

SUPPLEMENTARY MATERIALS:

“Timbre semantic associations vary both within and between instruments: An empirical study incorporating pitch and register”

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Participants

Table 1. Musician status of participants as self-identified through the single question measure of musical sophistication taken from Ollen (2006).

| Category | # of participants |
|----------------------------|--------------------------|
| Non-musician | 80 |
| Music-loving non-musician | 340 |
| Amateur musician | 88 |
| Serious amateur musician | 23 |
| Semi-professional musician | 7 |
| Professional musician | 2 |
| Total | 540 |

For the purposes of modeling, the musician variable was a binary based on the categories in Table 1: “non-musician” and “music-loving non-musician” were coded as “non-musician,” while the other four categories were coded as “musician,” resulting in a total of 120 musicians and 420 non-musicians.

Procedure

Instructional text for participants during the experiment:

Introduction: In this study, you will listen to brief musical tones and rate them on different scales by using **the number keys (1–5) to indicate how well the words on the screen describe each sound.** Headphones are required for this study. The complete experiment will take around 30 minutes.

Stimuli sample: During the study, you will be asked to rate a collection of 24 sounds. It will be helpful to listen to these sounds before starting the main task. Listen to the clip below to get a sense of the range of sounds you will be rating during the main study. When you have finished listening to the sounds, press “Next” to begin the main task.

Detailed instructions: You will be presented with a series of descriptions containing between one and three words. We are interested in knowing how well you think these descriptions apply to each of the 24 different sounds. You will rate all of the sounds using a single description, and then you will be presented with a new description, for which you will again rate the complete collection of sounds before being presented with a third description, and so on. All together, you will provide ratings with the number keys for the collection of sounds on 20 different descriptions.

Some of the descriptions contain more than one word. When rating a sound on a description containing multiple words, base your rating on the word that you think best describes that sound. You may feel that other words in the description do not apply as strongly; that's OK. Make your judgment based on the word you feel is most applicable.

The next sound will automatically load when you enter a response; each sound may be replayed only once. Use the number keys to respond to each question.

Results

See additional files:

FigureA.pdf

Graph of average means by instrument (averaged across registers).

FigureB.pdf

Graph of average means by register (averaged across instruments).

FigureC.pdf

Graph of estimated marginal means by register.

FigureD.pdf

Graph of estimated marginal means by instrument.

Data & Code

See additional files:

RegisterSemanticsData.csv

raw data

RegisterCode.pdf

code for analysis in R