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Headphone Usage and Study Habits among Undergraduate students in public Universities in Calabar, Cross River State, Nigeria

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Abstract
This study investigated headphone usage and study habits among undergraduate students in public universities in Calabar in Cross River State. Four research questions and four hypothesis guided the study. The research design adopted for this study was the ex post facto research design. The population for the study was all undergraduate students from University of Cross River State (UNICROSS) and University of Calabar (UNICAL). Stratified and simple random sampling techniques were used to select 760 students for the study. Three experts validated the instrument titled "Headphone Usage and Students' Study Habits Questionnaire" used to collect data for the study. Internal consistency coefficient of 0.82 was obtained using Cronbach alpha reliability estimate methods. The data that was collected was analyzed using one sample t-test, Pearson product moment correlation and independent t-test at 0.05 level of significance. The result showed, among others, that there is a significant influence of students' knowledge, use and challenges regarding the use of headphone and its effect on the students' study habit among undergraduates in Cross River State, Nigeria. It was recommended that government and school administrators should create nationwide awareness campaigns on use of headphones and its implications for academic performance.
Keywords: headphone, study, habit, knowledge, students.

Introduction
Head phone usage among the youth has become an epidemic. An alarming number of the adolescents, young adults have become addicted to the earphone, headphone and modern apparatus of music and listening, unmindful of the inherent danger it poses to their eardrums and health. The adverse effects of such abuse of earpiece and headphone has increasingly become alarming to the parents, educators and Guidance Counsellors who are witnessing this unfolding menace. The World Health Organization estimates that over one billion young people are at risk of hearing loss due to excessive use of personal audio devices (PADs) and exposure to loud noise. In middle- and high-income nations, about half of the 12 to 35-year-old age group is subjected to harmful sound levels (Kumar & Deepashree, 2015).

Adolescents who are exposed to loud music may develop poor study habits, tinnitus, ear infections, hearing loss, and poor academic achievement. Research has indicated that the way in which teenagers listen to music has an impact on both their study habits and hearing health. Academic success can be impacted by the methodical, effective, or ineffective study habits that one adopts. Effective study techniques yield successful academic outcomes, but ineffective techniques result in failure. The socioeconomic standing of parents and educational institutions has a significant impact on how pupils learn (Herrera et al., 2017).

Recent research has connected emotion, memory, and music. Two studies by Chris (2014) established this link. The first discovered that music stimulates the recall of memories. In the second research, students' brains were examined using Functional Magnetic Resonance Imaging (fMRI) as they listened to popular childhood and adolescent music. The findings demonstrated a close connection between emotions, memories, and music.

Also, Chris (2014) highlighted the role that teachers and parents have in a child's development and academic success positing that study techniques, along with the right setting, criticism, and direction, aid in the development of a healthy personality. Parents and teachers are very important in determining and directing children's study habits. The relationship between study habits and socioeconomic level is proportionate, and a lack of either results in inadequate personality development. People are continuously assessing how they fit into society, so it is critical for parents and educators to offer their kids the support they need to develop (Herrera et al., 2017).

According to Kumar and Deepashree (2015), the values of other people have an impact on assessments because they act as mirrors for an individual's perception of themselves. When people succeed in their social standing and receive favourable feedback from others, it is highly rewarding for them. Children partake in the advantages and privileges of their parents in the social class, even if they are not expected to receive positive responses (Degeest et al., 2017). Study habits are intentional, well-thought-out routines that aid in comprehension of academic material and exam success. On the other hand, a bad environment and bad study habits can result in widespread failure, low grades, and school dropout rates. Low socioeconomic status and bad study habits can be blamed for this (Su & Chan, 2017).

According to Keppler et al. (2015), academic performance is greatly impacted by bad study habits; thus changing these behaviours is essential. Research has demonstrated that underachievement and socioeconomic position differ significantly. Sex, however, has little effect on academic success. The most significant human creation, education, has many applications outside of the classroom. It supports people in expressing who they are and is applicable outside of the classroom as well. Education starts at birth and

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concludes when a person passes away (Herrera et al., 2017). Many academics and philosophers have defined education in accordance with their own theories and philosophies, highlighting the significance of education in influencing a person's destiny and study habit. These authors went further to explain that, due to the advent of technology, students' study habit has declined due to several factors including the use of headphones (listening to load sound) (Herrera et al., 2017).

According to a survey, carried out by Su and Chan (2017), 61.8% of young individuals between the ages of 15 and 18 listen to loud music on a daily basis; some for longer than an hour. Merely 13.7% of people worry about hearing loss and study habit as a result of using PADs. Tinnitus, which has a high association with headphones use, affects 38.9% of people. In addition, users report difficulty focusing, demands for repeat, and higher TV loudness. Teenagers and young adults who routinely used MP3 players had tinnitus and poor study habit more frequently. Because extended usage of headphones might alter auditory hygiene, persistent use can result in ear infections. According to a research carried out by Keppler et al. (2015), using headphones for extended periods of time may make those with chronic middle ear infections worse off, even if there is no proof that doing so causes external ear canal infections.

Herrera et al. (2017) posit that exposure to loud noises is a strong predictor of tinnitus symptoms and resultant poor study habit of around 25% of students. World Health Organization (2020) proffers that an estimate of 1.1 billion young people worldwide could be at risk of hearing loss. In order to address this pandemic and future scourge among the youths in the community, the study sought to assess university students' awareness of knowledge, effect, usage and potential dangers regarding the use of headphone and its effect on the students' study habit.

Abeer et al. (2019) investigated how an educational programme affects students' knowledge, understanding, attitudes, and behaviours about earphone risks and maintaining good hearing. Using a quasi-experimental pre/posttest design, 1,532 randomly chosen students participated. Self-administered surveys, questionnaires on students' knowledge, perception, and habits, and a questionnaire specifically intended for people with hearing loss were used to gather data. The findings revealed that 64% of students wore headphones, and that their understanding, attitudes, and behaviours about the risks associated with headphones and maintaining good hearing had significantly improved. Following the programme's introduction, fewer health issues emerged. Students' understanding of hearing health and earphone risks was still lacking, though. Creating nationwide awareness campaigns and increasing parents' knowledge via national and social media platforms are among the recommendations made.

Also, in a related study, Das (2020) evaluates high school students' and non-medical postgraduate students' knowledge of the dangers of using headphones. Eighteen students from Pondicherry Central University and nineteen students from Delhi Public

School each received a structured questionnaire. Three categories were used to group the questionnaire: basic, advanced level-1, and advanced level-2. The findings revealed that while basic level awareness was well-scored, advanced level awareness received lower knowledge ratings. According to the study, school textbooks should include information on the health risks of earphone use, including ringing noises, ear wax, tension, discomfort, and tinnitus. Awareness campaigns regarding these risks are also necessary.

In another related study carried out by Dhanya et al. (2020), the purpose of the study was to ascertain the teenagers' knowledge and habits about the usage of earphones in Bhubaneswar, Odisha. A standardized practice questionnaire and a structured knowledge questionnaire were used to gather data from 150 pupils. 44% of pupils had mild addiction, 55.33% had moderate addiction, and 0.66% had severe addiction, according to the results. With 14.7% having strong knowledge and 21.3% having poor knowledge, the majority had ordinary knowledge. There was no discernible correlation between schooling, family structure, or sex. The report recommends using a variety of methods to raise awareness.

Similarly, Basu et al. (2019) sought to determine how medical undergraduate students in Delhi, India, used Personal Listening Devices (PLD) such as headphones, earphones and wireless earbuds and what knowledge they had about them. Of the students enrolled in the research, 388 were older than 18. Male students recognized less health hazards and used PLDs more frequently, gender differences did not exist in loudness preference, though. Among the students, 6.4% experienced a chronic tinnitus lasting three days or more in the preceding six months, and 10.6% reported having hearing loss. Almost 10% of students acknowledged using their PLDs to listen to music while crossing the street. It is necessary to use strategic methods to raise awareness and limit the use of PLDs.

Headphone promotes distraction, isolation, and an excessive dependence on technology. Excessive use of headphones can have an effect on students' study habits. Students' productivity might be negatively impacted by distraction when they tune in to irrelevant music or podcasts (Salman & Adnan, 2014). Headphones can cause children to become isolated from their peers which reduces their potential for social learning and teamwork. Traditional teaching approaches may be hampered by an over-reliance on technology. Salman and Adnan (2014) averred that though previous studies reported increased problems in younger people, using headphones can also reduce outside noise, making the atmosphere more suitable for studying. Another advantage is accessibility, particularly for kids with impairments. It is important to balance the usage of headphones in academic environments to make sure they improve study habits (Chan et al., 2022).

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In another study, Alfanoud et al. (2023) investigated how long-term headphones usage affects students' hearing at Qassim University and how headphones use and tinnitus are related. Of the 368 participants in the research, 87.2% wore headphones. Findings indicated a detrimental effect on hearing health, including a strong correlation with hearing rates and problems hearing friends or family, ringing or whistling noises, trouble hearing whispers, using tinnitus medication on a regular basis, and disclosing hearing loss to a professional. More hours of usage were associated with decreased hearing rates, according to the Spearman correlation, which also revealed a strong negative association between headphones use and hearing rate.

In a related study carried out by Mohammadpoorasl et al. (2018) in Qazvin University of Medical Sciences, they looked into 890 students' earphone use patterns and prevalence. The findings revealed that 86.4% of the students had previously used an earphone and that 60.2% of the pupils had a history of hearing loss or impairment. The majority of students (81.7%) listened to music on their phones, and 89.6% did so while wearing headphones. According to the survey, 51.3% of people who wore earphones did so with earbud-style devices, 42.2% with supra-aural earphones, and 6.5% using headphones. Pupils with greater hearing loss scores also tended to wear headphones more frequently and for longer periods of time. According to the study, there is a need for initiatives aimed at raising students' understanding of and attitudes regarding using headphones.

Similarly, Abdullah et al. (2021) conducted a cross-sectional research involding 504 participants in the Saudi Arabian Eastern Province's industrial cities of AlAhssa, Dammam, AlQatif, and Jubail. According to the survey, 32.5% of participants often wear earphones, and their mean knowledge score was 2.49 out of four. 49.2%, 35.3%, and 15.5% of people had good, moderate, and low awareness, respectively. The three most typical signs of long-term earbud usage were excessive ear wax (21.8%), otalgia (23%), and itching (28%). The degree of awareness was much lower in students and those who used high volume levels, while it was significantly higher in females and those who wore earphones for 1-2 hours each day. The study discovered that teens and young adults were sufficiently aware of the negative impacts of excessive earbud use and the usage was highly prevalent.

In a study carried out by Gilliver et al. (2017), it was concluded that using headphones when studying in class and at home can greatly enhance students' study habits. They assist in reducing outside distractions so that pupils may concentrate on their academics. Furthermore, by focusing students' attention on their work with music or other auditory materials, headphones might help them stay motivated. They can remain on course and enjoy the process better if they do this. Whether it is upbeat songs or calming sounds of the outdoors, listening to background music on headphones may greatly improve students' ability to stay focused, motivated, and prepared to take on any work. All things

considered, headphones may be a useful tool for helping students stay motivated and focused when studying.

Headphone usage facilitates accessibility, boosting attention, and raising engagement; headphones can improve students' study habits. They may, however, also serve as diversions, fostering social isolation and sometimes impeding conventional teaching strategies. They can help kids who struggle with learning, reduce distractions, and provide a supportive environment. Furthermore, using headphones excessively might result in an over-reliance on technology, which could be detrimental to conventional teaching approaches (Chan et al., 2022).

According to a research carried out by Byeon (2020) in South Korea, teenagers who wore earbuds in loud environments were more likely than non-users to experience subjective hearing issues, poor reading habit and hearing loss. The study examined 532 participants between the ages of 12 and 19 and discovered that the incidence of hearing loss was 22.6% among those who wore headphones and were exposed to loud noises. The incidence of hearing loss in adolescents who wore earbuds for 80 minutes or more a day was 22.3%. Additionally, the study discovered that the risk of hearing loss was 4.7 times higher in people who wore headphones for more than 80 minutes a day. Additional longitudinal research is required to demonstrate that a causal relationship between the use of earphones, hearing loss and study habit was positive.

In another study carried out by Darko-Adjei (2019), he looked at the University of Ghana's usage of headsets as instructional aids and their consequences. Using a survey study approach and questions, 294 individuals participated. Finding out about students' perceptions of headset usability, usefulness in academic performance, and barriers to headset use were the main goals of the study. According to the findings, students enrolled in remote learning found using a headset more convenient and contributed significantly to class projects. Nevertheless, there were a few things that prevented people from using headsets: calls that interrupted class, erratic internet access, unpleasant screens that were difficult to set up, and audio degradation during crucial learning times. The study looked at the relationship between undergraduates' listening habits, favourite headphone type, health-risky activities and study habit. Self-reported alcohol and marijuana usage was included in the data. While listening to music on their favourite headphone brand, participants measured the equivalent continuous sound level, or LAeq. The findings indicated that increased monthly drinking and marijuana usage were associated with higher LAeq levels. There was no discernible correlation between the kind of headphones and the reported consumption of alcohol or marijuana on their study habit.

Also, Okuonghae et al. (2019) examined the University of Benin's Library and Information Science students' reading habits in relation to their use of earbuds and cell

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phones. A survey design was employed, with a 220 respondent sample size. Data was collected via a questionnaire, which was given to 71% of the respondents. The findings demonstrated that pupils have typically excellent reading habits and a high earphone and smartphone usage rate. However, peer pressure, lack of accessibility to reading materials, lack of reading culture, lack of enthusiasm, heavy classwork, and power outages are some of the variables influencing their reading habits.

While studying, headphones may be a distraction that causes social isolation and a lack of engagement with peers and their book (Chan et al., 2022). They may also have an impact on traditional teaching approaches by contributing to an excessive dependence on technology. According to research, listening to music with lyrics may make it harder to understand and remember what one has learned. Furthermore, according to Mohammadpoorasl et al. (2018), using headphones might make it harder for students to engage with teachers and peers, which could impede social learning. Excessive reliance on one sense can result in addiction, while neglecting other senses, including sight and hearing, can cause a sensory imbalance. Headphones can have a detrimental effect on mental health since they can raise stress and anxiety levels and lower mental health. Furthermore, using headphones inappropriately, as in lectures or collaborative projects, might lower self-awareness, which makes it challenging for pupils to keep track of their comprehension and progress (Gupta et al., 2022).

In a study carried out by Sunny (2018), overexposure to noise can harm the human ear, resulting in hyperacusis, hearing loss, and tinnitus. In order to determine how common earphone use is among students and what effects it has on their health, a cross-sectional research was carried out. The research comprised 100 Chandigarh students who had been wearing headphones or earbuds for at least five years. Excel and SPSS software were used for data analysis after a pre-structured questionnaire was used to gather the data. Earbuds, headphones, tinnitus, hyperacusis, and hearing loss were among the search terms. The findings indicated that the young persons of Chandigarh are increasingly using earbuds for amusement.

Also, Kathleen (2020), using a survey methodology, used 408 students from five schools in Akinyele Local Government Area as the sample of the study. The majority of students utilized smart ear bud (12.6%) and Android devices (60.7%) on a regular basis for social networking, communicating, and completing assignments. According to the report, 61.2% of students preferred reading on smart devices, 91.2% read constantly, and 96.2% of students read for knowledge. Students had to deal with issues including distraction, exorbitant textbook and reading material fees, and insufficient reading time. Nowadays, a lot of students study class notes and textbooks linked to their subjects on their smartphones rather than printed materials.

In another study carried out by Kulawiak and Schussler (2021), wearing noise-cancelling (NC) headphones in class can assist prevent students' learning and cognitive

abilities from being severely impacted by classroom noise. According to recommendations and research, NC headphones can help children with special needs in particular by lowering auditory distraction, boosting attention, enhancing learning, and lowering discomfort. Nevertheless, these advantages are not well supported by actual data. Thirteen empirical research were included in a comprehensive scoping review that revealed a wide range of results connected to NC headphones, most of which were focused on certain student populations with special needs. Because of their tiny sample sizes and absence of replication trials, the research are classified as pilot studies. The requirements for evidence-based practices in general and special education are not met by the body of evidence that is currently available.

Similarly, Rowe et al. (2011) conducted a study to ascertain if a youngster with auditory defensiveness would be less attentive to tasks when wearing noise-cancelling headphones. Ten sessions of the A-B-B-A pattern were employed, and recordings of the background noise levels were made. Findings supported the use of noise-cancelling headphones for task attention, as they demonstrated longer and more reliable attention to task duration in an auditory environment. The study offers verified proof of the usefulness of noise-cancelling headphones in enhancing task focus.

Also, Gupta et al. (2022) looked at hearing loss in young people brought on by exposure to different audio devices. 241 patients and medical professionals in their 20s to 40s participated. Hearing was assessed using a mobile application-based hearing test that has been approved by the World Health Organization (WHO). The average hear W score was 46.02 ± 9.854, with notable variations when it came to using headphones with televisions and music systems. According to the study, 201 (83.4%) headphone users had subclinical hearing loss; those who wore headphones often showed a greater percentage of this condition. The study emphasizes the value of individuals taking care of their hearing and the suitability of modern technologies in an Indian context where the provision of hearing healthcare is beset by difficulties.

Research questions

The study is designed to provide answers to the following questions:

1. What is the level of knowledge of the undergraduate students on the effect of headphone usage on students' study habits among undergraduate students in public universities in Cross River State, Nigeria?
2. To what extent does headphone usage predict students' study habits among undergraduate students in public universities in Cross River State, Nigeria?
3. What is the level of usage of headphone and its effect on students' study habits among undergraduate students in public universities in Cross River State, Nigeria?
4. What are the challenges of headphone usage on students' study habits among undergraduate students in public universities in Cross River State, Nigeria?

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Hypotheses

The study tested the following hypotheses:

Ho1: There is no significant influence of level of knowledge of undergraduate students on the effect of headphone usage on study habits among undergraduate students in public universities in Calabar in Cross River State.

Ho2: Students' usage of headphones/earpiece is not significantly prevalent.

Ho3: There is no significant influence of level of usage of headphone on study habits among undergraduate students in public universities in Calabar in Cross River State.

Ho4: There is no significant relationship between the challenges imposed by headphone usage and study habits among undergraduate students in public universities in Calabar in Cross River State.

Methodology

The research design adopted for this study was the ex post facto research design. The population for the study was all undergraduate students from the University of Cross River State (UNICROSS) and University of Calabar (UNICAL) in Cross River State, Nigeria. Stratified random sampling technique was used to select ten faculties from UNICAL and 5 faculties from UNICROSS out of the 20 in UNICAL and 10 From UNICROSS. The actual sample respondents of 760 students was drawn for the study from the sampled faculties out of the 44,281 in UNICAL and 23,971 in UNICROSS.

Three experts validated the instrument, titled “Headphone Usage and Students' Study Habits Questionnaire,” used to collect data for the study. The instrument had 28 items with 4-option answer format. The instrument had three sections. Section A elicited information on the demographic data of the respondents with 4 items, while section B elicited information from the respondents on the level of usage of headphone. Section B is made up of 20 items, five items each for the four sub-variables. Section C elicited information on the respondents’ study habit with eight items. Both sections B and C used 4-point Likert scale.

A pilot study was conducted on a sample of 50 participants and internal consistency coefficient of 0.82 was obtained using Cronbach alpha reliability estimate methods. The researcher administered the instruments on the sampled respondents in the selected faculties. The data that was collected was analyzed and the hypotheses were tested using one sample t-test, Pearson product moment correlation and independent t-test at 0.05 level of significance.

Presentation of results

Ho1: There is no significant influence of level of knowledge of undergraduate students on the effect of headphone usage on students' study habits among undergraduate students in public universities in Calabar in Cross-River State.

The independent variable is level of knowledge, which is divided into high and low; while study habits among undergraduate students in public universities in Calabar in Cross River State serves as the dependent variable. To test the hypothesis, the scores of the two groups of respondents were collated and compared to check their influence on the dependent variable (study habits among undergraduate students in public universities in Calabar in Cross-River State). Independent t-test statistics was employed for data analysis.

Table 1: Independent t-test on the influence of level of knowledge of undergraduate students on the effect of headphone usage on students' study habits

Variable	N	Mean	SD	Df	t-test	p-value
High	401	8.79	1.67			
				758	8.39	.004*
Low	359	16.62	1.68			

p<.05

The result in table one (1) showed that there is a difference on the mean score as well as on the standard deviation scores of both groups of respondents. This mean scores differences show that students' study habits among undergraduate students in public universities in Calabar in Cross River State is influenced by the level of knowledge of undergraduate students on the effect of headphone usage. Similarly, calculated t-value of 8.39 representing the difference between study habits among undergraduate students in public universities in Calabar in Cross River State was significant at p –value of .004 at .05 level of significance with 758 degrees of freedom. With this result, the null hypothesis was rejected. This therefore implies that level of knowledge of undergraduate students on the effect of headphone usage has a significant influence on students' study habits among undergraduate students in public universities in Calabar in Cross River State.

Ho2: Students' usage of headphones/earpiece is not significantly prevalent.

Table 2: One sample t-test on students' usage of headphones/earpiece.

Variable	Mean	SD	t-test	DF	P-Value
Average mean	11.70	4.06	62.52	759	.000
Constant mean	2.50	.000			

$p < 0.05$, df =759

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A close examination of Table 2 showed that the students' use of headphones is significantly prevalent. This is because the calculated result of the one-sample t-test which is greater than the t-critical value of 1.96 at 759 degree of freedom; and the probability value of .000 is less than the 0.05 level of significance. As a consequence, the null hypothesis, that students' usage of headphones/earpiece is not significantly prevalent, was not sustained. As a result, the hypothesis was rejected. Therefore students' usage of headphones/earpiece is significantly prevalent.

Ho3: There is no significant influence of level of usage of headphone on study habits among undergraduate students in public universities in Calabar in Cross River State.

The independent variable is level of usage of headphone which is divided into high and low while study habits among undergraduate students in public universities in Calabar in Cross River State serves as the dependent variable. To test the hypothesis, the scores of the two groups of respondents were collated and compared to check their influence on the dependent variable (study habits among undergraduate students in public universities in Calabar in Cross River State). Independent t-test statistics was employed for data analysis.

Table 3: Independent t-test on the influence of level of usage of headphone on students' study habits

Variable	**N**	**Mean**	**SD**	**Df**	**t-test**	**p-value**
High	365	16. 52	1.92			
				758	14.20	.000*
Low	395	8.79	1.68			

p<.05, DF=758

The result in table 3 showed that there is a difference on the mean score as well as on the standard deviation scores of both groups of respondents. This mean scores differences show that students' study habits among undergraduate students in public universities in Calabar in Cross River State is influenced by level of usage of headphone of undergraduate students. Similarly, calculated t-value of 14.20 representing the difference between study habits among undergraduate students in public universities in Calabar in Cross River State was significant at p –value of .000 at .05 level of significance with 758 degrees of freedom. With this result, the null hypothesis was rejected. This therefore implies that level of usage of headphone of undergraduate students has a significant influence on study habits among undergraduate students in public universities in Calabar in Cross-River State.

Ho4: There is no significant relationship between the challenges imposed by headphone usage and study habits among undergraduate students in public universities in Calabar in Cross River State.

To test this hypothesis, the relationship between the dependent variable (students' study habits) and the independent variable (the challenges imposed by headphone usage) was established using the Pearson product moment correlation analysis, the result is presented in table 4.

Table 4: Pearson product moment correlation analysis showing the relationship between the challenges imposed by headphone usage and students' study habits (N=760)

Variable	N	Mean	SD	r-cal	r-crit	p-value
Challenges imposed by Headphone usage		11.70	4.06			
				.679	.195	.000*
Students' study habits		12.50	4.26			

*Significant at .05 level; df= 758

The result of the analysis in table 4 shows that the calculated r value (.679) is greater than the r critical or table value of .195 at .05 level of significance with 758 degree of freedom. Therefore the null hypothesis is rejected. This means that there is a significant positive relationship existing between the challenges imposed by headphone usage and students' study habits. That is the more the challenges imposed by headphone usage increases, the more it affects the students' study habits and vice versa. By this result, the null hypothesis was rejected and the alternate hypothesis was upheld. This therefore, shows there is significant positive relationship between the challenges imposed by headphone usage on students' study habits among undergraduate students in public universities in Calabar in Cross River State.

Discussion of the findings

The first hypothesis states that there is no significant influence of level of knowledge of undergraduate students on the effect of headphone usage on study habits among undergraduate students in public universities in Calabar in Cross River State. The result showed that there is a significant influence of level of knowledge of undergraduate students on the effect of headphone usage on study habits among undergraduate students in public universities in Calabar in Cross River State. This result agrees with the findings of Abeer et al. (2019) who looked at how an educational programme at Zagazig University affected students' knowledge, understanding, attitudes, and behaviours about earphone risks and maintaining good hearing. The findings revealed that 64% of students wore headphones, and that their understanding, attitudes, and behaviours about the risks associated with headphones and maintaining good hearing had significantly improved. Following the programme's introduction, fewer health issues emerged. Students' understanding of hearing health and earphone risks was still lacking, though.

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The result from the second hypothesis showed that students' usage of headphones/earpiece was significantly prevalent among undergraduate students in public universities in Calabar in Cross River State. This result agrees with the findings of Mohammadpoorasl et al. (2018), whose research looked at 890 students' earphone use patterns and prevalence in Qazvin University of Medical Sciences. The findings revealed that 86.4% of the students had previously used an earphone and that 60.2% of the pupils had a history of hearing loss or impairment. The majority of students (81.7%) listened to music on their phones, and 89.6% did so while wearing headphones. According to the survey, 51.3% of people who wore earphones did so with earbud-style devices, 42.2% with supra-aural earphones, and 6.5% using headphones. Pupils with greater hearing loss scores also tended to wear headphones more frequently and for longer periods of time.

The result of testing hypothesis 3 showed that there is a significant influence of level of usage of headphone on study habits among undergraduate students in public universities in Calabar in Cross River State. This result agrees with the findings of Okuonghae et al. (2019), who examined the University of Benin's Library and Information Science students' reading habits in relation to their use of earbuds and cell phones. The findings demonstrated that they have typically excellent reading habits and a high earphone and smartphone usage rate. However, peer pressure, lack of accessibility to reading materials, lack of reading culture, lack of enthusiasm, heavy classwork, and power outages are some of the variables influencing their reading habits.

The result from hypothesis 4 showed that there is a significant relationship between the challenges imposed by headphone usage and study habits among undergraduate students in public universities in Calabar in Cross River State. This result agrees with the findings of Sunny (2018), who reported that overexposure to noise can harm the human ear, resulting in hyperacusis, hearing loss, and tinnitus. He also concluded that earbud does not only affect reading habit but also leads to low academic performance and affects the general health of the students.

Conclusion

Based on the findings of this study, it is concluded that headset usage has influence on students' study habit. This is to say that the more undergraduate students improve, develop a positive knowledge on use and understanding of the challenges impacted by headset to academic performance via the students study habit, the better their performance.

Recommendations

It is recommended that government and school administrators should create nationwide awareness campaigns aimed at increasing students' and parents' knowledge, via national and social media platforms, on the adverse effect of use of headphone and its implications for students' study habit.

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