Perception of basic emotions in music –
pan-cultural or multi-cultural?

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Background
• Emotion perception is the ability to detect and decipher emotions in faces, pictures, voices, and cultural artifacts (such as musical pieces).
• The accuracy of emotion detection in music is comparable to facial or verbal emotional stimuli.
• Basic emotions such as happy/sad seem to be human invariants and as such detached from musical experience.
• There is evidence for cultural specificity: recognition of emotional cues is enhanced if the stimuli and the participants stem from the same culture.

Which particular aspects of musical emotions show similarities and differences across cultural boundaries?

Sample
• Two groups from Western Europe (Germany, Norway), two groups from Asia (South Korea, Indonesia).
• All participants had to be native-speakers of the target country.

Emotion test:
• 18 examples representing six basic emotion categories (happiness, sadness, fear, disgust, anger, surprise) (3 examples per emotion).
• Professional musicians with Western musical background improvised short musical pieces on instruments of their choice in a way that a listener should be able to decode one of the intended basic emotions.
• Subjects were asked to mark the most appropriate emotion category on a forced-choice answer sheet.

Musical characteristics of the examples:
• Happiness: major key, consonant, simple harmony, staccato, steady rhythmus, medium to high register, fast tempo.
• Sadness: minor key, legato, slow tempo, soft touch, low volume.
• Fear: dissonant harmony, ascending and descending volume, fast tempo, unregular dynamics and vibrato.
• Anger: dissonant harmony, ascending line, hard touch, high volume.
• Disgust: stepwise intervals, sharp timbre.
• Surprise: jumping ascending line, medium volume, crescendo.

Methods

Results /Discussion

Accuracy levels for the overall recognition in all groups were well above the levels expected from chance guessing.

Correct classifications: Germany 67% (SD 13%), Norway 60% (SD 38%), Korea 48% (SD 13%), Indonesia 45% (SD 20%).

Cultural proximity led to similar emotional classification results i.e. the two West-European (Germany and Norway) samples and the two Asian (Korea and Indonesia) samples achieved similar recognition patterns.

Overall, the European participants outperformed the Asian participants.

The universal ability to detect emotional quality in musical pieces seems to be restricted to certain emotional categories: ‘Happiness’ and ‘Sadness’ were the emotions easiest to classify, ‘Disgust’ and ‘Surprise’ were the emotions most difficult to be decoded cross-culturally.