Supplemental Text S2. Detailed description of the auditory processing tasks.

Dichotic Digits Test (DDT) and Frequency Pattern Test (FPT)

A total of 20 trials of DDT (two pairs per trial) were used and there were 14 FPT stimuli per ear; the start ear for the FPT was randomized for each participant. Each of these tasks included training components: five presentations for the DDT and two for FPT. Task performance was expressed as percentage correct.

Frequency Discrimination (FD) and Backward Masking With a 0 millisecond Gap (BM-0ms)

The FD and BM-0ms tests were administered after the DDT and FPT using IHR Multi-centre study of Auditory Processing System for Testing Auditory Responses-2 (IMAP-STAR2; Chilekwa, Folkard, Hind, Ferguson, & Moore, 2009) software run on a calibrated Dell laptop with Sennheiser HD 25-1 II headphones. The order of presentation of these two tests was randomized by the computer software. Both the FD and BM-0ms tests consisted of two tracks, each of 20 trials. Each trial involved three sequential stimuli, with two identical, standard tones (1 kHz) and a different, randomly ordered, target tone; the listener then had to select (using a computer mouse) the "odd one out." For the FD test, the 200-millisecond target tone had a higher frequency than the standard tones, and for BM-0ms, a 20-millisecond pulse-tone target occurred immediately (0-millisecond gap) before a longer block of noise centred at 1000 Hz with a bandwidth of 800 Hz. For both tests, the difference between the standard and target tones varied between successive trials using a 3-down/1-up adaptive-staircase paradigm (Moore, Ferguson, Halliday, & Riley, 2008). The FD and BM-0ms tests also included two familiarization tracks of six trials each. FD and BM-0ms thresholds were calculated as the geometric mean (FD) or arithmetic mean (BM-0ms) of the last three trial scores.

Reference

Chilekwa, V., Folkard, T., Hind, S., Ferguson, M., & Moore, D. R. (2009). STAR: A software platform for testing hearing in children. *International Journal of Audiology, 48,* 503.

Moore, D. R., Ferguson, M. A., Halliday, L. F., & Riley, A. (2008). Frequency discrimination in children: Perception, learning and attention. *Hearing Research, 238,* 147–154.