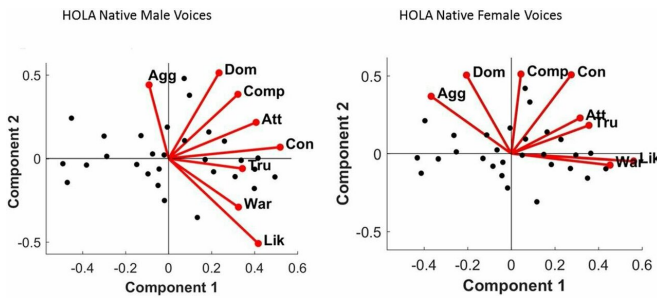


# Listeners get an idea of the personality of the speaker through voice

30 January 2019



Principal Component Analysis solutions and main correlates of the Social Voice Space for 'Hola' voices. A) The two-dimensional solution of the PCA for male (left) and female (right) voices (black dots). Labels equate to: Agg - Aggressiveness; Att-Attractiveness; Comp-Competence; Con - Confidence; Dom - Dominance; Lik-Likeability; Tru - Trustworthiness; War - Warmth. Credit: UPF

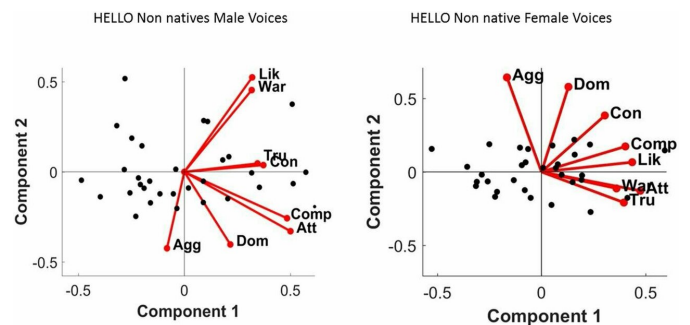
A paper published by Cristina Baus and Albert Costa, UPF researchers at the Center for Cognition and Brain (CBC), in collaboration with researchers from the Université Aix-Marseille and the University of Glasgow, has shown that listeners across languages form very rapid personality impressions from the voice, and this is not modulated by the language of the listener, native or foreign.

In a large-scale study, Spanish listeners were asked to judge personality traits (trustworthiness, dominance, competence) just by hearing the voice of Spanish speakers producing the word "Hola" ([native language](#)) or English speakers producing the word "Hello" (foreign [language](#)). Our work revealed four important results:

Ratings of perceived personality were highly consistent among listeners regardless of the language in which voices were evaluated. That is, listeners agree in their judgments of whether a

given voice sounds aggressive or confident. This suggests that there must be certain invariant properties of voice that indicate how trustworthy or competent a person is. This is in line with the idea that we can train ourselves to sound more or less competent, more or less dominant, depending on the context (e.g., job interviews).

After hearing just one word, listeners rapidly create a social voice space, where voices are grouped according to two main dimensions, one emphasizing traits of valence (trustworthiness, warmth) and the other emphasizing strength (dominance, aggressiveness). These two personality dimensions are extremely relevant, and respond to evolutionary pressures. Obtaining information about the intent of others helps individuals to appropriately evaluate whether to approach or to avoid interaction with them.



Correlation matrix and distribution density distribution (diagonal) of PC1 and PC2 of personality traits and voice acoustics for male voices. Black points represent Scottish voices in the original experiment (ScN: Scottish native), Gray points represent Scottish voices in Experiment 2 (ScF: Scottish foreign) and Red points represent Spanish voices (SpN; Spanish native). Credit: UPF

The ability to form [personality](#) impressions is independent of the linguistic ability of listeners.

Voices were grouped according to valence and strength irrespective of the language of the speaker, native or foreign. This result refutes old reports arguing that listeners tend to evaluate as more intelligent, kind, or competent voices from native rather than from foreign language voices.

Listeners across languages do not pay attention to the same voice properties (e.g., pitch) when evaluating [personality traits](#). In contrast to previous results relating low-pitch voices with dominance (especially for males), Spanish listeners considered high-pitch voices as more dominant than low-pitch ones.

In summary, the study reveals that social [voice](#) perception contains certain elements that don't vary across languages and cultures, while others are modulated by the cultural/linguistic background of the [listener](#).

**More information:** Cristina Baus et al, Forming social impressions from voices in native and foreign languages, *Scientific Reports* (2019). [DOI: 10.1038/s41598-018-36518-6](#)

Provided by Universitat Pompeu Fabra -  
Barcelona

APA citation: Listeners get an idea of the personality of the speaker through voice (2019, January 30) retrieved 14 November 2019 from <https://medicalxpress.com/news/2019-01-idea-personality-speaker-voice.html>

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