

Diabolus in musica: Towards an understanding of the emotional perception of musical dissonance

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ABSTRACT

Background

Musical dissonance is considered to be a decisive factor in the emotional evaluation of a musical piece. It is highly connected to cultural exposure, although physiological mechanisms of the human auditory system seem to be the initial trigger of this phenomenon. However, previous research on the developmental perception of musical dissonance is characterized by lack of studies. The main finding of these studies is that both newborn and young infants prefer consonant music. In addition, another limitation of these studies is their use of laboratory settings and methods of lower ecological validity (such as listening to artificially made musical stimuli, or isolated musical events, and asking for written/verbal self-reports of the emotional experience), tasks that do not resemble to conditions of listening to real music.

Aims

The purpose of this study was twofold. The first goal was to propose a method in the study of musical emotions, which provides a more natural research setting, while the second goal of the study was to focus on musical dissonance and assess the perceptual development of its emotional connotations in two different age groups.

Method

In order to address more effectively the issue of ecological validity, we devised a research design, which provides a more natural research setting. The participants, 29 pre-adolescents (aged 11-12) and 17 adults, were given a creative task that they generally encounter in their everyday life, namely the pairing of music with images and videos (e.g., films and animations, computer/video games, television shows and advertisements, online and other new media). The participants filled in a web-based, multimedia-enriched questionnaire, which comprised images and videos combined with a consonant and a dissonant variation of three specially composed musical pieces. The images and videos were selected so that they would evoke extreme low or high levels of the emotional dimensions of valence and arousal. The task was to pair musical stimuli to visual stimuli according to participants' preference.

Conclusions

We confirmed the participants' tendency to choose the dissonant musical versions when they judged a visual stimulus as more arousing, and the consonant versions when they judged a visual stimulus as more positive or pleasant. The pre-adolescents generally agreed with the adults in evaluating the different musical pieces. This result implies that the emotional responses to musical dissonance of children at the age of pre-adolescence have already begun to strongly

resemble those of adults, possibly due to cultural exposure effects.

Keywords

Musical dissonance, Child development, musical emotions, music psychology, multimedia