

## APPENDIX

## Pretesting Evaluation to Determine Subjects' Understanding of "Loudness" and "Pitch"

**Hearing Thresholds**

1. Instruct subject for threshold testing: "You will hear soft beeping tones. Raise your hand when you hear a tone."
2. Obtain hearing thresholds at 1,000, 1,260, and 4,000 Hz (to closest 5 dB).

**"Loudness"**

1. Instruct subject to choose the louder of each pair of tones: "You will hear two tones, one followed by the other. After you hear both tones, tell me which tone was the louder of the two."
2. Present 1,000 Hz tone at 10 dB SL, followed by 1,000 Hz tone at 20 dB SL. Log subject's choice.
3. Instruct subject: "Listen to two tones again, and choose the louder of the two."
4. Repeat Steps 1–3, except reverse the order of presentation, i.e., 20 dB SL followed by 10 dB SL. Log subject's choice.
5. If subject chose correctly for each of the two-tone pairs, log subject as "understands loudness."
6. If subject chose incorrectly for at least one of the first two presentations, ask the subject, "Is it clear to you how to tell whether one sound is louder than another?"
  - (a) If the subject responds that it is clear, retest as for Steps 2–4.
  - (b) If subject reports that he or she does not understand "loudness," instruct, "A louder tone pushes harder on your eardrum than a softer tone. For example, a jet engine is louder than a whisper. Think about making your radio louder by turning up the volume." Then retest as for Steps 2–4.
7. If subject does not respond correctly for three total presentations (i.e., three times Steps 2–4), subject is logged as "doesn't understand loudness."

**"Pitch"**

1. Instruct subject to choose the "higher pitched" tone of each pair of tones: "You will hear two tones, one followed by the other. After you hear both tones, tell me which tone was the higher in pitch of the two."
2. Present 1,000 Hz tone at 10 dB SL, followed by 4,000 Hz tone at 10 dB SL. Log subject's choice.
3. Instruct subject: "Listen to two tones again, and choose the higher pitched of the two."
4. Repeat Step 2, except reverse the order of presentation, i.e., 4,000 Hz followed by 1,000 Hz. Log subject's choice.
5. If subject chose correctly for each of the two-tone pairs, repeat Steps 2–4, except use 1,260 Hz instead of 4,000 Hz.
6. If subject chose correctly for all presentations, log subject as "understands pitch."
7. If subject chose incorrectly for any presentations, ask the subject, "Is it clear to you how to tell whether one sound is higher in pitch than another?"
  - (a) If the subject responds that it is clear, retest as necessary for Steps 2–5.
  - (b) If subject reports that he or she does not understand "pitch," instruct, "The pitch of a sound refers to whether it is a low sound (such as a man's voice) or a high sound (such as a woman's voice)." Then retest as necessary for Steps 2–5.
17. If subject does not respond correctly for three total presentations (i.e., three times Steps 2–5), subject is logged as "doesn't understand pitch."