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Characteristics of Emotion for Paintings and Classical Music

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Introduction

• While listening to music, people emit a variety of responses which can be physiological (i.e., changes in heart rate, muscle tension, or respiration), cognitive (i.e., recalling old memories), and physical (i.e., goose bumps, tears, or lumps in the throat) in nature. The likelihood of eliciting these responses, however, depends largely on the type of emotion that the music is conveying. Furthermore, theories of aesthetics, which concern the study of beauty and art, have emphasized the role of art in evoking, shaping, and modifying human feelings.

• At the present time, there exist databases for emotional photographs, sounds, and words, but not for paintings or classical music. These databases contain ratings of valence (whether the emotion is positive or negative), arousal (high or low intensity), and dominance (whether the emotion is controlling or dominating).

• For over a decade, Lang, Bradley, and Cuthbert (2008) have compiled a set of standardized emotionally-photographs (the International Affective Picture System; IAPS) for experimental investigations of emotion and attention. Vieillard and colleagues (2008) developed a standardized set of short digitally synthesized emotional music selections; however, these excerpts were recorded on a synthesizer and created specifically with the intent of eliciting a particular emotion.

• The existence of the IAPS and other collections of normatively rated affective stimuli allow better experimental control in the selection of emotional stimuli, allow exact replications within and across research lab, and encourage future research in psychological science.

• Music excerpts need to be categorized by the emotion they convey in order to accurately study how humans respond to music. Furthermore, researchers are becoming more interested in emotions and art both as separate and related fields of psychological research, and a standardized set of emotional stimuli (e.g., paintings) will be beneficial in providing appropriate stimuli for future studies of art and emotions.

Objectives

• The objective of this research is to develop a set of standardized emotional paintings and excerpts of classical music for use in future experimental investigations of emotion, aesthetics, art, music, and attention.

• A well-detailed and informative database was created, which contains ratings of valence, arousal, dominance, and familiarity for emotion-eliciting paintings and classical music.

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Method

• Participants for pretesting of paintings: N = 104 college students (56 women, 48 men; mean age 18.65 years, range 16-22 years)

• Participants for pretesting of musical selections: N = 106 college students (63 women, 43 men; mean age 18.76 years, range 18-22 years)

• Self Assessment Manikin (SAM; Bradley & Lang, 1994)
  The SAM Rating System
  - Ratings of valence ranged from 2 to 7.
  - Ratings of arousal ranged from 2 to 5.

39 musical excerpts

• 60 images of paintings

References


Discussion and Implications

• For happy stimuli, ratings of valence ranged from 5 to 9 and ratings of arousal ranged from 2 to 7. For fearful stimuli, ratings of valence ranged from 2 to 4 and ratings of arousal ranged from 3 to 8. For sad stimuli, ratings of valence ranged from 2 to 5 and ratings of arousal ranged from 2 to 5.

• In general, the ratings of valence and arousal correspond to criteria set by Mikels and colleagues (2005).
  - To be included as a “happy” stimulus, valence should be greater than 5 and arousal should be between 3 and 7.
  - To be included as a “fearful” stimulus, valence should be less than 5 and arousal should be greater than 5.
  - To be included as a “sad” stimulus, valence and arousal should both be less than 5.

• Using selections from the classical music repertoire will increase the external validity of the stimuli.

• Based on the mean ratings obtained in these pre-testing studies, paintings and excerpts of classical music were selected for a second study.