Music and emotions

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Overview

• Objective
  • By the end of this session, you should be able to describe the main theories concerning music and emotions

• To do that, we will explore
  • Associations and memory
  • Extrinsic factors
  • Intrinsic factors
  • How these interact
Just to get you thinking...

- What is your favourite piece of music?
- Why?
Studying musical emotions

- “People value music primarily because of the emotions it evokes” (J&V, 2008)
  - How do sounds, which are, after all, just sounds, have the power to deeply move those involved with them?” (Reimer, 2003)

- Much debate, several schools of thought, no consensus so far

- But consensus across cultures on what types of emotions can be evoked by music
  - Krumhansl (2002)

- Different papers and methods exploring music and emotions from different angles
Studying musical emotions

- Key concepts
  - Instrumental music
    - Not looking at effect of lyrics
  - Emotions vs. mood
    - Limited duration, focussed on “object”, involve autonomic responses (Cognitive appraisal?)
  - Intrinsic vs. Extrinsic
    - Within / outwith the music itself
  - Inducing emotions
    - What the listener feels
  - vs. Expressing emotions
    - What the listener perceives the music is expressing

- Mutually exclusive?
Studying musical emotions

- **Methods**
  - How would you go about studying someone’s emotional response to music?
  
  - Self-report
  - Ratings
  - Observe behaviour
  - Galvanic Skin Response
  - Heart rate
  - Breathing
  - Domapine
Associations and memory

- Play it again, Sam
- http://www.youtube.com/watch?v=7vThuwa5RZU&feature=fvwrel
Associations and memory

• “Episodic memory” as an important component in musical emotions (J&V, 2008)
  • “They’re playing our song”

• Musical associations from our past
  • Generate emotions unrelated to the musical contents of the piece

• Musical associations with films
  • Somewhere over the Rainbow

• Cocktail party effect?
Associations and memory

- Evaluative conditioning
  - “An emotion is induced by a piece of music simply because this piece has been paired repeatedly with other positive or negative stimuli” (J&V, 2008, p. 564)

- Classic trick of advertising

- “Repeatedly” or strongly
  - e.g. flash-bulb memories with strong emotional events

- Not necessarily aware of the pairing
Associations and memory

- Visual imagery
  - The listener conjures up visual images while listening to the music. The emotions are the result of interaction between music and image.

- Imagery can enhance emotions to music (J&V, 2008)

- Characteristics of the music → characteristics of the visual image? Or other way round? Or both?
Associations and memory

- Difficult to study
  - Practically
  - Ethically
  - Idiosyncratic

- Studies looking into music and emotions often invite participants to select the music
  - Control?
  - More genuine?
  - What can we conclude is causing the effects we observe?
Associations and memory

• Recap
  • Not really the music itself, just about the memories associated with it?
  • May tell us more about memory than about music?
  • A strong factor in emotions generated while listening to music, but due to music itself?
Extrinsic factors

- Music mimics elements in the world that generate emotions
Extrinsic factors

- **Music mimics the “real world”**
  - Sloboda and Juslin (2001)
  - High energy levels in music and high energy levels in events that generate emotions
  - Uncertainty and surprise (storms)

- **Music mimics speech**
  - Wymer et al. (2002) and Gabrielsson et al. (2001)
  - Pitch and timing play strong role in conveying emotions
  - Attribute emotions to changes in pitch and timing in music because of their significance in language?
Extrinsic factors

- Music mimics emotions
  - Music represents “the form of feelings” (Langer, 1953)

- “Vitality affect” (general physiological patterns which need more interpretation, Stern, 1975) accounts for ambivalence in emotional attributions
  - Fear - excitement

- Correspondence of musical rhythm and the bodily processes involved in emotions (Budd, 1985)
Extrinsic factors

- Unanswered questions
  - How do we perceive musical elements as unexpected and surprising?
  - How do we interpret tension as tension?
  - Emotions are “physiologically” universal – but cultural-specificity in what patterns induce what emotions?
  - How do we end up feeling emotions that are expressed?
    - Non specific automatic sound-processing emotion-producing module when recognises characteristics in stimuli (language, world around us, music...)?
Intrinsic factors

- Within the “closed” system
Intrinsic factors

- Early attempt, Cooke’s (1959) *Language of music*
  - Musical lexicon of emotional meaning of pitches and intervals within a tonal system

- Timing
  - Has greater influence than articulation, tempo, loudness on emotions (Juslin and Madisson, 1999)

- Systematic review of tempo, loudness, pitch variation, intervals, tonality, rhythm, timbre
  - The interaction of all the above (Gabrielsson and Lindström, 2001)
Intrinsic factors

- Music = sum of parts?
  - Consider music as a whole

- Meyer (1956) *Meaning and Emotion in Music*
  - Music is redundant
    - Within culture (e.g. Western tonal harmony)
    - Within piece (same pattern has different meaning in different piece)
  - Redundancies create expectations
  - Violations of expectancies generate emotions
  - [http://www.youtube.com/watch?v=i2aOgJGJCio](http://www.youtube.com/watch?v=i2aOgJGJCio)
Intrinsic factors

- The link between expectancies and emotions
  - Cognitive theory of emotions: when goals are blocked

- Link between goals and emotions in music?
  - Making sense of the world by integrating different parts is a major goal of human cognition
  - Lack of resolution / unexpected resolution interferes with goals / perceived goals
  - Relies on Gestalt approach to music, on desire for “order out of chaos” (see Meyer, 1956 for detailed theoretical account)
Intrinsic factors

- Musical expectancy violations
  - Delay
  - Unexpected consequents
  - Ambiguous antecedents
  - Relationships between musical elements

- Ease and unease
- Tension and relaxation
- Satisfaction and desire
- Pleasure and pain
  - Budd (1985)
Intrinsic factors

• Similar to cognitive theory of emotions
  • Violation of expectations $\rightarrow$ emotions (Dowling & Harwood, 1984)

• Similar effect in language?
  • “The smell of the pine trees chimed in her lungs”
  • “The singer was so bad the crowd started to tomato her”
    • Featherstone et al. (in prep.)
Intrinsic factors

- Unanswered questions
  - How does the relationship between elements in one closed system generate emotions?
Interactions between all the above
Intrinsic x Extrinsic

- Interaction of these two factors
- Not about a direct mapping

- Intrinsic elements create and violate expectancies
- This create tension and resolution between elements
- This tension and resolution maps to the physiology of emotions
- We seek to make sense of this and attribute emotions
Intrinsic x Extrinsic

- Recognise the emotion
  - Because movement of piece maps onto movement of emotions (Langer, 1957)

- Emotional contagion
  - “An emotion is induced by a piece of music because the listener perceives the emotional expression of the music, and then “mimics” this expression internally which (...) leads to an induction of the same emotion” (J&V, 2008, P. 565)
    - Mechanical accounts of empathy
Intrinsic x Extrinsic

- “The interaction of a stimulus with a perceiving mind”
  - Gaver & Mandler (1987)

- Explains
  - How link between elements intrinsic to the music evokes emotions outside the musical system
  - Why some musical emotions are culture-specific
    - Expectancies vary from culture to culture
Intrinsic x Extrinsic x Associations?

- [http://www.youtube.com/watch?v=3WSKCpfmYkU](http://www.youtube.com/watch?v=3WSKCpfmYkU)

- Explosions in the Sky
  - *Six Days at the bottom of the Ocean*

That’s it from me for this module

- Hope you enjoyed the lectures
- Any questions? c.r.featherstone@leeds.ac.uk
- All the best with the assignments!
References