

## **Abstract EFAS/DGA 2007**

### **Development of an Audio Compact Disc for Speech Audiometry Testing**

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The aim of this study was to develop an auditory compact disc for assessment of word recognition score and auditory processing in populations who speak Modern Greek. Speech materials were digitally recorded and equalized according to the 'Equal speech level method'. The materials included on the compact disc were the four lists, each of which contains 50 phonetically balanced bisyllabic words, developed by Trimmis and colleagues (2006). All 200 words were recorded in an Industrial Acoustic Company booth meeting ANSI S3.1 standards, by one male and one female native professional speaker. An AKG model C-1000-S condenser microphone covered by a windscreen and positioned at optimum distance, a FireWire Solo sound card interfaced to a PC computer, and digital signal processing software (Adobe Audition. Version 1. Adobe Systems Incorporated. San Jose, CA) were used for all recording and editing tasks. Each word was produced several times with minimum suprasegmental features. Two judges, one male and one female, rated the repetitions of each word for perceived quality of production, and the best production of each word was selected. Each digitized word (sampling frequency of 44.100K Hz and 16-bit resolution) was placed in a unique file and was edited for noise elimination, equalization, high-pass, low pass and compression according to specific parameters. The disc contains 24 tracks with 50 bisyllabic words in each track, a 1000-Hz calibration tone of 30 seconds at the beginning of each track and interstimulus intervals of 5 seconds. Tracks 1 through 8 are used for word recognition score testing and contain the initial four 50-item lists and a randomization of each list. Tracks 9 through 24 are used for auditory processing testing and contain the same 4 lists low-pass, high-pass, 45% and 65% compressed.

#### **Literatur:**

Trimmis N, Papadeas E, Papadas T, Naxakis S, Papathanasopoulos P, Goumas P. Speech Audiometry: The Development of Modern Greek Word Lists for Suprathreshold Word Recognition Testing. *Mediterr J Otol* 2006; 3:117-126.

