

# DEVELOPMENT OF A TRAINING TOOL FOR PERCEPTUAL VOICE EVALUATION USING THE GRBASI SCALE

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## Introduction:

Despite an increasing knowledge and implementation of objective voice quality measurements in the last decades, auditory-perceptual voice evaluation is still considered an essential part of voice analyses. The quality of perceptual ratings depends heavily on the training level and experience of the evaluator. The use of rater scales with predetermined parameters and scales (CAPE-V, ASHA 2010; GRBASI, Hirano 1981) reduces variability in evaluation. Greater intra- and interrater reliability can be obtained through training, but requires a representative sample set.

The aim of this study is developing a training tool for perceptual voice evaluation using the GRBASI scale.

## Materials and methods:

64 Voice samples varying from normal to severely dysphonic, consisting of the vowel /a/ and a Dutch standard text, were recorded in a soundproof cabin. Samples were duplicated to audio-CD in random order. A panel of 5 highly experienced judges evaluated all GRBASI parameters for each recording.

Intra- and interrater correlations were determined using intraclass correlation coefficient (ICC) for each parameter; subsequently the most representative samples for any parameter score were selected based on the highest interjudge agreement and spread of the scores. These samples were finally included in the training tool. A Pilot version of the training tool was implemented in a group of 18 SLT's following a postgraduate qualification course on voice. Before and after the training procedure they evaluated 2x10 voice samples in random order with the GRBASI-scale. After 10 weeks of at home practise with the reference samples, the same task was fulfilled.

## Results:

Interrater reliability was good to excellent for all parameters (ICC .73-.87). Intrarater agreement demonstrated similar quality (ICC .50-.88). Reference samples were obtained for all grades of each GRBASI parameter, except for R3, A3 and I3.

Concerning the pilot study, Friedman's Anova was significant for all parameters except for A.

## Conclusions:

This study demonstrates the succesful selection of representative voice samples to be included in a standardized training tool for perceptual voice evaluation. The use of a highly experienced panel resulted in good to excellent ICCs for the GRBASI ratings. Training and practise improves GRBASI scoring. Additional voice sample collection is ongoing for reference samples R3, A3 and I3.