

# Influence on spectral energy distribution of emotional expression

Guzman, Marco

Correa, Soledad

Muñoz, Daniel

Mayerhoff, Ross

**Purpose:** The aim of this study was to determine the influence of emotional expression in spectral energy distribution in professional theater actors. **Study Design:** The study design is a quasi-experimental study. **Method:** Thirty-seven actors, native Spanish speakers, were included. All subjects had at least 3 years of professional experience as a theater actor and no history of vocal pathology for the last 5 years. Participants were recorded during a read-aloud task of a 230-word passage, expressing six different emotions (happiness, sadness, fear, anger, tenderness, and eroticism) and without emotion (neutral state). Acoustical analysis with long-term average spectrum included three variables: the energy level difference between the F1 and fundamental frequency (F0) regions, ratio between 1-5 kHz and 5-8 kHz, and alpha ratio. **Results:** All the different emotions differ significantly from the neutral state for alpha ratio and 1-5/5-8 kHz ratio. Only significant differences between "joy,"