

Do we hear the same music?

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Introduction

Musical Communication

musician(s) -> audience

- structure
- emotion/expression



listener

- different backgrounds (cognitive)
- perceptual differences?

Communicating Syncopation

Musicians were asked to play the same short melodies in a syncopated and in a metrically regular version

The image displays two columns of musical notation, each containing three staves labeled 'rhythm 1', 'rhythm 2', and 'rhythm 3'. The left column is titled 'Regular' and the right column is titled 'Syncopated'. All notation is in 4/4 time.

- rhythm 1 (Regular):** A sequence of quarter notes: C4, D4, E4, F4, G4, A4, B4, C5, followed by a quarter rest and a double bar line.
- rhythm 1 (Syncopated):** A sequence of quarter notes: C4, D4, E4, F4, G4, A4, B4, C5, followed by a quarter rest and a double bar line. The first note (C4) is accented.
- rhythm 2 (Regular):** A sequence of eighth notes: C4, D4, E4, F4, G4, A4, B4, C5, followed by a quarter rest and a double bar line.
- rhythm 2 (Syncopated):** A sequence of eighth notes: C4, D4, E4, F4, G4, A4, B4, C5, followed by a quarter rest and a double bar line. The first note (C4) is accented.
- rhythm 3 (Regular):** A sequence of eighth notes: C4, D4, E4, F4, G4, A4, B4, C5, followed by a quarter rest and a double bar line.
- rhythm 3 (Syncopated):** A sequence of eighth notes: C4, D4, E4, F4, G4, A4, B4, C5, followed by a quarter rest and a double bar line. The first note (C4) is accented.

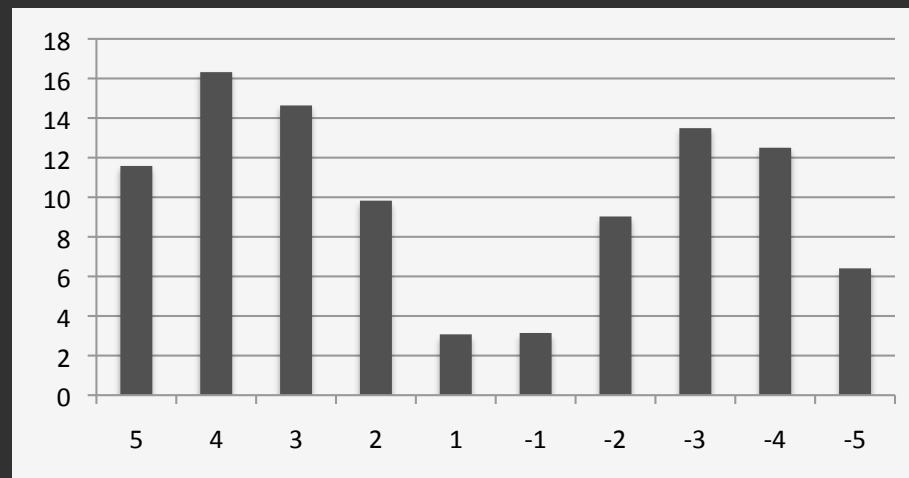
-> audio analysis shows a large number of strategies, involving timing, dynamics and articulations

Communicating Syncopation

Listeners with musical background were asked to identify the rhythmic type in both audio and video excerpts

Results

- Correct answers slightly over chance (55.5%)
- Confidence relatively high (3.34/5)



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-> Listeners can not identify the performers' intentions, despite the efforts of the musicians

Tempo perception

Listeners were asked to tap along with the perceived tempo of 120 'ternary' musical excerpts



Results

- all the pieces have more than one interpretation
- in a large majority this includes a binary-ternary conflict
- huge individual differences, e.g. binary/ternary ratio 0.13 – 25.6

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-> our basic metric interpretation can differ from person to person

Conclusion

-> listeners:

can not always identify performers' intentions
can have different interpretations of basic
musical structure

-> musical communication is problematic!
(but is this a problem?)