Are men better than women at acoustic size judgments?

May 31 2013

Credit: Amarand Agasi

New research published today in *Biology Letters* reveals that men are significantly better than women at assessing someone's body size from the sound of their speech.

Scientists from the University of Sussex have revealed that men are significantly better than women at using speech 'formants' to compare the apparent size of the source. Formants are important phonetic elements of human speech that are used by mammals to assess the body size of potential mates and rivals. This research is the first to indicate that formant perception may have evolved through sexual selection.

Dr. Benjamin D. Charlton and his team tested 18 males and 37 females, aged between 17 and 20 years. Participants heard 60 unique stimulus pairs with different formants, representing two different animals, and their task was to decide which one sounded 'larger'. Researchers tested the ability of listeners to detect small differences in apparent size across a wide range of formants which encompassed the range of the human speaking voice.

Speech formants, which give us our particular vowel sounds, are based on the length of the vocal tract, and thus relate directly to body size. But whereas men appear to use formants to judge the physical dominance of potential rivals, formants are not consistently found to predict how women rate the attractiveness of men's voices. Women have been found to be more reliant on voice pitch rather than formants when rating how attractive they find a male voice.

The researchers conclude that the sex differences they report could be either innate or acquired or both. Hence, while they are compatible with the hypothesis that males rely on size assessment more than females, they do not conclusively demonstrate that these abilities arose through sexual selection. For example, it is possible that males learn this skill because this information is more important to them during their everyday social interactions. There may also be key differences across cultures, particularly in societies where gender roles differ markedly. Thus, they look forward to future studies examining the effects of training and personality as well as social and cultural factors.

More information: Charlton, B., Taylor, A. and Reby, D. Are men better than women at acoustic size judgments? *Biology Letters*. rsbl.royalsocietypublishing.or … .1098/rsbl.2013.0270

Provided by The Royal Society