
**Linking testosterone, physiological dimensions, and speech behavior: A preliminary report**

**Abstract**

Sociolinguistic studies have identified phonetic variables associated with perceived sexual orientation in men. These variables include duration and peak frequencies of /s/, VOT of voiceless stops, as well as duration and formant values of certain vowels. Some current theories posit that these speech characteristics are socially motivated in that speakers acquire them to signal identity or group affiliation. Adopting another perspective, the present study examines the role of biological (i.e. hormonal and anthropometric) factors on phonetic characteristics related to male sexual orientation. Saliva samples were collected from 40 men aged between 20 and 27 years in order to evaluate testosterone levels. Height, weight, and length of arms and legs were also measured. Subjects were then asked to produce 30 target words each composed of a consonant (voiceless stop or fricative) and a vowel. Acoustic analyses of the target words showed significant negative relationships between testosterone levels and duration of vowels and fricatives. Significant correlations also appeared between subjects’ height and F2 of front vowels. These findings question certain sociolinguistic assumptions on the origin of gay-sounding speech and suggest that a number of the phonetic characteristics related to sexual orientation would be biologically based.