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Criterion familiarity of speaker identification in voice line-ups

Abstract

We examine the effect of familiarity of heard voices on accurate identification or discrimination in the voice line-up technique. Literature shows that certain variables must be controlled in order to obtain an efficient voice line-up. This study is the first to use the familiarity variable in terms of a complex index considering: 1) recency (i.e. the time of last spoken contact), 2) duration of spoken contact, and 3) frequency of spoken contact.

The main objective of the present study was to observe if a high level of familiarity could lead participants to identify heard voices with high accuracy (above 99%) as well as the effect of the length of the heard utterances.

Three different voice-line-ups were designed using a total of 10 male voices and including 1 target voice (speaker). All 10 voices on a specific line-up did not vary in dialect and all 9 filler voices possessed and average speaking fundamental frequency (SF0) within more or less one semitone from the target voice. The participants (n: 40) were selected on the basis of their familiarity with the target voices/speakers.