Standard operating procedures

Overview

The paradigms are based on protocols used in prior studies by X and Y to test Z. There are three paradigms, quiet, simultaneous and backward. The ‘quiet’ paradigm is used to assess absolute threshold, which acts as a baseline comparison for the simultaneous and backward paradigms.

Steps for setup

1. Plug in the headphones in the AUX input of your computer. Make sure that the device output is then set to your headphones and not the computer speakers. You can check that the sound is coming out of your headphones by doing this:

[INSERT FIGURE]

1. Auditory stimuli need to be delivered monoaurally to the right ear. In order to make audio monoaural to the right side, you will need to access your device properties and change the spatial sound balance. If you are unsure how to do this, follow the figures below. Please ensure this is done correctly, it is a very important step.

[INSERT FIGURE]

1. Once you have completed step 1, ensure that the volume output of your system is at 50 (1/2 of the maximum possible output). Again, this is *very* important. Any data collected may be rendered useless if steps 1 and 2 are not completed appropriately. It is recommended that the operator perform ‘sanity checks’ throughout the testing session (e.g., at the end of every block) to ensure volume of the system is at 50.
2. Navigate to the folder where the auditory tasks are located. Identify the file named volumeCalibration.py. Run that file in PsychoPy. You will be prompted with a welcome screen. Press space to advance to the next screen, which will prompt you to ‘press space when ready’ (do not press space just yet).
3. Before you press space, you want to make sure that the volume being delivered out of the right driver of the headphones is approximately 40dB. Place the right side of the headphone over your SPL meter. Make sure the SPL meter is actively recording as per the figure below.

[INSERT FIGURE]

1. Press space on the computer. The computer will now present a 30 second sound clip into the SPL meter. If you have completed steps 1 to 3 correctly, this sound should be at 40 dB SPL. If the sound being delivered is within 2-3 db SPL, make sure you record the actual dB SPL.
2. If steps 1 to 6 are completed, you are now ready to begin testing. Please exit any applications that may be running your computer and turn off any wireless communications. If you are unsure how to do this, please refer to the figure below.

[INSERT FIGURE]

Steps before testing

1. Explain to the participant how the task works with the images and instructions below.

When you begin the task, you will be presented with two light bulbs on each side of the screen.

Press SPACE to continue.

In each trial, the light bulbs will blink.

Press SPACE to continue.

The left light bulb or ‘light bulb 1’, will always blink first.

Press SPACE to see light bulb 1 blink

After a short pause, the second light bulb will also blink

Press SPACE to continue

In each trial, ONE of the light bulbs will also make a noise

Press SPACE to hear the noise

Your job is to identify which light bulb made the noise.

If light bulb 1 blinks, press 1. If light bulb 2 blinks, press 2.

Press SPACE to continue

You will now complete 3 practice trials. Press ‘b’ to begin!

A picture containing table

Description automatically generated

A picture containing toy

Description automatically generated

A picture containing toy

Description automatically generatedA picture containing toy, light

Description automatically generated

A picture containing flower, bird

Description automatically generatedA picture containing bird, flower

Description automatically generatedA screenshot of a cell phone

Description automatically generatedSteps for testing

1. Navigate to the folder where the Auditory Task is located. Identify the file ‘pureToneDetection.py’. Run this file.

The same condition should be run at least two times and should be run so that two successive thresholds are within 6 dB. If thresholds are not within 6 dB after the first two runs, run two more trials. If thresholds are *still* not within 6 dB, just continue onto the next condition (if it is the last condition, finish up testing). If there is a sufficient amount of time and the operator believes that two successive thresholds could be reached, then collecting more than 4 runs is permitted. However, do not do this at the expense of completing all the conditions.

Quiet condition