

Shipp, T., & Izdebski, K. (1981). Current evidence for the existence of laryngeal macrotremer and microtremer. Journal of Forensic Sciences, 26, 501-505.

Shipp and Izdebski (1981) investigated vocal microtremer in order to test the assumption that the voice stress analysis captures changes of microtremer in laryngeal muscles. Deception-related stress was claimed to lead to changes in the pattern of microtremer, and the voice stress analysis was designed to capture those changes and provide information for the detection of deception.

First, to better understand the characteristics of tremors, Shipp and Izdebski (1981) examined a rate of observable tremors (i.e., macrotremer) in vocalization of professional singers and participants with a vocal disorder. They were asked to produce the vowel sound /a/ for a period of time (e.g., 7 to 12 seconds) at low, medium and high pitch. Professional singers showed a rate of macrotremer from 4.7 to 6.6 Hz, and participants with a vocal disorder showed a rate of macrotremer from 3 to 10 Hz. The rate of tremors was not affected by pitch. Thus, although the existence of macrotremer was confirmed, there was no effect of pitch and no group difference in the rate of macrotremer.

Then, to examine vocal microtremer, Shipp and Izdebski (1981) measured electrical activities from laryngeal muscles while the participant produced conversational speech or speech sound. According to the assumption in the voice stress analysis, microtremer were expected to appear in the pattern of electrical activities. However, no evidence for the existence of microtremer was found in electrical activities from laryngeal muscles. This finding raises a question about the claim that the voice stress analysis captures vocal microtremer in laryngeal muscles.