**Sound Sweeps**: In a time-order-judgement paradigm, two successive frequency-modulated tone sweeps are presented and participants indicate whether the frequency increased or decreased within each tone. There are a total of 40 unique levels that differ as a function of central frequency and interstimulus interval/Sweep ratio. The adaptive dimension is sweep speed and threshold scores (i.e., APS thresholds) are defined as the fastest speed at approximately 80% criterion accuracy in milliseconds. The minimum possible threshold in this exercise is 16 ms and the maximum is 1000 ms. A lower threshold reflects better performance.

**Fine Tuning**: Participants indicate which one of two confusable syllables was presented. There are 41 unique levels that differ by discriminability of the syllable pair (e.g., da vs ga; et vs ek; boe vs poe, etc) and the speaker (male, female). The adaptive dimension is speech stimulus similarity and threshold is defined as the maximum similarity at approximately 80% criterion accuracy. The minimum possible threshold in this exercise is 1 and the maximum is 15. A higher threshold reflects better performance.

**Syllable Stacks**: Participants report the order of presented syllables in a serial memory span task. There are 24 unique levels that differ in the discriminability of the syllable category, the speech speed, and the speaker (male, female). The adaptive dimension is set size (the maximum number of syllables remembered in order) at approximately 80% criterion accuracy. The minimum possible threshold in this exercise is 1 and the maximum is 12. A higher threshold reflects better performance.

**Memory Grid**: Participants visuo-spatially match identical cards representing syllables. There are 18 unique levels that differ in the discriminability of the syllable category, the speech speed, and the speaker (male, female). As participants progress the syllables to match change, becoming more similar and the participants are given more cards to match. The adaptive dimension is set size (the maximum number of syllable pairs to match) at approximately 80% criterion accuracy. The minimum possible threshold in this exercise is 1 and the maximum is 10. A higher threshold reflects better performance.

**To-Do List Training**: Participants see a grid of everyday items (e.g., plant, bucket, shovel) and select the items in accordance with spoken instructions. There are 38 unique levels that differ in speech speed, stimulus similarity, and in the complexity of the phrasing by using “before clauses” (e.g., “before you get the plant then the bucket, get the shovel”), “after clauses” (e.g., “after you get the plant then the bucket, get the shovel”), “combined before and after clauses,” or “no clause”. The adaptive dimension is set size (the maximum number of instructions remembered in sequence) at approximately 80% criterion accuracy. The minimum possible threshold in this exercise is 1 and the maximum is 9. A higher threshold reflects better performance.

**Rhythm Recall**: Participants listen to tonal beats played over a melody and later recall how long each beat was played and where in the melody beats changed. There are 18 unique levels that differ in the visual beat cue (metronome, playhead, abstract), tempo, auditory beat cue, and rhythm complexity. The adaptive dimension is set size (the maximum number of beats remembered) at approximately 80% criterion accuracy. The minimum possible threshold in this exercise is 1 and the maximum is 8. A higher threshold reflects better performance.