

**Supplemental Material S2.** Asynchronies in auditory and language development obscure the connections in childhood phonological deficits.

This video demonstrates two game formats used for testing.

*Spectral modulation depth detection:* The 'robot' game illustrates presentation of stimuli used to measure spectral modulation depth detection thresholds. In this example, the target stimulus is in the center and has a modulation depth of 30 dB.

*Temporal modulation depth detection.* The 'meow-meow-woof' game illustrates presentation of stimuli used to measure temporal modulation depth detection thresholds. In this example, the target stimulus is in the middle.  $M = 1$ , so modulation depth in dB = 0. The face of the center cat representing the target changes to a dog face, indicating that the 'correct' response was chosen. During practice, the face associated with the stimulus that is truly the target changes. Once the child meets training criterion and moves to testing, the face associated with the stimulus that the child selected changes.

Refer to Supplemental Material S1 to hear the demonstration.