Ethnomusicologists and Noise-Induced Hearing Loss

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This document provides my portion of the collaborative presentation “Who Cares if You Can’t Listen? Noise-induced hearing loss as a research problem and occupational hazard in ethnomusicology”, with Kris Chesky, Director, Texas Center of Music & Medicine, University of North Texas, at the Society for Ethnomusicology annual meeting in Los Angeles on Nov. 12, 2010. Kris Chesky’s portion is incorporated in his 2011 article.¹

Headphones

We love to listen to music, and we love to write about listening to music. Some of us also love headphones. Steven Feld delivered the Seeger Lecture at the 2009 SEM annual meeting while wearing headphones. He has written about the importance of headphones in his early musical life and his fieldwork with the Kaluli.² Helen Myers has written about headphones as a place of peace and enjoyment for fieldworkers.³ What we don’t like to do as much is address one of the potential hazards of listening to music: noise-induced hearing loss (NIHL). While I too am a fan of headphones, my experience during fieldwork on Brazilian popular music was different. At a popular music festival held during Carnaval, where the sound pressure level measured at the soundboard reached 110 decibels or more, I used closed headphones along with foam earplugs as protection against the volume.

Noise-Induced Hearing Loss

I was being extra careful with my hearing because in 1998, at age 37, I had been made aware that I suffered from noise-induced hearing loss. One day, in a class I was taking on electronic music at the university where I was teaching, the professor was generating sine tones of steadily increasing frequency. We soon reached a point at which the undergraduates were experiencing discomfort, while I heard nothing. An audiological examination soon afterwards revealed noise-induced hearing loss. For those of you who have not looked at an audiogram before, here’s how to read one. The line marks the hearing threshold. The area above the line shows the sounds that you are unable to hear. The area below the line shows the sounds that you are able to hear. The frequency range across the top runs from 125 to 8000 Hz. The decibel scale runs from -10 to 110. Normal hearing has a threshold between 0 and 20 dB. Normal conversation is around 60dB. Here’s what a normal audiogram looks like: http://audiologyawareness.com/hearinfo_agnormal.asp.


Here’s what an audiogram showing sensorineural hearing loss looks like: http://audiologyawareness.com/hearinfo_agshl.asp.

For sounds at 3000Hz, a person with this degree of hearing loss needs the sound to be at 50dB to perceive it, while a person without hearing loss would perceive it at 20dB or less. Each increase of 3dB indicates a doubling of sound pressure.

Two examples of my audiograms are shown in Figures 1 and 2. In the words of my audiologist, “Pure tone results are consistent with bilateral moderate to moderately-severe precipitously-sloping high-frequency sensorineural hearing loss beginning at 3 kHz”. In August 2010, as part of a research program organized by Kris Chesky, I was fitted with state-of-the-art Oticon Agil Pro hearing aids on a trial basis. I’ve spent the last three months studying the effect wearing them has had on my music listening and playing and my interactions with people in musical and educational situations. The results have been positive. Last week I purchased them.

From the individual to the academic community

What does this matter? Who cares if you or I can’t listen as well as we once could? Not all of the experiences of loud sound that led to this loss were related to my ethnomusicological work, but the loss has an effect on that work. Many of the values attached to listening to music by ethnomusicologists are shared by the university music culture in which professional socialization happens. It can be difficult for people to grasp that exposure to music can have harmful effects because it is valued so strongly as something good. The more music we can play and listen to, the better. Perhaps the distinction between music and noise is a factor. Musicians might pay more attention to the problem if they were more aware that some researchers now use the term Music-Induced Hearing Disorder. This signifies that there is more involved than a hearing loss. The loss can be accompanied by tinnitus (ringing in the ears), altered perception of pitch, and recruitment, which makes loud sound more irritating than it is to listeners without a loss. In order for this aspect of the professional socialization of ethnomusicologists to change, the way the music education community from K-12 through university relates to music and sound in general needs to change. Kris Chesky’s findings from research on hearing health promotion in schools of music will provide the context for a set of recommendations for ethnomusicologists that will follow. [Kris Chesky’s portion followed here.]
Recommendations for ethnomusicologists

Fieldwork

NIHL should be addressed in fieldwork methods courses. When you do fieldwork, you and the people you are working with may be at risk from NIHL. Taking steps to protect yourself from NIHL could cause problems for the rapport that you hope to establish with the musical community you are doing research in, because you might find it necessary to attend fewer events or stay a shorter time at the events you attend. It might be an unwelcome interference for you to point out to musicians and listeners in your research setting that they are at risk from NIHL. Hearing loss also affects second language learning and speaking and listening in general.

Education

As we listen for analytical and educational purposes, we should be willing to confront the limitations of our hearing acuity, which may have been affected by NIHL. In order to have confidence in what we are hearing as we teach (especially courses on transcription and analysis), we should investigate the state of our own hearing. Directors of music ensembles should measure exposure to potentially harmful sound pressure levels in their rehearsals and performances and mitigate those effects if harmful levels are being reached. Recently I attended a performance in which peak decibel readings reached 112 dB, and averages hovered in the mid to high 90s. This problem affects all kinds of musical ensembles. I am not arguing that student participation in loud ensembles should be limited, but only pointing out that with the knowledge of the potential risks comes the responsibility to limit them.

People with NIHL as a research population

As NIHL among music listeners and music students becomes more prevalent, its effect on musical activity should become more of a focus of research. As far as I know, ethnomusicologists have not studied the NIHL-related effects of new musical technologies or people with NIHL as a musical subculture. This topic relates to the recent interest in music and disability and is worthy of further investigation.

Raising awareness

My own process of adaptation to wearing hearing instruments is also a process of adapting to the idea of being a person with a disability, although it is a mild one. As I document the experience of using hearing instruments, I am filled with excitement for the rediscovery of musical sensations I had feared were gone forever, and with regret for the years of tolerating harmful sound pressure levels. My response to the regret has been to transform it
into determination to raise students’ awareness of this issue so that they may avoid a similar fate.

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