Are you phonagnosic?

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The first known case of someone born without the ability to recognise voices has been reported in a paper by UCL (University College London) researchers, in a study of a rare condition known as phonagnosia. The UCL team are calling for other people to come forward if they think they have also grown up with the condition.

The case study, reported in the online issue of the journal *Neuropsychologia*, is of a woman who is unable to recognise people by their voice, including her own daughter whom she has great difficulty identifying over the phone. The woman, known as KH, avoids answering the phone where possible, and for many years has only answered 'booked calls'. KH books calls with friends or co-workers, so she knows who to expect when the telephone rings at a certain time. In the 1980s, KH had a job in which she introduced herself with a different form of her first name so she would know that it was someone related to her job when they called and asked for her using that name.

KH, a 60-year old successful professional woman, was aware from an early age that there was something she couldn't do that others clearly could. But it was only when reading an article in a popular science magazine years later that KH finally understood her lifelong problem. The article discussed prosopagnosia, a condition where people have severe difficulty recognising faces. KH realized she might have the vocal analogue of prosopagnosia, and contacted the magazine, who put her in touch with UCL's Dr Brad Duchaine.

Dr Brad Duchaine, co-author of the paper, says: "Occasionally, people

have experienced problems recognising voices following a stroke or brain damage, but this is the first documented case of someone growing up with this condition. We suspect that there are other people out there with similar problems, and we'd like to get in touch with them. If you think you might be phonagnosic, please contact us."

"Voice recognition may not seem as important as face recognition, given that failing to recognise someone in front of you can cause much more social anxiety than not recognising them over the phone. Yet we rely on voice recognition in our day-to-day lives, to identify people on the phone or those speaking on the radio."

In the study, Dr Duchaine and Lucia Garrido of the UCL Institute of Cognitive Neuroscience presented KH with a series of tasks involving the recognition of faces, voices, vocal emotions, speech perception and music. KH struggled to recognise the voices of famous actors and politicians, and also had difficulty learning and recognising new voices. Compared to a control group of volunteers, nearly all of whom identified the voices of Margaret Thatcher, David Beckham, Dawn French, Chris Tarrant, Joanna Lumley, Sean Connery and Ann Widdecombe, KH was only able to identify the voice of Sean Connery.

However, KH performed well on nearly all other tasks. For example, in a test involving emotional sounds - achievement/triumph, amusement, anger, disgust, fear, pleasure, relief, sadness and surprise - KH could identify the emotional state of the person speaking roughly 80 per cent of the time, similar to the control group. KH also did well on all music tasks, identifying famous tunes and discriminating between instruments. KH says that she is able to enjoy and appreciate music, though she usually doesn't recognize singers.

Phonagnosia has only been documented so far in people with brain lesions in the right hemisphere following a stroke or brain damage, and

the mechanisms behind it are not well understood. In KH's case, a MRI brain scan showed no evidence of brain damage in regions associated with voice or auditory perception, and her hearing abilities were found to be normal.

Source: University College London

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