

# Studying Music Perceived Emotions through Facial Expressions

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**Background.** As several studies already have shown, different emotions are associated with music and in some of the studies it is suggested that music and speech share the same acoustical features to induce and/or evoke emotions. Most of the studies rely on self-report and therefore solely subjective data. Other studies also include objective measurements as for example skin-conductance to complement and support subjective data.

Especially for cross-cultural studies, these methods can become difficult when it comes to self-report because there are different concepts for emotions and cultural differences in adequacy to show these emotions. In additions, the words used to describe emotions are arbitrary (even when carefully translated) because of cultural and perhaps also individual differences.

As there is also high evidence that facial expressions regarding emotions are universal across different cultures, I would like to suggest a new approach to study emotions through the facial expressions of the listener.

**Method.** The idea is, that music communicates emotions to the listener and that these emotions can be seen in the listener's face. With help of facial EMG or a face-recognition software such as the Facial Action Coding System (FACS), developed by Ekman and Friesen (1978), different muscle movements that are underlying certain facial expressions can be detected. There are different combinations of so-called action units for each emotion. This could be a way to decode the emotion perceived while listening to music. Even if there will not be a visible emotional expression, there could be a chance to detect so-called micro-expressions (emotional expressions that only last 1/25 to 1/15 of a second and are usually masked by another facial expression).

**Goal.** This project will in some part contribute to my master's thesis and is still in development. The goal of this project is to find out, if mimic expressions arise together with music perceived emotions and to discuss if some kind of empathy can be seen as one of the underlying mechanisms that let us understand emotions in music.

Keywords: emotion, facial expressions, music perception

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