

Abstract EFAS/DGA 2007

Turkish Hearing in Noise Test

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The difficulty in understanding speech in noisy conditions is one of the most important problems for not only hearing impaired people but also for some normal hearing people. Various speech audiometry materials have been developed in Turkish for clinical use previously, but most of them include words to assess speech intelligibility or make this evaluation under quiet conditions. Daily sentence materials may be better means to assess speech intelligibility both for noisy and quiet conditions. HINT created by Nilsson et al. provides a reliable method of evaluating speech intelligibility in quite and in noisy conditions by measuring speech reception thresholds for sentences, thus avoiding ceiling and floor effects that plague traditional measures performed at fixed presentation level. In this thesis study, the Turkish version of HINT is developed and presented in this manuscript to describe the development details of this test. The methodology used includes: 1) Development of a large set of sentences and validation of their naturalness as judged by native Turkish speakers; 2) Recording and the processing of the speech material; 3) Determination of the performance intensity function; 4) Equalization of the sentence intelligibility; 5) Generation of the phonetically balanced lists; 6) Establishment of the SRT norms for Turkish population. As a result, two versions of the test materials, twelve 20-recorded sentence lists and twenty four 10-recorded sentences lists are created from a single set of 240 recorded sentences. Average headphone SRTs with 30 native Turkish speaker adults with normal hearing are 23,6 dBA in quiet, -3,3 dBA SNR in 65 dBA noise front condition and -11,6 dBA SNR in 65 dBA noise side condition. The low response variability suggests that consistent results could be obtained using any list. The Turkish HINT norms are found to be comparable with those for the English HINT.

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