

Research aims to improve access to music for people using hearing aids

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Beethoven composed some of his most famous works after he became profoundly deaf.

More recently, musicians such as Ozzy Osbourne, Brian Wilson and Phil Collins have encountered problems with their [hearing](#). Tinnitus affects many more, from Eric Clapton and Neil Young to will.i.am.

Now a collaborative project between the University of Leeds and Sheffield Teaching Hospitals NHS Foundation Trust is bringing together music psychologist Dr Alinka Greasley and Dr Harriet Crook, Lead Clinical Scientist for Complex Hearing Loss, to investigate how music listening experiences are affected by deafness, [hearing impairments](#) and the use of [hearing aids](#).

The project, Hearing Aids for Music, will look at how people use hearing aids in musical situations, from listening to music at home to going to a symphony or rock concert.

Dr Greasley, from the University's School of Music, pointed out that you don't need to have lived a rock 'n' roll lifestyle to have a hearing impairment.

"As a population we're tending to live longer, and

many people's hearing naturally declines as we get older," she said. "Action on Hearing Loss reports that there are 10 million people with hearing impairments in the UK – two million of them wear hearing aids – and these numbers are rising.

"Music is an important part of people's lives and can have powerful physical, social, and emotional effects on individuals, including those with all levels of hearing impairment – even the profoundly deaf. The purpose of hearing aids is to amplify speech, and evidence suggests that many hearing aid users experience problems when listening to music, such as acoustic feedback, distortion and reduced tone quality.

"Exploring these issues systematically, through a combination of in-depth interviewing and a large-scale national survey, will allow us to understand these problems and identify areas for improving the perception of music using hearing aid technology."

As well as providing advice to hearing aid users, results will be used to help audiologists talk about music listening issues with patients in their clinics. The research may also benefit manufacturers of hearing aids by providing a basis for improved digital signal processing, helping users of the technology to access music.

Dr Crook, an expert in the neuroscience of music perception based at the Royal Hallamshire Hospital, said: "This is the first time hearing test data has been used alongside social psychological data to create a systematic exploration into how hearing aids affect music listening behaviours.

"Improved access to music using hearing aids will benefit people of all ages, facilitating music education for deaf children and young people, music listening and performance in adulthood, and continued musical engagement into old age."

Despite the large numbers of those affected, very

little is known about the [music listening](#) experiences and behaviour of people with hearing impairments because previous studies have assumed a typical level of hearing in participants. Provided by University of Leeds

"People tell us that modern digital hearing aids have proved a revelation because they reveal hitherto 'lost' sounds such as a humming fridge or boiling kettle, yet listening to music is still problematic" said Dr Greasley.

Pianist Danny Lane, himself profoundly deaf, is Artistic Director of West Yorkshire charity Music and the Deaf, founded in 1988 to help deaf people access [music](#) and performing arts.

He said: "This research is very much needed. Music and the Deaf often receives emails from musicians or parents of musical children who are frustrated with their hearing aids.

"Music forms a very important part of their lives – anything that might help improve their enjoyment of it, whether as listeners or performers, is to be welcomed."

Dr Greasley is conducting interviews with hearing aid users and will also lead a large-scale national online survey.

Dr Robert Fulford, a Post-doctoral Research Fellow at the University, is also working on the three year project, which has been awarded funding worth £247,295 from the Arts and Humanities Research Council.

Drs Greasley, Crook and Fulford are joined by an advisory panel consisting of experts in auditory processing, [digital signal processing](#), hearing aid fitting, hearing therapy and deaf education.

Their findings will benefit hearing aid users and people with all levels of deafness, both in the UK and internationally, through open access content on the project website and forum.

More information: For more information, see musicandhearingaids.org/home/

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