Formal music education alters perceived musicality of pitch sequences

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**Introduction**

- Perceived “musicality” is affected by changes in low-level auditory features of pitched sequences1,2
- Music expertise has been shown to affect a wide range of perceptual and cognitive abilities3
- What effect does formal music training have on the perception of auditory objects (e.g. musicality ratings)?

**Methods**

- Stimuli: 100 randomly generated pure-tone sequences of notes
- Music training survey:
  - 12 questions (Eg: “Do you have absolute pitch?”)
  - Participants divided into 3 groups: Low, Medium and High
- 27 Participants (10 Low, 9 Medium, 8 High)
- Task: Rate each melody on a scale of 1-5 (1-Not Musical; 5-Very Musical)
- Structural Metrics of melodies

**Analysis and Results**

**Comparing Medium and High groups**

- Correlating Mean Ratings between groups.
- Correlating Eigenvalues between groups.

**PCA**

- Each point represents one melody. Colours depict mean z-scored rating.

**Correlation of Eigenvalues with training scores.**

**Difference Scores**

Absolute difference in mean z-scored ratings (y-axis) for each melody (x-axis).

**Conclusions**

- Subset of melodies may be diagnostic for musical expertise
- Even a small amount of music training changes the perception of auditory objects
- The Medium and High groups use a different strategy in making judgments about musicality

**Music expertise may alter the perception of auditory objects by changing the salience of low-level features of sound**

**References**


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