

DEMO INFORMATION

PROCEDURE DESCRIPTION

- **Study title:** Spontaneous Rhythmicization
- **Study description:** Explores listeners' grouping of tones into rhythmic sequences. (Approximate duration: 25 minutes)
- **Background:** In everyday life, our ears are continuously stimulated by a wide variety of sounds that come from multiple sources and serve different purposes. Rather than perceiving these sounds as a chaotic mass, our mind is able to organize them in such a way that meaningful signals, such as music or speech, are differentiated from noise. One important aspect that contributes to the disentanglement of sounds is the way they are grouped in time, their "rhythm."
- **General instructions:** In this study, you will be asked to listen to simple sound sequences and indicate how you hear the tones grouping together within each sequence. You should do the entire study in one sitting, in a quiet room (or wearing sound-cancelling earphones), and focusing only on doing the experiment.

Once you have started the experiment, please do not use the "Back" browser button or refresh the page. By doing so you will interrupt the experiment and it will result in technical problems.

- **Part Description (Part ___ of 3):** In this section, you will listen to ___ [3 in Part 1; and 18 in Parts 2 & 3] different sound sequences and will be asked to indicate how many tones per group you heard (multiple-choice response). You will be able to hear each sound sequence only once.

It is possible that you will hear different levels of grouping or no grouping at all. If you hear different levels of grouping, you should select the answer that corresponds to the group with the larger number of elements. For example:

- If you hear the sounds grouping together in such a way that you could count them as "1-2-3-4-1-2-3-4-1..." your answer should be "4";
 - If you hear the sounds grouping together in such a way that you could count them as "1-and-2-and-3-and-1-and-2-and-3..." your answer should be "6", not "2".
 - If you do not hear the sounds grouping together at all, you should select "1".
- **Trial Instructions** [all parts]:

[Above play button] Click on the "Play" button to hear the sequence. After the sound has finished playing, select a response. When you are finished, press the "Continue" button to proceed to the next trial.

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Prof. Ève Poudrier, Yale University

[Below play button]: How many tones per group did you hear?

[1 to 12, aligned vertically from lowest number on top to highest number in bottom]

- **End of Parts 1 & 2:** You have completed Part _____. Press “Continue to next part” when you are ready to proceed with the experiment.
- **End of Part 3:** Thank you for participating in this study! If you would like to leave feedback or would like to receive the results once the study is completed, click on “Back to home page” and use the feedback page. Make sure to include the title of the study (“Spontaneous Rhythmicization”) in your message.

STIMULI DESCRIPTION

- **Number of stimuli:** 21 total (3 controls + 18 tests, i.e., $3 \times 2 \times 3$)
- **Variable 1:** rate (IOI = 200 ms, 550 ms, 950 ms)
- **Variable 2:** grouping (none, duple, triple)
- **Variable 3:** accent; applies to duple and triple grouping only (intensity, length, pitch)

DATA & MEASURES

- **Sampling:** convenient (email calls for participation to individuals and lists)
- **Pre-experiment questionnaire:** gender (Male or Female), age, native language, up to two other other fluent languages, country of origin, country of residence, country where most childhood spent, highest education achieved; up to two instruments played, and for each, number of years of formal training and skill level (self-reported skill level on a scale of 1 to 5, minimal to professional); number of years of formal training in vocal performance, composition, Western music theory, and for each, skill level (self-reported on a scale of 1 to 5, none to professional); overall level of musical training (self-reported on a scale of 1 to 5, none to professional); music actively listened to (all that apply from: Avant-garde, Classical, Country/Folk, Heavy Metal, Latin, Jazz/Blues, Non-Western (e.g., Indian classical, African), Popular (Rock/Hip-hop/Rap)); perfect pitch (single forced choice from: yes, no, I don’t know)
- **Pre-experiment reading ability test:** seven questions with single forced choice out of three possible answers
- **Trial response:** spontaneous grouping, 1 to 12, single forced choice (categorical)
- **Group length:** mode \times rate \times grouping (ratio)