**Supporting Information A: Auditory Processing Test**

In the current investigation, participants engaged in auditory acuity discrimination task. While the methodology is detailed in the main manuscript, the test materials used in the current study (auditory processing batteries) have been coded in JavaScript/HTML and are currently deposited [here](https://osf.io/bkj6v/?view_only=ac2d73e7092b4a018c9a5331eff02171)

(<https://osf.io/bkj6v/?view_only=ac2d73e7092b4a018c9a5331eff02171>) so that the reviewers can access and listen to the stimuli for peer review. In the near future, a ZIP file will be released at our in-house website ([www.sla-speech-tools.com](http://www.sla-speech-tools.com), under construction).

**Supporting Information B: Speech Perception Test**

You will now hear a number of words. Each time you hear a word, find its corresponding number on this sheet where you will see two possible choices. Please circle the word you believe was actually read.

 Now you will hear two examples.

 Please circle the word you hear:

 (a) shore (b) fall

 sore far

1. choke

 chalk

2. late

 rate

3. glow

 grow

4. land

 lend

5. river

 liver

6. thing

 sing

7. hurt

 heart

8. sour

 sore

9. cat

 cut

10. fir

 far

11. home

 foam

12. merry

 marry

13. leap

 lip

14. sin

 shin

15. flesh

 fresh

16. myth

 miss

17. shock

 shuck

18. sum

 thumb

19. fit

 feet

20. base

 vase

21. boat

 bought

22. did

 dead

23. feet

 heat

24. fell

 fill

25. win

 wing

26. vent

 bent

You will now hear a number of sentences. Each time you hear a sentence, find its corresponding number on this sheet. There you will see two words, one of which was part of the sentence, and one which was not. You should circle the word you believe was actually read.

 Now you will hear an example. Please circle the word you think was read in this sentence:

**call**

**car**

I’m expecting my dad to give me a sometime soon.

1. Even though the show has only been playing for a week, it’s

 already created a big

**stir.**

**star.**

1. The millionaire was so paranoid about his greedy relatives that he put

 all his money in the

**well.**

**will.**

**mass**

**mess**

3. You should go take a look at the huge in the science lab.

4. The tailor was trying to sew his

**best.**

**vest.**

**sick**

**thick**

5. I will not read the book because I hate this kind of plot.

thought

**sought**

6. This problem is really difficult. I for an answer, but I just

 can’t seem to figure it out.

**ducks**

**docks**

7. The boat passed by the on the lake.

**free**

**flee**

8. That man is so crazy that he thinks he needs to the country.

**bass**

**bath**

9. He did not enjoy the at all.

**filling**

**feeling**

10. Ever since I quit smoking, I really miss my lungs full of

 smoke.

**sin.**

**sing.**

11. I go to church because I often

12. My sister loves to play with

**crowns.**

**clowns.**

**lane?**

**rain?**

13. Isn’t that your son out there in the

**bowels,**

**vowels,**

14. My son has trouble with his and it makes him so

 embarrassed.

**walk**

**woke**

15. Everyone was surprised to hear that I very early in the morning.

**fated**

**hated**

16. That man seems to have been for his success.

**“single”.**

**“shingle”.**

17. For some reason, I can never remember how to spell the word

**healing.**

**feeling.**

18. I need to go visit her in the hospital and see how she is

**bend.**

**band.**

19. On my way to the parade I had to walk around the

**cot**

**coat**

20. The worst thing about my trip was that my was so

 uncomfortable.

“lurk”

**“lark”**

21. On my English test, was the only word I didn’t define correctly.

**light**

**right**

22. How did you decide on the exposure to use for this picture?

**sleep.**

**slip.**

23. I have to be very careful when I go into that classroom, or else I will

**bed.**

**bid.**

24. Immediately after the businessman awoke he made the

**rut**

**rat**

25. I went out of my way to avoid the that was in my path.

**Supporting Information C: Auditory Processing and Memory Profiles**

|  |  |  |  |
| --- | --- | --- | --- |
|  | *M* | *SD* | 95% CI |
| *Min* | *Max* |
| A. Auditory processing abilities |  |  |  |  |
| Formant discriminationa | 72.16Hz | 30.26 | 64.94 | 79.36 |
| Pitch discriminationa | 3.786Hz | 2.484 | 3.195 | 4.38 |
| Duration discriminationa | 39.45ms | 41.1 | 29.65 | 49.25 |
| B. Cognitive abilities |  |  |  |  |
| Phonological short-term memory | 30.40 | 5.24 | 29.14 | 31.65 |
| Complex working memory | 60.65 | 10.10 | 58.24 | 63.06 |
| Declarative memory | 64.14 | 20.08 | 59.35 | 68.93 |
| Procedural memory | 22.17 | 16.38 | 18.26 | 26.07 |

*Note*. alower scores indicate more precise auditory processing abilities