

# Research reveals individual differences in adult male voices emerge long before puberty

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Credit: University of Sussex

New research from University of Sussex psychologists shows that voice pitch in males is determined long before a surge of sex hormones at puberty lengthens their vocal folds. In fact, the researchers found that individual differences in voice pitch that are known to play an important role in men's social and reproductive success are largely determined by age seven.

Published in the Royal Society journal *Open Science*, the findings suggest that the attribution of certain traits to men who have relatively low-pitched voices (such as dominance and masculinity) may begin at a much

younger age than previously thought.

In order to examine vocal changes in individual subjects, the researchers utilised interview footage from the documentary series *Seven Up* and analysed the voices of the 10 men who took part in the programme, and who were recorded every seven years from 1964 to 2012 over a span of 50 years of their lives.

The study found that while vocal pitch does drop dramatically in males between the ages of seven and 21 (i.e. 'voice breaking'), most likely due to a dramatic increase in circulating levels of testosterone, the men's vocal pitch at age seven still strongly predicted their pitch at every subsequent adult age.

Commenting on the findings, Dr Kasia Pisanski, Research Fellow at the University of Sussex, said "These results have huge implications on how men are perceived by others throughout their adult life, as a large body of research has shown that voice pitch affects people's judgements of attractiveness, masculinity, dominance, competence, likeability and trustworthiness.

"Given that listeners also attribute certain traits to adolescents and even to babies with high- or low-pitched voices, as well as to adults, a child's voice pitch could potentially predict how that person will be perceived by their peers well into adulthood."

Dr David Reby added: "These results show that individual differences in men's voice pitch remain remarkably stable throughout the lifetime and, in fact, emerge long before sexual maturation and pubertal influences on the vocal anatomy.

"Ultimately what this means is that [voice pitch](#) in males may be linked to levels of androgen exposure early in life, possibly even in the mother's

womb."

**More information:** Meddy Fouquet et al. Seven and up: individual differences in male voice fundamental frequency emerge before puberty and remain stable throughout adulthood, *Royal Society Open Science* (2016). [DOI: 10.1098/rsos.160395](https://doi.org/10.1098/rsos.160395)

Provided by University of Sussex

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