How do you say ‘hello’? Personality impressions from brief novel voices

* Voices are saturated with cues to a person’s age, gender, and affective state (1), with information being extractable whether listening to sentences (2), or sub-second vocal bursts (3, 4).
* Attractiveness influences our mate choices, job selection and voting behaviour (12, 14, 15). Vocal personality has been shown to influence mate selection, leader election, and consumer choices (16-19). Such judgements are formed after less than 100ms exposure (20, 21)
* Zero acquaintance – decisions made without having much knowledge about the person in question
* Many studies of face and voice perception have utilized traits from the Big Five Personality Model (35, 36). Large consistency in viewer’s ratings
* Secord (46) proposed that via a temporal extraction of momentary characteristics (such as smile or deep voice) we label people with an enduring attribute, such as friendliness or strength. These generalizations allow for rapid, though not necessarily accurate judgements of personality.
* A judgement on the warmth dimension would evaluate a novel person as a friend or foe, whilst a judgement on dominance dimension would evaluate that person’s ability to act on their intent.
* Thus far, studies of personality traits of novel speakers have used long ‘irrelevant’ passages of speech, introducing influence from uncontrolled parameters of speech prosody. Studies that do utilise brief and socially relevant stimuli have a sole focus on attractiveness of the speaker, neglecting other potentially important traits (50, 51). Thus, it is pertinent to establish if a two-dimensional space holds true for short, socially relevant, vocal signals for novel speakers, akin to a ‘first impression’.
* This paper investigates the personality conveyed by novel speakers, via a single word, in an ambiguous scenario. We tested whether personality ratings, for both male and female voices, would be consistent across listeners, and if so, would they be appropriately summarized by a two-dimensional ‘social voice space’, similar to previous findings in face perception. Furthermore, given the lack of understanding of the underlying acoustics of such spaces, eight acoustical measures, summarising voice production, were tested for a relationship to any resultant summary spaces
* Principal Component Analysis was used (PCA) to convert all traits to orthogonal dimensions.
* Social traits investigated: aggressiveness, attractiveness, competence, confidence, dominance, femininity, likeability, masculinity, trustworthiness, warmth
* Analysed the underlying acoustical information, intonation, glide, and HNR
* The results showed that from brief utterances containing limited information, akin to a first impression, listeners showed high consistency in their ratings of perceived personality
* For females, a more positive perceived valence appears associated with a greater rise in intonation; a more negative valence is associated with a falling intonation. For males, an average higher pitch relates to increased valence: this would bring the pitch closer to that of females, resulting in increased friendliness due to stereotyping.
* Lower pitched male voices, across the sound duration, were perceived as more dominant; conversely, higher pitched male voices were perceived as less dominant. In contrast, higher average pitch was associated with increased dominance in female voices.
* Overall, we form trait impressions as a means to establishing the intent of others, and of selecting appropriate approach and avoidance behaviours.
* Overgeneralization hypothesis. We make judgements based on the extrapolation of momentary states to stable dimensions (32, 46): ie a person who smiles (momentary state) is perceived as warm (stable dimension).
* Accuracy is an important aspect as if people’s judgements of personality were continually wrong then any subsequent impressions of intent based on this perceived personality would be misleading.
* Typically, accuracy is determined via convergence between self-ratings and ratings by acquaintances. Previously, results have shown only moderate convergence at best, and for a limited number of traits such as dominance and honesty (23, 44, 97).
* One problem with trait attribution is the assumption of context-independent personality. People may accurately infer the momentary state of another, but the same inference may not hold when generalised across situations and time. Thus, in order to establish how accurate we are in determining the personality of others, a context-based measure of accuracy would be more appropriate (98).