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## **DEVELOPMENT AND EVALUATION OF A NEW MANDARIN SPEECH AUDIOMETRY MATERIALS BASED ON RADIOTELEPHONY COMMUNICATIONS FOR CHINESE CIVILIAN PILOTS**

*French: DEVELOPPEMENT ET EVALUATION DE NOUVEAUX MATERIAUX D'AUDIOMETRIE DE MANDARINE A PARTIR DE COMMUNICATIONS RADIOTELEPHONIE POUR DES PILOTES CIVILS CHINOIS*

**MS Hu**, H Zhang, XY Yang, J Li, Y Bai, L Wang, FJ Ma, CH Qin  
*Civil Aviation Medicine Center, Beijing, China*  
[humosheng29@126.com](mailto:humosheng29@126.com)

**Introduction:** The purpose of this project was to develop and evaluate a new Mandarin speech audiometry test and materials, based on Chinese radiotelephony communications, that can be used to measure the speech perception abilities of Chinese civilian pilots.

**Methods:** Sentence lists were designed based on both the basic rules for developing speech materials and the particular characteristics of Chinese radiotelephony, and recorded digitally. In order to establish validity and reliability, both the equivalence verification and the performance intensity (P-I) functions of all lists were conducted in a group of 40 subjects (age-range 21 to 26 years) with normal hearing.

**Results:** Speech audiometry materials consisting of 20 sentence lists (20 sentences in each list) had been developed for Chinese civilian pilots. The difficulties of the lists were all equivalent ( $p > 0.05$ ). The P-I function was also obtained, and its mean threshold (50%) was  $8.22 \pm 0.35$  dB HL, the slope at threshold was  $11.34 \pm 1.84\%/dB$ , and the slope of linear area (from 20% to 80%) was  $4.50 \pm 1.29\%/dB$ . Furthermore, six of the sentence lists were found to show a character of non-monotonicity with irregular shapes in P-I functions.

**Conclusions:** The remaining 14 sentence lists of the materials were found to have sufficient reliability and validity to be used for future research.