

Cross-Cultural Emotional and Psychophysiological Responses to Music: Comparing Western Listeners to Congolese Pygmies

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ABSTRACT

Background

Previous research has indicated that emotion recognition in Western and Indian music might be based on universal features (Balkwill & Thompson, 1999, Fritz, et al., 2009). However, whether a similar cross-cultural comparison can reveal universal emotion induction remains unexplored.

Aims

The study compared subjective and psychophysiological emotional responses to music from two different cultures (own vs. foreign) within two different cultures in a field setting. Two similar experiments were conducted, the first in the Northern Congolese rainforest with an isolated population of Mbenzele Pygmies without any exposure to Western music and culture; the second with a control group of Western music listeners, with no experience with Congolese music.

Method

40 Pygmies (age in yrs.: M=35, SD=14, 22 males), and 39 Western listeners (age in yrs.: M=22, SD=6, 22 females) listened in pairs of two to 19 music excerpts of 29 to 99 seconds in duration in random order. Eight excerpts were ceremonial vocal pieces recorded from the Pygmy population and 11 instrumental excerpts, which have been previously shown to elicit strong emotional responses in other studies and were taken from the classical Western repertoire. For both groups, emotional responses were continuously measured on the dimensions of subjective feeling, (using a two dimensional rating interface which measures arousal and valence), as well as psychophysiological response (GSR, HR, Respiration Rate, two facial EMG electrodes).

Results

Results indicate that different pieces induced different subjective feelings and psychophysiological activations in both groups. Comparing Western music with different emotional qualities, Pygmies and Western Listeners showed corresponding physiological responses: Arousing music induced higher skin conductance and higher heart rates compared to calming music. Summarized, results suggest that the dimension of valence might be mediated by cultural learning, whereas changes in arousal might involve a more basic, universal response to implicit characteristics of music.

Conclusions

To our knowledge, this study is among the first to test psychophysiological responses to music in one of the few last populations on earth that has not been exposed to Western cultures at all (Huron, 2008). This enables the identification of both the universal and culture-specific features involved in eliciting emotional responses during music listening.

Keywords

Music, Emotion, Cross-cultural, Psychophysiology, Subjective-Feeling.

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