

Introduction

Thank you for participating in this study, part of my master's thesis in Voice Technology at the University of Groningen. I am exploring speech intelligibility and naturalness in noisy environments, and your feedback will help improve speech quality in these conditions.

This survey, taking about 5 minutes, includes 18 audio samples of speech with train station background noise, divided into 3 sets. After each sample, please rate the speech's intelligibility and naturalness on a scale of 1 to 5.

Please Note

1. There are no right or wrong answers. Please follow your intuition when rating.
2. This experiment is anonymous; your answers won't reveal your identity. For more details, please see the Informed Consent Form
3. Due to background noise, please wear headphones and complete this survey in a quiet place.
4. Due to the layout of the questionnaire, a device with a larger screen, such as a desktop, laptop, or iPad, is recommended.

If you agree to participate, please press the button below.

Test Section

Please wear headphones and listen to the following audio clips to adjust your device's volume to a comfortable level.

Once adjusted, press the button to start, and maintain this volume throughout.

[Test stimuli]

Main Test

Please imagine you are in a noisy train station during peak hours. For each audio sample, rate how intelligible and natural the speech sounds.

Trust your first instinct. Please do not replay the audio or change your answers.

Set 1

[stimuli 1]

Intelligibility: To what extent can you understand the content of the speech in Audio 1?

1 completely not understandable

2 mostly not understandable

3 partially understandable

4 mostly understandable

5 completely understandable

Naturalness: How human-like does the speech sound in Audio 1?

1 completely unlike

2 mostly unlike

3 partially alike

4 mostly alike

5 completely alike

[stimuli 2]

Intelligibility: To what extent can you understand the content of the speech in Audio 2?

1 completely not understandable

2 mostly not understandable

3 partially understandable

4 mostly understandable

5 completely understandable

Naturalness: How human-like does the speech sound in Audio 2?

1 completely unlike

2 mostly unlike

3 partially alike

4 mostly alike

5 completely alike

[stimuli 3]

Intelligibility: To what extent can you understand the content of the speech in Audio 3?

1 completely not understandable

2 mostly not understandable

3 partially understandable

4 mostly understandable

5 completely understandable

Naturalness: How human-like does the speech sound in Audio 3?

1 completely unlike

2 mostly unlike

3 partially alike

4 mostly alike

5 completely alike

[distraction stimuli – not scored]

Intelligibility: To what extent can you understand the content of the speech in Audio 4?

1 completely not understandable

2 mostly not understandable

3 partially understandable

4 mostly understandable

5 completely understandable

Naturalness: How human-like does the speech sound in Audio 4?

1 completely unlike

2 mostly unlike

3 partially alike

4 mostly alike

5 completely alike

[stimuli 4]

Intelligibility: To what extent can you understand the content of the speech in Audio 5?

1 completely not understandable

2 mostly not understandable

3 partially understandable

4 mostly understandable

5 completely understandable

Naturalness: How human-like does the speech sound in Audio 5?

1 completely unlike

2 mostly unlike

3 partially alike

4 mostly alike

5 completely alike

[stimuli 5]

Intelligibility: To what extent can you understand the content of the speech in Audio 6?

1 completely not understandable

2 mostly not understandable

3 partially understandable

4 mostly understandable

5 completely understandable

Naturalness: How human-like does the speech sound in Audio 6?

1 completely unlike

2 mostly unlike

3 partially alike

4 mostly alike

5 completely alike

Set 2

[stimuli 6]

Intelligibility: To what extent can you understand the content of the speech in Audio 1?

1 completely not understandable

2 mostly not understandable

3 partially understandable

4 mostly understandable

5 completely understandable

Naturalness: How human-like does the speech sound in Audio 1?

1 completely unlike

2 mostly unlike

3 partially alike

4 mostly alike

5 completely alike

[stimuli 7]

Intelligibility: To what extent can you understand the content of the speech in Audio 2?

1 completely not understandable

2 mostly not understandable

3 partially understandable

4 mostly understandable

5 completely understandable

Naturalness: How human-like does the speech sound in Audio 2?

1 completely unlike

2 mostly unlike

3 partially alike

4 mostly alike

5 completely alike

[distraction stimuli – not scored]

Intelligibility: To what extent can you understand the content of the speech in Audio 3?

1 completely not understandable

2 mostly not understandable

3 partially understandable

4 mostly understandable

5 completely understandable

Naturalness: How human-like does the speech sound in Audio 3?

1 completely unlike

2 mostly unlike

3 partially alike

4 mostly alike

5 completely alike

[stimuli 8]

Intelligibility: To what extent can you understand the content of the speech in Audio 4?

1 completely not understandable

2 mostly not understandable

3 partially understandable

4 mostly understandable

5 completely understandable

Naturalness: How human-like does the speech sound in Audio 4?

1 completely unlike

2 mostly unlike

3 partially alike

4 mostly alike

5 completely alike

[stimuli 9]

Intelligibility: To what extent can you understand the content of the speech in Audio 5?

1 completely not understandable

2 mostly not understandable

3 partially understandable

4 mostly understandable

5 completely understandable

Naturalness: How human-like does the speech sound in Audio 5?

1 completely unlike

2 mostly unlike

3 partially alike

4 mostly alike

5 completely alike

[stimuli 10]

Intelligibility: To what extent can you understand the content of the speech in Audio 6?

1 completely not understandable

2 mostly not understandable

3 partially understandable

4 mostly understandable

5 completely understandable

Naturalness: How human-like does the speech sound in Audio 6?

1 completely unlike

2 mostly unlike

3 partially alike

4 mostly alike

5 completely alike

Set 3

[stimuli 11]

Intelligibility: To what extent can you understand the content of the speech in Audio 1?

1 completely not understandable

2 mostly not understandable

3 partially understandable

4 mostly understandable

5 completely understandable

Naturalness: How human-like does the speech sound in Audio 1?

1 completely unlike

2 mostly unlike

3 partially alike

4 mostly alike

5 completely alike

[distraction stimuli – not scored]

Intelligibility: To what extent can you understand the content of the speech in Audio 2?

1 completely not understandable

2 mostly not understandable

3 partially understandable

4 mostly understandable

5 completely understandable

Naturalness: How human-like does the speech sound in Audio 2?

1 completely unlike

- 2 mostly unlike
- 3 partially alike
- 4 mostly alike
- 5 completely alike

[stimuli 12]

Intelligibility: To what extent can you understand the content of the speech in Audio 3?

- 1 completely not understandable
- 2 mostly not understandable
- 3 partially understandable
- 4 mostly understandable
- 5 completely understandable

Naturalness: How human-like does the speech sound in Audio 3?

- 1 completely unlike
- 2 mostly unlike
- 3 partially alike
- 4 mostly alike
- 5 completely alike

[stimuli 13]

Intelligibility: To what extent can you understand the content of the speech in Audio 4?

- 1 completely not understandable
- 2 mostly not understandable
- 3 partially understandable

4 mostly understandable

5 completely understandable

Naturalness: How human-like does the speech sound in Audio 4?

1 completely unlike

2 mostly unlike

3 partially alike

4 mostly alike

5 completely alike

[stimuli 14]

Intelligibility: To what extent can you understand the content of the speech in Audio 5?

1 completely not understandable

2 mostly not understandable

3 partially understandable

4 mostly understandable

5 completely understandable

Naturalness: How human-like does the speech sound in Audio 5?

1 completely unlike

2 mostly unlike

3 partially alike

4 mostly alike

5 completely alike

[stimuli 15]

Intelligibility: To what extent can you understand the content of the speech in Audio 6?

1 completely not understandable

2 mostly not understandable

3 partially understandable

4 mostly understandable

5 completely understandable

Naturalness: How human-like does the speech sound in Audio 6?

1 completely unlike

2 mostly unlike

3 partially alike

4 mostly alike

5 completely alike