

Music and emotions

Cara Featherstone

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>

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 → 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>
- Explosions in the Sky
 - *Six Days at the bottom of the Ocean*
 - http://en.wikipedia.org/wiki/Russian_submarine_K-141_Kursk

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

- Budd, M. (1985) *Music and the emotions: the philosophical theories*. London: Routledge & Kegan Paul.
- Cooke, D. (1959) *The language of music*. Oxford: Clarendon Press.
- Dowling, W. J. & Harwood, D. L. (1986). *Music Cognition*. New York: Academic Press.
- Gabrielsson, A. and Lindstrom, E. (2001). The Influence of Musical Structure on Emotional Expression. In J. Sloboda and P. Juslin (Eds.) *Music and Emotion* (pp. 223-248). Oxford: Oxford University Press.
- Gaver, W.W. and Mandler, G. (1987) Play it again, Sam: On liking music. *Cognition & Emotion*, **1 (3)**, 259-282.
- Juslin, P. and Madison, G. (1999) The role of timing patterns in recognition of emotional expression in musical performance. *Music Perception*, **17 (2)**, 197-221.
- Juslin, P. N., & Västfjäll, D. (2008). Emotional responses to music: The need to consider underlying mechanisms. *Behavioural and Brain Sciences*, 31 , 559-621.
- Krumhansl, C.L. (2002) Music: A link between cognition and emotion. *Current directions in psychological science*, **11 (2)**, 45-50.
- Langer, S.K.K. (1953). *Feeling and Form*. London: Routledge and Kegan Paul.
- Meyer, L. B. (1956). *Emotion and meaning in music*. Chicago: University of Chicago Press.
- Sloboda, J. A. and Juslin, P. N. (2001). Psychological Perspectives on Music and Emotion. In J. Sloboda and P. Juslin (Eds.) *Music and Emotion* (pp. 71-104). Oxford: Oxford University Press.
- Wymer, J.H., Lindman, L.S. and Booksh, R.L. (2002) A neuropsychological perspective of aprosody: Features, function, assessment, and treatment. *Applied Neuropsychology*, **9 (1)**, 37-47.