Supplemental Material S1. Transcript of the instructions in the testing software program.

Introduction

We would like to thank you for participating in this study.

The purpose of this study is to determine how different people perceive various levels of sounds. Many hearing aids are fit based on formulas rather than individual loudness settings. The information we learn from this experiment may help improve the way we program hearing aids.

You will first need to check the equipment so we know that the levels of sounds you will be hearing are accurate.

Then you will do a series of tasks where you listen to sounds and tell us how loud you think they are.

On the next screen, you will enter the Participant ID that was assigned to you.

Headphone Check

You will start by checking the equipment.

Connect the headphones to the laptop.

Connect the microphone to the iPod and place the microphone on a flat surface.

Open the Sound Measurement app on the iPod, it has the symbol N.

After these instructions, a new window will appear on the computer screen.

At that time, place the Left headphone over the microphone.

You will click Play Sound and enter the highest level that you see on the iPod app.

Do this for the Left and Right headphones.

The level should be between 72 and 75 dB. If the level is outside this range, refer to the supplemental troubleshooting document.

Click Next below to enter your headphone sound level measurements.

Background Noise

Next, you will measure the level of background noise in your environment.

Remove the headphones from the microphone and put the disposable covers over the ear pads.

While it is quiet, watch the level on the Sound Measurement app on the iPod for a few brief moments. Estimate the average level and enter it into the window.

Keep the app running for the duration of the experiment. You will repeat this measurement before each Test Run.

Click NEXT when you are ready to enter the background noise level.

Practice Run

Put the headphones on.

Refer to the setup packet to view the experiment Response Window.

This is a Practice Run.

You will hear sounds and tell us how loud you think they are.

After you hear a tone, you will click the colored bar that matches how loud you thought the tone was.

Some bars are labeled and some are not. Make sure you use both.

When the tone is done playing, the box turns green with the word Respond. Then you can click on the bar that matches how loud you thought the tone was.

If the box turns green but you did not hear a sound, click on Cannot Hear.

You should choose Extremely Loud when you think a tone is loud enough that you would not want to listen to it for very long.

Try to make each judgement based on only the loudness of the last tone you heard.

There are no right or wrong answers.

You may hear the same tones more than once.

Do not adjust the headphones during a Test Run.

Click NEXT below to bring up the Response window.

Then click on OK when you are ready to begin.

Background Noise

Before you begin the next Run, you will measure the background noise level again.

Follow the same procedure as in the equipment check.

Click NEXT when you are ready.

Test Run 1

If you have questions about the practice run, contact lab staff before you continue.

You will do this task four more times. Each time is called a Test Run.

This is Test Run number 1. Follow the same procedure as in the practice.

The pitch of the tones may change between Runs.

Remember, you should choose Extremely Loud when you think a tone is loud enough that you would not want to listen to it for very long.

If you need to take a break, wait until the Run is finished.

Make sure the room is quiet so you can hear the soft tones.

Do not adjust the fit of the headphones during the Run.

Click NEXT below to bring up the Response window.

Then click on OK when you are ready to begin.

Background Noise

Before you begin the next Run, you will measure the background noise level again.

Follow the same procedure as in the equipment check.

Click NEXT when you are ready.

Test Run 2

Next is Test Run number 2.

Follow the same procedure.

Click NEXT below to bring up the Response window.

Then click on OK when you are ready to begin.

Background Noise

Before you begin the next Run, you will measure the background noise level again.

Follow the same procedure as in the equipment check.

Click NEXT when you are ready.

Test Run 3

Next is Test Run number 3.

Follow the same procedure.

Click NEXT below to bring up the Response window.

Then click on OK when you are ready to begin.

Background Noise

Before you begin the next Run, you will measure the background noise level again.

Follow the same procedure as in the equipment check.

Click NEXT when you are ready.

Test Run 4

Next is Test Run number 4. This is the last Run!

Follow the same procedure.

Click NEXT below to bring up the Response window.

Then click on OK when you are ready to begin.

<u>Finish</u>

You are finished!

Thank you for your participation in our research project.

Click NEXT to end the experiment.

Please then close the program window, disconnect the laptop from your WiFi network, and power down the laptop and iPod.

Please dispose of the headphone covers.

Then pack up all of the equipment in the backpack. Please complete the checklist provided.

We will pick up the equipment at the scheduled time. If you need to reschedule, please contact lab staff.

You will receive an e-mail with payment instructions once we have received the equipment.

Have a nice day!