Music Exposure, Age, and Auditory Acuity among Live Musicians and Audio Engineers in Osun State, Nigeria

O. B. Olorunmoteni, Ph.D
Mechanical Division,
Obafemi Awolowo University Teaching Hospital
Ile-Ife, Nigeria
comfemb2013@gmail.com

Prof. S. E. O. Abiodun
Department of Music
Obafemi Awolowo University
Ile-Ife, Nigeria

S. O. Ayodele, Ph.D
Department of Otorhinolaryngology
Obafemi Awolowo University Teaching Hospitals
Ile-Ife, Nigeria

O. F. Solanke
Audiology Unit
Department of ENT
Obafemi Awolowo University Teaching Hospital
Ile-Ife, Nigeria

Abstract

This paper examines the relationship between age, loud music exposure, and hearing health among live-musicians and audio engineers in Osun State, Nigeria. Using a mixed-methods approach, the research combined audiometric assessments of 28 participants with surveys and interviews from a larger cohort (N=100) to evaluate occupational hearing health. Findings revealed higher hearing thresholds among music professionals compared to controls. Specifically, live-musicians averaged 21.43 dB HL in the right ear versus 16.14 dB HL in the control group. While hearing impairment ranging from slight to moderately severe was more prevalent among the exposed group, statistical analysis showed that age and exposure patterns did not have significant independent associations with hearing outcomes ($p > 0.05$). Qualitative data indicated that while older participants demonstrate greater health consciousness, cultural norms and occupational demands sustain high exposure levels across age groups. The findings suggest that occupational exposure may contribute to early auditory changes, although independent statistical effects of age and exposure were not established. It recommends the development of culturally responsive hearing conservation strategies and regular screenings to protect those in the Nigerian music industry.

Keywords: NIHL; Presbycusis; Live Musicians; Audio Engineers; Hearing Conservation; Nigeria.

Introduction

Protecting hearing health within the creative industries is a major public health priority that is often overlooked. For those in the music industry, sharp hearing is far more than just a physical trait; it is a core professional requirement. However, the nature of music production often involves long-term exposure to high sound pressure levels that exceed safe workplace limits. According to Ologe et al, (2005), operators in Nigerian music recording and retail centres face significant hazards of noise-induced hearing loss due to these extreme sound levels. While hearing impairment is well-understood in industrial settings, the specific conditions of live performances create unique risks. Acoustic tracking across regional commercial sectors confirms that music amplification levels frequently exceed 85 dB. While a definitive linear correlation between career duration and absolute hearing loss remains statistically unestablished, long-term exposure within these environments clearly increases the risk of early auditory changes among music professionals (Amusa et al., 2011).

As environmental noise becomes a major risk factor, more Nigerians are facing avoidable hearing impairment due to constant, unregulated exposure. Recent data shows a worrying rise in noise-induced hearing loss in urban areas, yet there is a significant gap in empirical research regarding professionals like musicians and sound engineers in Osun State. Evidence from universities in South-Western Nigeria shows that regular exposure to loud music without hearing protection can lead to early ear fatigue and reduced ability to hear high-pitched sounds among young adults (Ameye et al., 2016). Similarly, research suggests that the hearing system becomes fatigued more quickly at higher sound frequencies after prolonged listening to loud music, and this effect may be worsened by mental fatigue caused by continuous exposure to intense sound environments (Dobrucki, 2017). Furthermore, there is a need to examine how age and long-term noise exposure interact within this specific context. While hearing naturally declines with age, this process in live music settings is often shaped by a professional's years of experience, the gradual use of ear protection, and the rising technical demands of the Nigerian music scene.

The link between age-related hearing loss and workplace noise exposure remains a major focus of clinical research. According to the World Health Organisation (2021), over 1.1 billion young people globally are at risk due to loud leisure activities. By 2050, nearly 2.5 billion people are expected to live with some level of hearing loss, with those in the music industry facing the highest risks (Chadha et al., 2021). Research shows that long-term exposure to loud music can damage the inner ear’s hair cells, causing hearing problems to appear much earlier than they would through natural ageing (Akinnubi et al., 2025). Despite these risks, many music professionals have adopted a sense of "occupational normalisation," treating symptoms like ringing in the ears as an unavoidable part of their job rather than a treatable medical issue (Pouryaghoub et al., 2017).

There is a significant need to examine how age and long-term noise exposure interact within Nigeria’s unique musical culture. While hearing naturally declines with age, this process in live music settings is often shaped by a professional's years of

experience, making career duration a crucial factor in tracking overall auditory status (Greasley et al., 2020; Phillips & Mace, 2008). Factors such as the gradual use of ear protection and the rising technical demands of the Nigerian music scene likely influence how hearing health changes over a career. This matches broader global data investigating how performance conditions, professional workloads, and the unique clinical needs of musicians vary dynamically over the lifespan of a performance career (Hake et al., 2024).

This study speaks directly to Sustainable Development Goal 3 (SDG 3), which promotes good health and well-being for all, especially through the prevention of health conditions linked to hazardous environmental exposure (United Nations, 2015). By focusing on the hearing-health realities of live musicians and audio engineers who work continuously within loud sound environments, the study contributes to ongoing discussions on occupational wellbeing, healthy ageing, and sustainable creative practice within African music industries (World Health Organisation, 2021).

The paper addresses these gaps by employing a mixed-methods approach to investigate the relationship between age, exposure to loud music, and auditory acuity among music professionals in Osun State, Nigeria. By integrating pure tone audiometry (PTA) with qualitative interviews, the research seeks to answer: What patterns of hearing loss are associated with age and exposure to loud music, and how do professional behaviours influence these outcomes? The findings aim to provide a baseline for developing culturally responsive hearing conservation strategies tailored to the specific needs of the Nigerian music and audio engineering industry.

Methodology

This study utilised a convergent parallel mixed-methods design across the Osun East and Osun Central districts of Nigeria to evaluate occupational sound exposure and auditory health within the local creative economy. The participant workflow relied on a nested sampling strategy derived from a primary pool of 100 individuals (N = 100). The entire sample completed the survey arm, which comprised 50 unexposed control subjects and 50 occupationally exposed music professionals (40 live musicians and 10 audio engineers) stratified across three distinct age bands (18–30, 31–40, and 41–50+ years). To unpack the physiological and phenomenological dimensions of this cohort, smaller targeted sub-cohorts were extracted from the main pool: 28 individuals (14 exposed, 14 controls) underwent clinical pure-tone audiometry (PTA) to map absolute hearing thresholds, while 40 active music professionals participated in semi-structured qualitative interviews to capture the lived, cultural nuances of regional sound practices.

Socio-demographic, symptomatic, and cultural variables were captured using the specialised Music, Cultural Influence, and Hearing Acuity (MuCuHA) questionnaire, which was validated for face and content accuracy by a multidisciplinary panel of ear, nose, and throat specialists, musicologists, and an audiologist at the Obafemi Awolowo University and its Teaching Hospitals Complex. To establish field

reliability, the tool was pre-tested through a pilot study with an independent cohort of audio engineering practitioners (n = 8), primarily based in Osun Central (87.5%) and at the same time holding tertiary qualifications (87.5%). Crucially, chi-square analysis of this pilot dataset demonstrated a statistically significant relationship between regional sound aesthetic preferences and direct loudness tolerance ($\chi 2$ = 8.000, p = 0.018), confirming the structural sensitivity and operational stability of the instrument before full field deployment without the need for continuous psychometric consistency scores.

Primary data analysis was performed using IBM SPSS version 27 at a 5% significance level ($p < 0.05$). To evaluate the relationships between age, exposure patterns, and absolute hearing thresholds without relying on correlation alone, advanced parametric testing was deployed. Independent-sample t-tests compared mean thresholds between the exposed and control groups, while a one-way Analysis of Variance (ANOVA) assessed variations across the stratified age brackets. Multiple linear regression models evaluated the simultaneous predictive power of continuous age, daily exposure hours, and career duration on absolute auditory thresholds, utilising Chi-square tests strictly for independent categorical field associations. Concurrently, qualitative interview transcripts were evaluated through systematic thematic analysis to contextualise the behavioural outcomes.

To establish the rigour of these qualitative narratives, the transcripts were analysed using a collaborative multi-coder framework. A primary researcher and a secondary consensus coder independently evaluated the text to isolate open and axial codes, meeting regularly to resolve any interpretive discrepancies until achieving full agreement. Trustworthiness was carefully woven into every stage of the analysis. Credibility was achieved through engagement with the local music community and by member-checking the verbatim transcripts directly with key informants to confirm accuracy. Dependability was secured by maintaining a transparent, auditable trail tracking everything from raw audio files to final thematic progressions. Finally, confirmability was safeguarded by practicing strict analytical reflexivity, ensuring that the final themes faithfully capture the authentic, lived experiences of the participants rather than author preconceptions.

Auditory acuity thresholds obtained through pure-tone audiometry were categorised clinically using the World Health Organisation standard classification system for hearing loss. Diagnostic tiers were determined by calculating the four-frequency pure-tone average (PTA) across 0.5, 1, 2, and 4 kHz in the better ear, mapped precisely to the following clinical ranges: Normal Hearing (< 20 dB HL); Slight / Mild Hearing Loss (20 to < 35 dB HL); Moderate Hearing Loss (35 to < 50 dB HL; Moderately Severe Hearing Loss (50 to < 65 dB HL); Severe Hearing Loss (65 to < 80 dB HL), and Profound Hearing Loss (≥ 80 dB HL).

Findings

Demographic and Exposure Characteristics

The musicians and audio engineers were slightly older on average (38.1 years) than the control group (33.9 years), as shown in the descriptive statistics in Table 1. Despite their higher exposure to noise, these professionals showed much lower engagement with hearing healthcare; only 10% had ever had a hearing test or seen an ear specialist, compared to roughly a quarter or more of the control group. Additionally, symptoms like ear fullness and earaches were more common among the musicians. Interestingly, both groups frequently reported the risky habit of inserting objects into their ears, with rates exceeding 75% for each group.

Auditory Findings

Across both ears, musicians consistently showed higher hearing thresholds than the control group. Specifically, musicians averaged 21.43 dB HL in the right ear and 15.86 dB HL in the left, whereas the control group maintained better levels at 16.14 dB HL and 13.71 dB HL, respectively (Fig. 1 and Fig. 2).

Table 1: Comparative Descriptive Statistics of Age and Pure Tone Averages (PTA) among Subjects and Controls

Variable	Group	Mean	Median	Mode	Std. Deviation	Range	Minimum	Maximum
Mean Age	Subjects	38.14	39.0	41	12.114	41	18	59
Mean Age	Controls	33.93	34.0	23	8.471	27	22	49
Right PTA	Subjects	21.43	18.5	12	11.693	45	12	57
Right PTA	Controls	16.14	17.5	20	5.6	18	7	25
Left PTA	Subjects	15.86	15.0	15	4.605	18	7	25
Left PTA	Controls	13.71	14.0	15	4.565	15	8	23

Figure 1: Pure Tone Audiometric Test Being Carried out on a Live Musician (Source: Author)

Among the 28 participants whose hearing was tested, 21 exhibited normal hearing (9 subjects and 12 controls). Within the subject group, hearing loss was identified in five individuals, ranging from slight (n = 2) and mild (n = 2) to moderately severe (n = 1). In contrast, only two participants in the control group demonstrated hearing loss, both of which were classified as slight (Table 2). Therefore, hearing impairment was more frequent and more severe among musicians, including the only case of moderately severe hearing loss.

Table 2: Degree of Hearing among Subjects and Controls

Degree	Subject	Control	Total
Normal Hearing	9	12	21
Slight hearing loss	2	2	4
Mild hearing loss	2	0	2
Moderately Severe hearing loss	1	0	1
Total	14	14	28

Overall, hearing impairment of varying degrees was more frequent in the case group than in the controls, indicating possible occupational impact on auditory function; this is further illustrated in Figure 2.

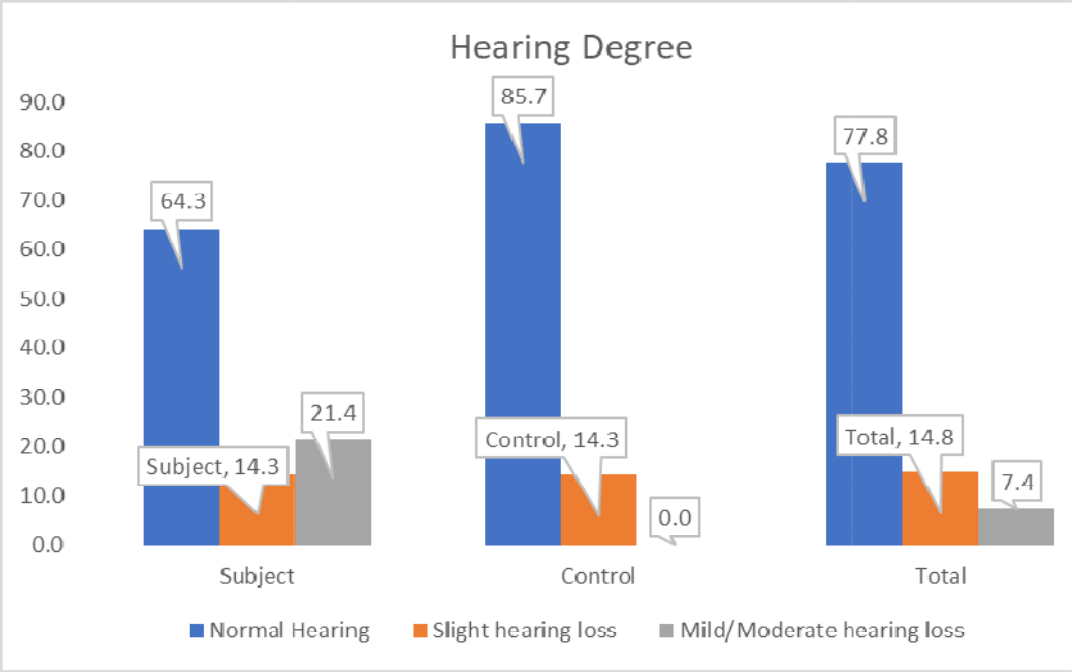

Figure 2: Degree of Hearing Loss
Source: Author

Correlation between Age, Exposure to Loud Music and Auditory Acuity among Live Musicians and Audio Engineers

The associations between socio-cultural exposures and auditory acuity among the case group (N=50) are shown in Table 3. Auditory acuity declined with age, with poor hearing most common in the 41–50-year-old group (44.7%), while younger participants aged 18–30 years were least affected. However, the association between age and auditory acuity did not reach statistical significance ($\chi^2 = 3.145$, $p = 0.370$, Cramer's V = .25). Exposure to loud music during cultural, religious, or social ceremonies was nearly universal, with 91.7% of respondents with good auditory

acuity and 81.6% with poor acuity reporting such exposure. Playing music loudly as a social norm was acknowledged by 66.7% of those with good acuity and 78.9% of those with poor acuity, but again, no significant statistical association was established ($p > 0.05$).

Similarly, the enjoyment of extremely loud music was reported by only a minority of participants, and the relationship with auditory acuity was not significant ($\chi^2 = 0.201$, $p = 0.654$, Cramer's $V = .06$). These findings suggest that although cultural exposure to loud sound is widespread, the measurable impact on hearing thresholds in this cohort may be more influenced by cumulative exposure over time rather than isolated attitudes or practices. This indicates that while many individuals may be accustomed to loud music within their cultural context, it is the overall duration and frequency of exposure that plays a more critical role in determining hearing health, rather than individual preferences or experiences.

Table 3: Association between age, exposure to loud music and auditory acuity among live musicians and audio engineers. (N=50)

		Auditory Acuity		
		Good	Poor	
		N (%)	N (%)	Statistics
Age of respondent	18 – 30	1(8.3)	7(18.4)	χ^2=3.145
	31 – 40	4(33.3)	11(28.9)	p=0.370
	41 – 50	4(33.3)	17(44.7)	V=.25
	≥51	3(25)	3(7.9)	
Exposure to loud music during cultural, religious, or social ceremonies	Yes	11(91.7)	31(81.6)	χ^2=0.691 p=0.406;
	No	1(8.3)	7(18.4)	V=.12
In my community, playing music loudly is considered normal and acceptable	Yes	8(66.7)	30(78.9)	χ^2=0.754 p=0.385
	No	4(33.3)	8(21.1)	V=.12
Enjoy extremely loud music?	Yes	1(8.3)	5(13.2)	χ^2=0.201 p=0.654
	No	11(91.7)	33(86.8)	V=.06

The bivariate correlation analysis presented in Table 4 demonstrates that there is no statistically significant linear relationship between a participant's age and their absolute auditory acuity threshold ($r = -0.080$, $p = 0.445$). Because the probability value falls well above the standard alpha threshold ($p > 0.05$), the near-zero correlation coefficient must be interpreted conservatively; advancing age cannot be inferred to have a predictable linear association with auditory performance variations within this study population.

Table 4: Correlation between Age and Auditory Acuity

		Age	Auditory Acuity
Age	Pearson Correlation	--	
	N	94	
Auditory Acuity	Pearson Correlation	-.080	--
	Sig. (2-tailed)	.445	
	N	94	100

Qualitative Findings on Correlation between Age, Exposure to Loud Music and Auditory Acuity

Regarding the relationship between age, loud music exposure, and auditory acuity, the interviewees believed that as people age, their enjoyment of loud music diminishes; they said that while youth make people want to play fast, loud music because of the energy, as they age, they begin to limit their exposure to loud music. Several of them gave examples from their own lives, explaining how they used to enjoy loud music but eventually lost interest in it, preferring cool, soft music. As they became older and noticed symptoms of hearing impairments, some people cut back on their exposure to loud music:

> You know, when we were younger, we tend to play music that is very fast, the youth, the strength is there but as you get older, you want to try to reserve your energy. Reserving your energy, you happen to notice all those things, your health matters a lot but when I was still young, I was less concerned, I was less enlightened about those things, so, we want to do everything, we make noise anyhow. In beats, when they say, play slowly, we want to play faster. As we grow up, we tend to know to keep the tempo, stability, and so many things, other characteristics of good music that we have to put in place. LM_17_OC_A.B.O.L

> While growing up, in my adult, like young adult years, I exposed myself to a number of times using earpiece and other sound hearing aids and this really affects sometimes. At a point, I had to stop using earpiece because I discovered that I used to have a sharp pain in my ear. So, that is to show that as I grew up, I want to enjoy sounds everywhere I go, anywhere I am. CL_01_O.D.

One interviewee mentioned that when he was younger, he was moved by the volume of music without listening to the lyrics, but as he grew older, he was more moved by the song's lyrics than by the instrument or volume. Put differently, the preference shifted from loudness to lyrics.

> Yes, to loud music it has affected age because when I was younger, I used to like loud music. And if it is not loud enough, even when I play music, if it is not loud enough, I might not even, my reaction to it might be limited but as I grew older, that changed. I Just like, even if I am playing music, I like it to be low, it's not the sound. At that time, when I was younger, it was the sound that was influencing me, not even the wordings. But now, I listen more to the, I

> react more to the, or I respond more to the wordings than just the sound. CL_09_A.S.

Furthermore, some people reported that as they grew older, they learnt the proper information about the risks of loud music exposure and made the necessary adjustments. They also mentioned that exposure, which comes with age, has the power to mould a person's attitude towards loud music:

> Okay. For age, I would say due to the way we have been wired, age has a factor to how loud or the sound you can actually hear on the basis that if the age is having exposure in it, when you now begin to understand the effect of having it too loud on your own health. So that age, I'm seeing it from the aspect of exposed over time to the right information. So, in a way, age can shape, for a child who is just coming on board, he or she might not know the gravity of what he or she is doing, but as he gets exposed to, okay, these are things you need to do, these are the ones you should stop, these are the ones you should not, or these are the ways to avoid or using of some aids to prevent the loudness and the likes. CL_06_E.T.O.

Also, age brought about the ability to have control over one's environment and how music should be played around one; for instance, one of the interviewees alluded to the fact that when she was following her mentor, she could not dictate how music should be played around her, but now that she is now in control of her music, she can determine the gain level at which she wants the music to be played:

> Yes, I can say because I am older now and because at least maybe the role, the leadership role, who can say please can you break it down, let the technique be down, please can we operate it at this level, we don't want it high. So, this has really contributed to it and I think I can hear very well, it has not affected me, let me just say no for now as present. LM_14_OE_S.O.A.

It was further mentioned that exposure to loud music over a period of time (age) could result in hearing problems; they believed failure to deliberately control the level of sound one exposes his/her ear to or failure to take care of one's hearing will affect one's hearing health negatively. One of them even cited the example of someone who was having hearing challenges due to exposure to loud music over time:

> I have an example here in my complex where my studio is. There's one DJ downstairs. So, that DJ always listens to very high music. When he's in the complex, everywhere will be noisy. But, you know, when you want to talk to him and you are not speaking loudly, he will not hear you because he's been used to hearing loud music before. So, he has lost some sense of hearing, so, if he continues like that, by old age, he will maybe lose his hearing completely. AE_11_OC__O.J.O.

> Yes, it does affect the way we hear, because if we don't monitor our hearing health, over time it'll have consequences, if a person continues to listen to loud sounds repeatedly, like I said earlier, it'll affect the persons hearing health. LM_15_OE_29th September 2025

Conversely, some of them believed that hearing is unaffected by ageing. They made it clear that growing older does not impair hearing or alter the volume of the music they listen to. One of them stated that people of all ages will always appreciate loud music. According to another, ear care is more important than age. According to him, the issue is not how long you have been listening to loud music, but rather how you take care of your ears. He claims that if one takes good care of his ears and hearing, he may be able to enjoy loud music for decades to come:

> Okay, well, the issue of age, it doesn't make any changes, can I just put it like that? (Yes, yes). Something that someone likes, so over years, even though that person is hearing it, I think he will continue to enjoy it, it's something that someone loves doing. As I am now, I love hymns, and anytime I hold hymns like this, I fall in love with it, and even without, irrespective of any instruments or whatever, if it is a hymn that I know very well, if it is a hymn that I know very well, I sing it. CL_07_A.O.O.

> It doesn't matter the number of years someone has been playing, like exposing one's ears to loud music. So, it depends on how we take care of our ears, so, someone that has been playing for a long time, for decades, who has been managing his or her ear, you cannot even compare it to someone that just started and then doesn't even have any idea, maybe exposing their ears to loud music without using any protective gear, like any protective device. LM_18_OC_I.M.C.F.

Divergent views were expressed by the interviewees regarding the impact of age on hearing; most acknowledged that it affected the sound of music while others said it had no effect at all.

Discussion of Findings

This research provides a comprehensive analysis of the relationship between age, exposure to loud music, and auditory acuity among live musicians and audio engineers in Osun State, integrating audiometric data, clinical history, and lived experiences.

Degree of Hearing Loss among Musicians and Controls

The empirical findings from this cohort demonstrate that while three-quarters of the participants (75%) managed to maintain normal hearing thresholds, auditory impairment was overwhelmingly concentrated among the musicians and audio engineers. It is noteworthy that the recorded cases of mild and moderately severe sensorineural hearing loss belonged strictly to the occupational group. This diagnostic pattern provides suggestive evidence that is highly consistent with

occupational exposure within these performance environments. It aligns with broader global literature documenting how prolonged exposure to high sound pressure levels drives a gradual, irreversible decline in auditory acuity (Ramma, 2021).

Within West Africa, this vulnerability is often compounded by a distinct lack of institutional oversight, low awareness, and a cultural reluctance to utilise personal protective equipment (Khoza-Shangase, 2020; Moroe & Khoza-Shangase, 2018). Field studies across Nigerian urban hubs reveal that ambient monitoring levels in commercial music districts and religious worship centres routinely exceed the safe 85 dBA threshold, commonly resulting in localised high-frequency audiometric notches (Amusa et al., 2011; Ologe et al., 2006). In fact, direct assessments of West African live instrumentalists and sound handlers indicate that more than a third of these professionals already experience measurable noise-induced hearing loss alongside chronic tinnitus (Anyiam & Douglas, 2019; Ologe et al., 2005).

Even within a relatively small audiometric sample, the clear clustering of moderately severe hearing loss among active music professionals exposes a critical public health blind spot. When looking at larger, unselected populations, the true prevalence is likely much higher due to the compounding, multi-year toll of long studio tracking sessions and live performances (Halevi-Katz, 2015). These findings underscore an urgent need to shift the entertainment sector away from a late-stage intervention model. Instead, they highlight the necessity of implementing proactive hearing conservation frameworks, mandatory baseline screening, and routine audiometric surveillance tailored specifically to the realities of African audio professionals (Moroe, 2025).

Pure Tone Threshold Patterns and Early Auditory Changes

The elevated hearing test averages observed among musicians, though still within what is clinically considered a normal to mild range of impairment, point to the very first stages of physical changes within the ear. These subtle shifts in hearing thresholds are incredibly important for early detection. They act as early warning signs that happen well before a person develops severe, permanent, and completely irreversible hearing loss (Wu et al., 2020). Within regional creative industries, these early shifts usually show up as a loss of sensitivity to higher pitches or high-frequency sounds (Haruna et al., 2023).

Additionally, the fact that hearing thresholds vary so widely among the musicians in this study directly reflects their highly diverse day-to-day working conditions. This variation is shaped by practical factors such as how many hours a week they spend practicing, the specific genre of music they play, the physical acoustics of their performance spaces, and how close they stand to loud amplifiers or instruments. This uneven pattern of hearing health supports the widely accepted understanding that noise-induced hearing loss builds up gradually over time, depending entirely on the unique, cumulative sound levels an individual is exposed to (Ramma, 2021).

Age and Auditory Acuity

Although initial statistical comparisons did not show a direct, simple link between a musician's chronological age and their hearing test scores, the descriptive data reveals a clear trend: hearing acuity steadily drops as age increases. This apparent contradiction suggests that within the entertainment industry, age does not act alone; instead, it compounds existing damage. Musicians in their twenties and thirties are already showing early signs of shifting hearing thresholds, which strongly supports the idea that regular exposure to loud sound accelerates over time (Anyiam & Douglas, 2019).

Under normal circumstances, natural age-related hearing loss usually does not appear until a person is well into their fifties. However, for professional musicians, years of constant exposure to loud workplace sound fast-tracks this wear-and-tear, causing premature changes in the inner ear that mimic advanced ageing (Ologe et al., 2005). As a result, the line between occupational ear damage and natural ageing becomes blurred. This leaves young audio professionals vulnerable to shortened careers and early communication struggles that are rarely seen in unexposed people of the same age.

Health-Seeking Behaviour and Clinical Engagement

A particularly striking and worrisome finding in this study is how rarely musicians seek medical help, despite working in such high-risk environments. Only 10% of the professionals surveyed had ever gone for a routine hearing test or consulted an Ear, Nose, and Throat (ENT) specialist. This lack of medical engagement points to a much larger, systemic issue within the local creative arts: the habit of ignoring or normalising serious symptoms, such as constant ringing in the ears or temporary muffled hearing after a gig (Anyiam & Douglas, 2019).

This behaviour is reinforced by deeply ingrained social and cultural factors. A professional culture that prizes resilience, combined with the fear of being seen as an "impaired" sound engineer or performer, leads many artists to simply push through the early warning signs. On top of that, high medical costs, a lack of health insurance tailored for creative workers, and low public awareness about preventative ear care make it hard for them to get help (Khoza-Shangase, 2020). Without regular workplace health screenings, most of these musicians continue to work in hazardous, unregulated sound environments, unintentionally worsening a progressive problem that remains completely unaddressed.

Exposure Patterns and Cultural Context

While individual statistics did not show a dramatic link between specific habits, such as the exact number of daily studio hours, and actual hearing damage, this should not be mistaken for a lack of risk. Instead, it proves that looking at a person's behaviour at just one single point in time cannot fully capture the lifelong, cumulative danger of regular sound exposure. The qualitative data tells a much clearer story, showing that highly amplified, loud music is deeply woven into the cultural, religious, and social fabric of West Africa (Ikibe & Adekogbe, 2020).

Live musicians and audio engineers in these settings rarely work in loud environments out of personal preference. Rather, they are trapped in a professional system where high volumes are culturally expected and commercially required. From high-energy religious worship services to packed, open-air entertainment venues, local sound systems are routinely pushed to their absolute limits (Anyiam & Douglas, 2019). Because these high volumes are directly tied to audience engagement, spiritual expression, and professional survival, local musicians face a difficult choice that forces them to prioritise cultural demands over their own physical well-being.

Qualitative Insights: Behavioural Adaptation and Divergent Perceptions

The qualitative data provide critical nuance, revealing that age influences awareness, perception, and behavioural adaptation. Older participants demonstrated greater caution, reduced exposure, and increased valuation of auditory health. However, divergent perspectives also emerged. Some participants attributed hearing outcomes to personal ear care rather than age or exposure, while others denied any age-related influence. These contrasting views highlight the complex interplay between knowledge, belief systems, and practice. Importantly, narratives of real-life hearing decline among peers reinforce the cumulative risk of exposure, even where awareness exists.

The findings align with Nigerian and international studies linking occupational noise exposure to hearing impairment (Anyiam & Douglas, 2019; Ologe et al., 2005). The observed gap between awareness and preventive practice also reflects prior evidence that knowledge alone does not guarantee behavioural change (Adekanye et al., 2020). Overall, this paper reinforces the conceptualisation of hearing loss among musicians as both a biomedical and socio-cultural phenomenon, requiring multidimensional intervention strategies.

Conclusion

This paper demonstrates that while the majority of musicians and audio engineers in Osun State manage to maintain normal hearing thresholds, the patterns observed suggest a possible occupational influence on early auditory thresholds within high-decibel environments. Although numerical age did not emerge as a statistically significant, isolated predictor of hearing loss, its interaction with cumulative, long-term exposure patterns remains an essential component of professional risk trajectories. These findings expose a striking behavioural paradox, wherein creative professionals operate under persistent exposure risks while maintaining a remarkably low rate of preventative medical engagement. This systemic hesitation to seek professional help is deeply shaped by local community expectations, professional identities, and the rigid economic demands of the regional entertainment industry. Ultimately, the long-term hearing health of these practitioners is governed less by simple biological aging and more by deeply embedded cultural practices and performance environments that normalise hazardous sound levels. Beyond its descriptive contribution to music and cultural studies, this research highlights the importance of protecting hearing health as part of sustainable occupational wellbeing

within the creative sector. The study supports the broader vision of United Nations SDG 3 by advocating for safer listening cultures, culturally relevant hearing conservation practices, and healthier performance environments capable of sustaining the long-term productivity and professional longevity of musicians and audio engineers.

Recommendations

To safeguard the working futures and well-being of local music professionals, regular hearing assessments must be institutionalised as standard occupational health practice to ensure early detection. Rather than imposing rigid protocols, these medical interventions must be designed to be culturally sensitive, aligning seamlessly with localised performance habits and the everyday realities of the West African creative scene. Additionally, public health campaigns should focus on teaching simple safe listening habits, like taking regular breaks from loud noise. They should also make it affordable for musicians to get specialised ear protection, such as professional in-ear monitors. Finally, environmental regulatory bodies, including local municipal authorities, must establish and actively enforce safe sound level caps within entertainment venues; at the same time, regional academic bodies should invest in tracking health trends over many years to properly understand and manage the cumulative, lifelong toll of noise exposure on our cultural workers.

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