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Special Issue

PERCEPTION OF BASIC EMOTIONS IN MUSIC: PAN-CULTURAL OR MULTI-CULTURAL?

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Abstract

In a cross-cultural study, eighteen musical segments, representing six basic emotions (happiness, anger, disgust, surprise, sadness, and fear) were presented to subjects from Western Europe and Asia.

Results give evidence for a pan-cultural emotional sentience in music. However, there were distinct cultural, emotion and item-specific differences in emotion recognition.

Background

Emotion perception is 'the ability to detect and decipher emotions in faces, pictures, voices, and cultural artifacts' (such as musical pieces) (Scherer & Scherer 2011).

The accuracy of emotion detection in music is comparable to facial or verbal emotional stimuli (Juslin & Laukka 2003).

Especially basic emotions such as happy/sad seem to be human invariants and as such detached from musical experience (Krumhansl 1997). On the other hand, there is evidence for cultural specificity: recognition of emotional cues is enhanced if the stimuli and the participants stem from the same culture (Elfenbein & Ambady 2002).

Rationale of the present study

A cross-cultural study investigated the following research questions: (1) How are six basic universal emotions (happiness, sadness, fear, disgust, anger, surprise) perceivable in music unknown to the

listeners with different cultural background?; and (2) Which particular aspects of musical emotions show similarities and differences across cultural boundaries?

Methods

The German Center of Music Therapy Research developed a test of emotion perception in music (Busch et al., 2003, Mohn et al., 2010). Professional musicians with Western musical background were instructed to improvise 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. Duration of the segments was limited to maximum of seven seconds. Overall 18 music segments (three segments for each emotional quality) made up the test (media files <http://dzm-heidelberg.de/index.php/abgeschlossene-projekte/emu.html>). Subjects were asked to mark the most appropriate emotion category on a forced-choice answer sheet.

Sample

The sample consisted of two groups from Western Europe (Germany, n = 82; Norway, n = 115) and two groups from Asia (South Korea, n = 242; Indonesia, n = 110). All participants had to be born and grown up in the target country and they had to be native-speakers.

Results

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%). Thus there seems to be evidence for a pan-cultural musical sentience. However, we found distinct cultural, emotion and item-specific differences in emotion recognition.

On a cultural level, 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.

For both the West European as well as the Korean participants for all emotions but 'surprise' at least one most distinctive, pancultural item could be identified though the Indonesian participants could classify 'happiness' and 'sadness' only.

Discussion

The universal ability to detect emotional quality in musical pieces seems to be restricted to certain emotional categories; 'Happiness' and 'Sadness' are the easiest to classify, 'Surprise' was the emotion most difficult to be decoded cross-culturally. Different enculturation seems to be the main reason for cross-culturally different emotional recognition patterns.

Limitations

The response format was forced-choice rather than dimensional (valence/arousal). Especially due to the cross-cultural language entanglements, a language independent response format would be highly desirable. The study has an unbalanced design, i.e. West European

participants did not judge emotions expressed by members of the Asian group. Musical samples from Korea are already recorded and data will be analyzed soon.

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