CHiME-7 UDASE Speech Quality Listening Tests

Instructions for Participants 17-32

Task description

In this experiment you will be rating the quality of sound samples involving speech in background noise processed by denoising algorithms. Each trial will include three presentations of a short sound sample (between 4 and 5 seconds). Each sound sample consists of between one and three speakers in a noisy background. Within each trial you will give three ratings, one for **each** presentation of the sound sample.

For one presentation of the sound sample in each trial you will be instructed to
   1. attend **only to the speech signal**;
   2. click on the "Play sound" button when you are ready;
   3. rate how distorted the **speech signal** sounds to you.
You will use the rating scale shown Figure 1 below to register your ratings of the speech signal. Your task will be to use the slider to choose the numbered phrase from the list that best describes your opinion of the **SPEECH SIGNAL ALONE**. The higher the number you choose, the better your assessment of the sample.
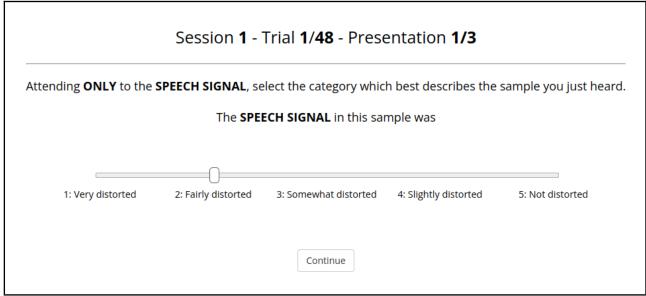

Figure 1: Rating scale for the speech signal.

For another presentation of the sound sample in each trial you will be instructed to
   1. attend **only to the background**;
   2. click on the "Play sound" button when you are ready;
   3. rate how noticeable or intrusive the **background** sounds to you.
You will use the rating scale shown Figure 2 below to register your ratings of the background. Your task will be to use the slider to choose the numbered phrase from the list that best describes your opinion of the **BACKGROUND ALONE**. The higher the number you choose, the better your assessment of the sample.
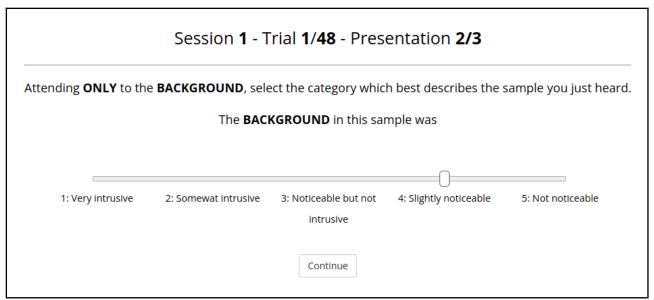
Figure 2: Rating scale for the background.

For the third presentation of the sound sample in each trial you will be instructed to
1. attend **to the entire sample** (both the speech signal and the background);
2. click on the "Play sound" button when you are ready;
3. rate your opinion of the **OVERALL QUALITY** of the sample for purposes of everyday speech communication.

You will use the rating scale shown in Figure 3 below to register your ratings of the overall quality. Your task will be to use the slider to choose the numbered phrase from the list that best describes your opinion of the **OVERALL SPEECH SAMPLE**. The higher the number you choose, the better your assessment of the sample.
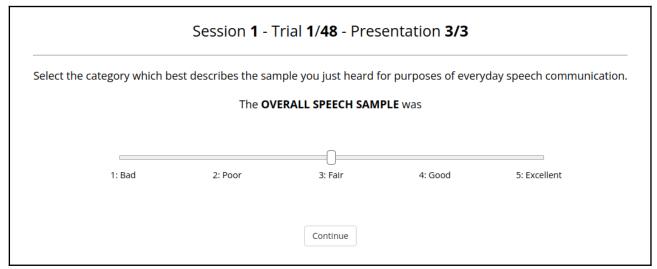

Figure 3: Rating scale for the overall quality.

Organization of the listening experiment

The timeline of the listening experiment is illustrated in Figure 4 below.

volume	practice session		break	1st test session	break	2nd test session	break	3rd test session	break	4th test session
	BAK-SIG-OVRL	SIG-BAK-OVRL		BAK-SIG-OVRL		BAK-SIG-OVRL		SIG-BAK-OVRL		SIG-BAK-OVRL

Figure 4: Timeline of the experiment. The listening test includes several listening sessions. Each session is made of several trials, and each trial consists of three presentations of the same sound sample. For each presentation you have to give a rating. In this figure, the rating scale order (BAK-SIG-OVRL or SIG-BAK-OVRL) is indicated for each session. The change of the rating scale order in the middle of the session is specific to the practice session.

Volume adjustment

The listening system has been calibrated to a nominal listening level. Before starting the experiment, you will be able to listen to a few sound samples to verify that the default listening level is comfortable (see Figure 5 below). You are not encouraged to change the listening level. However, if the sound seems too loud or too weak to you, you will be able to adjust the volume with a slider to reach a comfortable listening level.
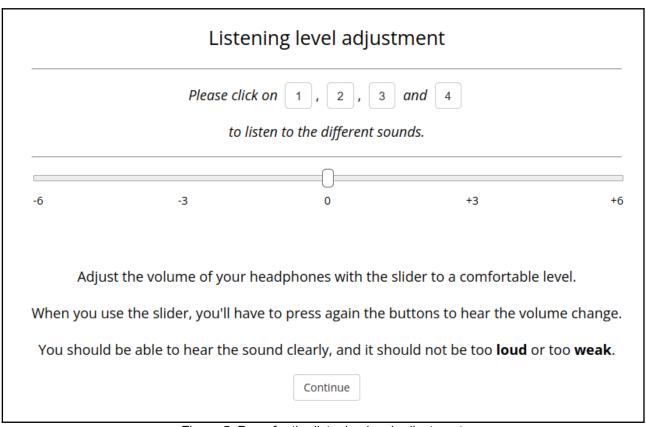

Figure 5: Page for the listening level adjustment.

Experiment

The experiment will involve 5 listening sessions separated by a short rest period of 5 minutes. Each session will take approximately 20 minutes.

- **Practice session:**

  The first session will be a practice session to familiarize you with the rating task. Each sound sample in this session consists of a single speaker reading a sentence in background noise. In the first half of the trials you will rate the **background** for the first presentation, the **speech signal** for the second presentation, and the **overall quality** for the third presentation. In the other half of the trials, the order of the ratings will be **speech signal**, then **background**, then **overall quality**.

- **Test sessions:**

  The practice session will be followed by 4 test sessions, for which the sound samples correspond to real recordings of a conversation with up to three speakers in background noise. In the two first test sessions, for each trial you will rate the **background** for the first presentation, the **speech signal** for the second presentation, and the **overall quality** for the third presentation. In the two last test sessions, the order of the ratings will be **speech signal**, then **background**, then **overall quality**.

Additional recommendations

- The test sessions will be intense and will require your complete attention throughout the session in order to keep up with the sound samples and the rating tasks required of you.
- You will be able to listen to the sound sample only once for each presentation in each trial of each session. You should therefore make sure to read the displayed instruction carefully and to be ready before clicking on the "Play sound" button.
- Instructions do not change during the listening test. After a few trials you will start getting familiar with the task, allowing you to identify more quickly in the instruction if you are asked to focus on and rate the **SPEECH SIGNAL**, the **BACKGROUND**, or the **OVERALL SPEECH SAMPLE.**
- Try not to overthink when rating a sound sample.
- This experiment is about judging the quality of the sound samples on different scales, it is not about the intelligibility of the speech. Some sound samples may include multiple people speaking simultaneously, which may affect your understanding of what is being said. This is not expected to affect your judgment of the sound sample in terms of speech signal quality, background intrusiveness and overall quality.
- Do not close the browser during the experiment or the data will be lost.

We thank you for your participation in this experiment!