instrument used for this study was a self-structured questionnaire validated by a juror of three experts in the Departments of Psychology and Curriculum Studies as well as Health, Environmental Education and Human Kinetics of the University of Benin, Benin City. In order to ascertain the reliability of the questionnaire, a split-half reliability model was used and a reliability coefficient of 0.73 was established. The questionnaire consisted of 19 items which were divided into four sections. Section A had 9 items which were used to collect demographic data on location, marital status, sex, age range, level of educational attainment and religion, etc. Section B had 2 items which sought to collect information on the influence of sleep on the participants lifestyle. Section C had 3 items which dealt with the influence of the environment on sleep. Section D had 5 items which sought information on the influence of sleep on performance in fitness and recreational activities. An inventory where the respondents were asked to respond to questions

on a four point Likert-Type Scale of strongly agree, agree, disagree and strongly disagree was designed. Data in the columns of strongly agree, agree, disagree and strongly disagree were collapsed horizontally for meaningful analyses and interpretation. Personal observations and interviews of participants were carried out in various tertiary institutions used for the study.

Data Collection Procedure

Copies of the questionnaire were administered to the respondents personally on the spot in the various institutions used for the study. Out of two hundred and fifty copies of the questionnaire circulated, two hundred were found useful for the research. The data collected were then analysed using frequency counts and percent-ages. In some cases personal observations and interviews were used to buttress the data collected from the respondents.

RESULTS

The results presented in tables 1 to 4 were strictly based on the research questions earlier outlined and are here under presented using frequency distribution tables.

Research Question 1

Is there any relationship between adequate sleeps and healthy lifestyles among fitness aspirants and recreation enthusiasts in Edo State tertiary institutions?

Data in table 1, item (i) showed that 97% respondents agreed that adequate sleep helped them to maintain a healthy lifestyle while 3% disagreed on the issue. In item (ii) a total of 94% respondents agreed that resting the body after participating in fitness and recreational activities made them healthy and only 6% did not support the idea.

Table 1: Perception on whether adequate sleep and healthy lifestyles are related

S. No.	Items	Strongly agree	Agree	Disagree	Strongly disagree	Total
i	Adequate sleep helps you to maintain a healthy lifestyle	100 50%	94 47%	4 2%	2 1%	200 100%
ii	Resting the body after participating in fitness and recreational activities makes you healthy	98 49%	90 45%	7 3.50%	5 2.50%	200 100%

Research Question 2

Are student fitness aspirants and recreation enthusiasts' sleeping in unconducive environments deprived of sound sleep in tertiary institutions?

A cursory look at data in table 2, item (i), revealed that 86.5% respondents were of the opinion that they slept in noisy rooms. On the contrary, 13.5% respondents did not share this view. Also, in item (ii), a total of 88.5% respondents disagreed that the rooms they slept in, were dark each time they did so, while 11.5% respondents held a different view. In item (iii), majority of the respondents (88.5%) affirmed that their rooms were not well ventilated during bedtime thus depriving them of sound sleep. Only 11.5% respondents responded negatively to this issue.

Research Question 3

How do student fitness aspirants and recreation enthusiasts in Edo State tertiary institutions perceive adequate sleep as an avenue for generating maximum performance in exercise-related activities.

Looking at data in table 3, item (i), 63.5% respondents agreed that the number of hours they slept determined how long they could

participate in fitness and recreational activities. In contrast, 36.5% respondents disagreed with this viewpoint. Furthermore, in item (ii) of the table, 87% respondents asserted that the duration of time they participated in fitness and recreational activities depended on the number of hours they spent on sleeping and only 13% held a negative view. Moreover, 86% respondents were of the opinion that adequate sleep enhanced performance in fitness and recreational activities while only 14% refuted the idea.

Research Question 4

Is there any relationship between inadequate sleep and low performance in fitness and recreational activities in tertiary institutions?

Data in table 4, item (i), were very revealing. This is because 85% respondents agreed that how physically fit they were was influenced by the duration of time they slept prior to participating in fitness and recreational activities. Only 15% respondents held a negative view. Similarly, in item (ii), it was observed that 70% respondents did not agree that inadequate sleep could make them withstand the rigours of fitness and recreational activities. However, 35% respondents held a positive view on the issue.

Table 2: Perception on whether student fitness aspirants and recreation enthusiasts sleeping in unconducive environments suffer sleep deprivation

S. No.	Items	Strongly agree	Agree	Disagree	Strongly disagree	Total
i	Sleeping in a noisy room prevents you from sleeping well	103 51.50%	70 35%	20 10%	7 3.50%	200 100%
ii.	The room where you sleep is dark when you do so	10 5%	13 6.50%	93 46.50%	84 42%	200 100%
iii	The room where you sleep is well ventilated to deprive sound sleep	20 10%	3 1.50%	90 45%	87 43.50%	200 100%

Table 3: Perception on whether adequate sleep generates maximum performance in fitness and recreational activities in exercise-related activities

S. No.	Items	Strongly agree	Agree	Disagree	Strongly disagree	Total
i	The number of hours one sleeps determines how long the individual can participate in fitness and recreational activities	80 40%	37 18.50%	75 37.50%	8 4%	200 100%
ii	The duration of time students participate in fitness and recreational activities depends on the number of hours they spent on sleeping	110 55%	64 32%	14 7%	12 6%	200 100%
iii	Adequate sleep enhances performance in fitness and recreational activities	90 45%	82 41%	23 11.50%	5 2.50%	200 100%

Table 4: Perception on whether inadequate sleep influenced low performance in fitness and recreational activities

S. No.	Items	Strongly agree	Agree	Disagree	Strongly disagree	Total
i.	How fit students are depends on the duration of time they participated in fitness and recreational activities	80 40%	90 45%	20 10%	10 5%	200 100%
ii.	Without adequate sleep I feel I can withstand the rigours of fitness and recreational activities	40 20%	20 10%	110 55%	30 15%	200 100%

DISCUSSION

In table 1 results revealed that adequate sleep enabled respondents maintain a healthy lifestyle. Observe the 97% positive responses on the issue. Also adequate rest of the body after participating in fitness and recreational activities was supported by 94% respondents. These findings are in conformity with the views of Insel and Roth (2002) who reported that sleeping for five to nine hours daily made individuals feel fully refreshed and alert.

Results in table 2 item (i) indicated that student fitness aspirants and recreationists slept in noisy and uncondusive rooms in tertiary institutions. Observe the 86.5% positive responses. Also, a total of 88.5% respondents affirmed that they did not sleep in dark rooms in their hostel rooms at bedtime. This is probably because some of their fellow students often put on the light while reading in their hostel rooms during such times. In the same vein, 88.5% respondents averred that the hostel rooms they slept in were not well ventilated. This could be due to the proximity of hostel blocks to each other which prevented free flow of air. Coupled with this, it was observed that some hostel rooms either had no fans in the campuses of some tertiary institutions or had dysfunctional fans. These findings are in line with the views of Fahel et al. (2003) who suggested that some students in tertiary institutions are particularly vulnerable to sleep deprivation and poor quality sleep. This is probably because they lead hectic lives as they juggle studies, work, socializing through sports, partying and family obligations. These writers also remarked that those who live in halls of residence are often awakened by night time noise arising from conversation or even music.

In table 3, item (i), the data in the columns for strongly agree and agree are combined. They showed that 58.5% of the respondents agreed that the number of hours fitness aspirants and

recreationists slept determined how long they participated in exercise-related activities. Additionally, in item (ii), the duration of participation as attested to by 87% respondents who participated in exercise-related activities depended on the number of hours they slept. It was equally observed in item (iii) that adequate sleep enhanced performance in fitness and recreational activities as attested to by 86% respondents. Fahey et al. (2003) reported that a decrease in total sleep time causes an increase in the release of stress hormones, which may contribute to the mental and physical effects associated with acute sleep deprivation. Brink (2000) also supported the findings in item (iii) and reported that sleep deprivation impairs cognitive functioning, perceptual skills, motor skills, coordination, and ability to concentrate. To him, a direct correspondence exists between hours of sleep, productivity, and performance.

In table 4, item (i), majority of the respondents, 85%, agreed that how physically fit they were was influenced by the duration of time they participated in fitness and recreational activities. Personal observations and interviews showed that for both sexes of participants although persistence or continuity in vigorous activity generates reduction in the general output of individuals, more females than males found it difficult to cope with stressful situations in exercise and amateur sports participation (Olayiwola 1995). In the same table, in item (ii), 70% respondents felt that inadequate sleep prevented them from withstanding the rigours of fitness and recreational activities. Buttressing these assertions, Brink (2000) and Fahey et al. (2003) opined that sleep deprivation over a long period of time made fitness aspirant recreationists and other exercise participants vulnerable to a wide range of ill-nesses such as obesity, cardiovascular diseases, diabetes, high blood pressure and psychological disturbances such as anxiety and depression. To these writers, inadequate sleep also depresses the

immune system making exercise participants likely to become ill.

Sleep deprivation over long periods of time can be life threatening (Lyznicki 1998) and could make individuals vulnerable to a wide variety of illnesses, including obesity (Brink 2000) cardiovascular diseases, diabetes, high blood pressure and psychological disturbances such as anxiety and depression (Fahey, Insel and Roth, 2003). Apart from depressing the immune system, sleep deprivation impairs cognitive functioning, perceptual skills, coordination and ability to concentrate. Studies have found a direct correspondence between hours of sleep and productivity. Sleep deprivation lowers reaction time and lessens endurance (Brink 2000). Furthermore, Ketchum (2003) affirmed that sleep after participating in physically exerting recreational activities is critical to optimal performance. To Ketchum, lack of sleep during endurance events exceeding 10 minutes (e.g. marathon races) can lead to hypoglycemia which could result in running out of fuel. This was probably what Fahey et al. (2003) referred to as "sleep debt" and the body is expected to make up for it or pay the debt through subsequent sleeping.

Adequate sleep, on the other hand, improves mood, fosters feelings of competence and self worth, enhances participation or even performance in physical activities as well as supports optimal mental and emotional functioning. Sleep requirements vary considerably among individuals, some adults need only 5 hours of sleep, while others need 9 hours or more to be fully refreshed and alert (Insel and Roth 2002). These writers also asserted that sleep occurs in two phases, rapid eye movement (REM) and non-REM which consists of four stages of successive deeper sleep. The body cycles pass through the different sleep stages from stages 1, 2, 3, and 4 to REM and then begins again with stage 1. Each stage represents a different physical, and mental stage of the body during sleep. During some stages, the body is in light sleep and can be awakened more easily, while others indicate very deep sleep. Several writers have identified sleep as both a restorative and an adaptive process. Sleep as a restorative process suggests that it helps the body recover from all work done while an individual is awake. Inadequate sleep affects learning, memory and attention span which are not only critical to academic work but also to exercise participation (Fahey et al. 2003). Levels

of stress hormones in the blood stream vary throughout the day and are related to sleep patterns. Peak concentrations occur in the early morning followed by a slow decline during the evening. Concentrations return to peak during the final stages of sleep and in the early morning hours. A decrease in total sleep time causes an increase in the release of stress hormones. Together, these changes may cause an increase in stress hormone levels throughout the day and may contribute to the mental and physical effects associated with acute sleep deprivation (Fahey et al. 2003).

If people are deprived of REM sleep by waking them up each time they attain this stage, they get irritable and anxious. Additionally, sleep as an adaptive process is critical for optimal performance of a fitness or recreational participant or even an athlete. The parts of the brain that control learning, emotions, decision-making and social interaction, slow down dramatically during sleep thereby allowing optimal performance when awake. Sleep is vital for proper physical and mental development. There is no gainsaying the fact that adequate sleep enhances engagement of fitness aspirants and recreationists in athletics, swimming, taekwando, volleyball, basketball, soccer, tennis and other recreational activities.

CONCLUSION

Based on the findings of this study, it was discovered that:

1. Student fitness aspirants and recreation enthusiasts slept in noisy and uncondusive environments in tertiary institutions which are prone to sleep deprivation
2. The number of hours student fitness aspirants and recreation enthusiasts slept, determined how long they participated in exercise-related activities.
3. Adequate sleep enhanced performance in fitness and recreational activities
4. The physical fitness of student fitness aspirants and recreation enthusiasts was influenced by the duration of time they slept prior to their participating in exercise-related activities.

RECOMMENDATIONS

In Nigeria, if education institutional management, sports organizers and coaches are serious in evolving and implementing a sound fitness and

recreational sports development policy for student fitness aspirants and recreationists, the following recommendations documented by Kantrowitz (2002), Fahey et al. (2003) and Emelike (2006) are hereby presented for implementation:

1. There is need to counsel individuals on curtailment of noise making and conversation late at night.
2. There is equally need to dissuade students from viewing television programmes, video films, computer games and listening to music during late night hours.
3. Partying, drinking, smoking and drug consumption should be discouraged among students during late night hours.
4. Students should be instructed to put out light in hostel rooms during bedtime hours.
5. Reading at late night hours in hostel rooms should be prevented.
6. Making sleep a priority should be part of students' wellness lifestyle.
7. It is advisable that students should deal with worries and distractions several hours before bedtime.
8. Rooms where students sleep should be dark and well ventilated.
9. Teaching time management skills and benefits of sleep as well as exercising regularly are

equally essential for students and should form part of their education milieu.

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