

Auditory distance perception in fixed and varying simulated acoustic environments. Matthew Schoolmaster (Hearing Res. Ctr. and Dept. of Cognit. and Neural Systems, Boston Univ., 677 Beacon St., Boston, MA 02215 msch@bu.edu), Norbert Kopčo (Hearing Res. Ctr., Boston Univ. and Technická Univerzita, Košice, Slovakia kopco@bu.edu), and Barbara G. Shinn-Cunningham (Hearing Res. Ctr. and Depts of Cognit. and Neural Systems and Biomed. Eng., Boston Univ. shinn@bu.edu)

Listeners must calibrate to the acoustic environment in order to judge source distance using reverberation. Results of a previous study [Schoolmaster, Kopčo and Shinn-Cunningham, *J. Acoust. Soc. Am.* **113**, 2285 (2003)] showed that distance perception is more accurate when the simulated acoustic environment is consistent rather than randomly chosen from trial to trial; however, the environments were very different (anechoic versus a large classroom). The study was replicated here using two rooms that were much more similar. Each subject completed two series of trials. In the fixed-room series, the room (large or small) was fixed within a trial block. In the mixed-room series, the room was randomly chosen from trial to trial. Half of the subjects performed the mixed and half performed the fixed series first. Differences between subject groups were smaller in the current study than when anechoic and reverberant trials were intermingled; performance in the two subject groups was similar for 1) fixed trials and 2) trials simulating the large room. However, there was an interaction between subject group and room. Results suggest that listeners calibrate distance judgments based on past experience, but that such calibration partially generalizes to similar environments [Work supported by AFOSR and the NRC].

Number of words in abstract: 200

Suggested Special Session:

Technical Area: Psychological and Physiological Acoustics

(PACS) Subject Classification number(s): 43.66.Qp

Telephone number: 617 353 6741

email address: kopco@bu.edu

Send notice to: Norbert Kopco, CNS Dept, Boston University, 677 Beacon St., Boston, MA 02215

Special Facility:

Method of Presentation: Poster

Guiding Principles: I have complied with ASA Guiding Principles