The irrelevant sound effect in short-term memory: Is there developmental change?

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With two experiments, effects of irrelevant speech and classroom noise on serial recall of common nouns presented pictorially were investigated in children and adults. Experiment 1 used fixed list lengths for children (first graders) and adults. Experiment 2 used list lengths adjusted to participants’ (second–third graders, adults) individual spans. In both experiments, children and adults were equally impaired by irrelevant speech. This contrasts with a related study (differences in methodology) by Elliott (2002), who reported severe increase in the detrimental impact of irrelevant speech with decreasing age. In both experiments, classroom noise had no effect in overall analyses. For Experiment 1, however, separate group analyses revealed impairment in children. Results suggest that effects of irrelevant sounds on serial recall stem from two separate mechanisms: Specific interference due to the sounds’ automatic access to short-term memory, and/or attention capture. Only for the latter there is developmental change.

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