

Music and Emotion

Issues and Music and Sciences

Dr. David John Baker

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Outline

- I. Most people engage with music due its ability to elicit /manage emotion
- II. Emotion and music is one of the gnarliest topics to disentangle, lack of “right” answers and subjectivity abound
- III. Several theories describing and explaining how musical emotions have been proposed

Music and Emotion

Music and Emotion Histories

→ Greeks thought music could be used to elicit different emotions

→ In Strunk: Plato discussing ability of Greek Modes (or what he probably would have called the Modes..) to convey affect

P L A T O

5

“The Mixolydian,” he said, “and the intense Lydian, and others similar to them.” “These, then,” said I, “we must do away with. For they are useless even to women who are to make the best of themselves, let alone to men.” “Assuredly.” “But again, drunkenness is a thing most unbefitting guardians, and so is softness and sloth.” “Yes.” “What, then, are the soft and convivial harmonies?” “There are certain Ionian and also Lydian ones that are called relaxed.” “Will you make any use of them for warriors?” “None at all,” he said; “but it would seem that you have left the Dorian and the Phrygian.” “I don’t know the harmonies,” I said, “but leave us that ⁴ harmony that would fittingly imitate the utterances and the accents of a brave man who is engaged in warfare ⁵ or in any enforced business, and who, when he has failed, either meeting wounds or death or having fallen into some other mishap, in all these conditions confronts

Music and Emotion Histories

→ Similar attempts at music + emotion throughout history

→ Will also find similar charts on literature on temperament

→ Popular references to music's ability to induce emotion



Vanneus's listing of the affects associated with each mode

Mode	Summary	Description
1	The first tone is cheerful.	Since, then, the first tone, an Authentic, is naturally tuneful, jocund, cheerful, and especially apt to excite the emotions of the soul, this mode demands that words, either in the vernacular or in Latin, be coupled with it; and since it is adaptable to these words, it is called by musicians the adaptable tone.
2	The second tone is woeful.	Words that carry with them sadness, weeping, cares, woes, captivity, and all sorts of miseries agree with the second tone, the first of the Plagals, which by its nature is tearful, serious, and humble, and for that very reason is called by musicians the humble and deprecatory.
3	The third tone is sharp and harsh.	The third tone, second in the series of Authentics, is considered sharp, vehement, blazing, provocative of anger and bile, spirited, harsh, and cruel. For that reason it properly embraces bellicose, threatening words, and other things of that sort like itself, and it has for that reason been given the name harsh.
4	The fourth tone is given to love and adulation.	The fourth tone, second among the Plagals, is completely unlike the third that precedes it, wherefore all words either of love, leisure, rest, tranquility, adulation, deceit, and detraction can properly be fitted to it, and from this effect it is called the adulatory mode.
5	The fifth tone is moderate.	The fifth tone, third of the Authentics, when sung brings delight, moderation, and joy, relieves the soul of every trouble, and matters that concern victory particularly become this mode; hence it is deservedly called jocund, moderate, and delightful.
6	The sixth mode is pious and devoted.	The sixth mode, the third of the Plagals, is most suitably given all words of piety that move [one] to tears, especially from devotion, or from pity and joy, and not without justice do musicians call it the devoted, tearful, and most pious mode, in distinction to the second mode, which we have called the dirgelike and grief-stricken.
		The seventh tone, fourth in the complement of the Authentics, is especially suited to lascivious words mixed in with moderate and pleasant ones, but then also to excited, angry, and threatening ones; and for this reason it is called the querulous mode.
		The eighth, the last of all modes, affects all who hear it with joy, pleasure, and sweetness, and it is completely alien to lasciviousness and to every vice. To it by right musicians have dedicated speech that is mild, unhurried, serious, that contains profound matter, or philosophical, or theological, since they concern heavenly happiness and glory; nor do words shrink from this mode that are attempted for the sake of asking favor. Its name follows the facts, since it is called sweet and mild.

Emotion and Meaning

- Study of music and emotion investigates complex relationship between subjective experience of music and the music's structure
- Structure ~ component parts assembled together
 - Could be string of notes
 - Could be string of intervals
 - Notes forming collection of scale or chord
 - Scales or Chords in established collection
 - Chord progressions as part of larger song form
- Idea of meaning intertwined with emotion

Emotion and Meaning in Music

By LEONARD B. MEYER



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Emotion and Meaning in Music, 1965

- Absolutists: meaning of musical work lies in context of work itself
- Referentialists: Sounds in music refer to extra musical world (concepts, emotional states, actions, characters)
- Not mutually exclusive
 - Can exist in same piece (just like poem or painting)
 - Not logically opposed to one another
 - If one shown to be important, does not diminish other

Emotion and Meaning in Music Examples

- Absolutism: Return of head in jazz tune signifies song is about to end
- Referentialism: Sounds in music supposed to sound like sound in real world (honking of taxi in American in Paris, Alpine Symphony for many examples of imagery climbing mountain)

Emotion and Meaning in Music

- Referentialism will be based on culture of music
 - Indian ragas meant to be played at certain times of day
 - Joe Avery Riff in New Orleans Brass Band
 - https://www.youtube.com/watch?time_continue=5&v=K9BFZWO-wQY&feature=emb_logo
- Referentialism vs Absolutism != Formalist vs Expressionist
- Formalism + Expressionism = Aesthetic Positions
- Formalist: Meaning and emotion come from intellectual understanding
- Expressionist: Feelings actually created in the listener

More Terms

- Formalist → Perceived Emotion
- Expressionist → Felt Emotion
- Expressionism is often confused with referentialism
- Expressionists
 - Absolute Expressionists : Emotional meaning arises in response to music, no need for external world for reference
 - Referential Expressionists : Emotional meaning depends on external references

Check for Understanding

In his Autobiography, Igor Stravinsky famously writes :

For I consider that music is, by its very nature, essentially powerless to express anything at all, whether a feeling, an attitude of mind, a psychological mood, a phenomenon of nature, etc. Expression has never been an inherent property of music. That is by no means the purpose of its existence. If, as is nearly always the case, music appears to express something, this is only an illusion and not a reality. It is simply an additional attribute which, by tacit and inveterate agreement, we have lent it, thrust upon it, as a label, a convention – in short, an aspect which, unconsciously or by force of habit, we have come to confuse with its essential being.

What would Meyer classify Stravinsky's view on music as?

Formalist? Expressionist? Absolutist? Referentialist?

Subjectivity of Responses



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dorkmusictheory @dorkmusictheory · Mar 11, 2019



i went to listen to a song that is supposed to make me feel sad but it doesn't make me sad anymore and so I'm sad anyway but it's the wrong kind.



10



219



1.8K



Bringing Terms into the Lab

- If we assume music IS able to elicit emotions (felt, perceived) how do we then begin to study it?
- Goal is to create falsifiable model that is able to explain data
- Need to account for individual differences
- Must be generalizable
- Need way to measure DV (dependent variable)

Emotional Subjectivities

- Unlike research in musical memory that measures performance on tasks, research in emotion focuses on modeling subjective experience
- Presumed that there is some degree of subjective emotion
- Can ask people about their experiences
 - Direct methods: survey, interviews, measurement scales
 - Indirect Methods: Measure heart rate, electrodermal activity, brain activity
- What are the advantages and disadvantages of each?

Measurements

direct

Advantages

- Can clearly construct research prompt
- Question links to research theory

Disadvantages

- People will not always be honest
- Might not get reliable results
- Will depend on circumstances

indirect

Advantages

- Do not have to interrupt musical experience
- Harder to consciously control
- Often continuous variables

Disadvantages

- Measures always a physical proxy for something else
 - Heart rate → Excitement?
 - Questions of Measurement Validity
- Need specialized Equipment
- More data, more chance for false positives

Competing Theories

Journal: Behavioral and Brain Sciences

- Prominent Authors write article on large subject
- Authors doing similar work are invited to respond
- Invited authors note agreements/disagreements
- Helpful to read to learn new tools of thinking/critique
- Initial authors get last word
- Academic draaamaaaaa

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Emotional responses to music:
The need to consider underlying
mechanisms

Patrik N. Juslin

Department of Psychology, Uppsala University, SE-75142 Uppsala, Sweden
patrik.juslin@psyk.uu.se
<http://www.psyk.uu.se/hemsidor/musicpsy2/>

Daniel Västfjäll

Department of Psychology, Göteborg University, SE-40530 Göteborg, Sweden
daniel.vastfjall@psy.gu.se
<http://www.psy.gu.se/Personal/DaneilV.htm>

Table 1. *Working definitions of affective terms used in this target article*

Affect	An umbrella term that covers all evaluative – or valenced (i.e., positive/negative) – states such as emotion, mood, and preference.
Emotions	Relatively intense affective responses that usually involve a number of sub-components – subjective feeling, physiological arousal, expression, action tendency, and regulation – which are more or less synchronized. Emotions focus on specific objects, and last minutes to a few hours.
Musical emotions	A short term for “emotions that are induced by music.”
Moods	Affective states that feature a lower felt intensity than emotions, that do not have a clear object, and that last much longer than emotions (several hours to days).
Feeling	The subjective experience of emotion (or mood). This component is commonly measured via self-report and reflects any or all of the other emotion components.
Arousal	Activation of the autonomic nervous system (ANS). Physiological arousal is one of the components of an emotional response but can also occur in the absence of emotions (e.g., during exercise).
Preferences	Long-term evaluations of objects or persons with a low intensity (e.g., liking of a specific music style).
Emotion induction	All instances where music evokes an emotion in a listener, regardless of the nature of the process that evoked the emotion.
Emotion perception	All instances where a listener perceives or recognizes expressed emotions in music (e.g., a sad expression), without necessarily feeling an emotion.
Cognitive appraisal	An individual’s subjective evaluation of an object or event on a number of dimensions in relation to the goals, motives, needs, and values of the individual.

Term definition, Table 1

Music and Emotion ~ Complex

1. Brain Stem Reflexes
2. Evaluative Conditioning
3. Emotional Contagion
4. Visual Imagery
5. Episodic Memory
6. Musical Expectancy

1. Brain Stem Reflexes

- Sounds signal important event to brain
- Music as sound
- Sudden, loud, dissonant sounds are unpleasant
- Brain stem catches sound early in auditory processing
- “Hard wired” response
- Hard to explain beyond basic emotions

2. Evaluative Conditioning



2. Evaluative Conditioning

- Repeated pairing of music and feeling
- Happen once ~ Song was playing when you met your romantic partner
- Happens many times ~ 2001 Space Odyssey with Idea of Awe
- Might explain why some music induces emotion for “no good reason”
- Hard to uncouple
- Unconscious, unintentional, effortless
- Might account for many experiences in everyday life

3. Emotional Contagion

- Music mimics emotional expression
- Table from Warrenburg 2020 for examples
- Patterns in music match patterns in speech?
- Links to 19th century thinking on ethological cues

Table 1. Hypothesised grief and melancholy acoustic and musical features according to David Huron (2015).

Melancholic Speech Features	Melancholic Musical Features	Grieving Speech Features	Grieving Musical Features
Quiet voice	Quiet dynamics	Energetic voice	Loud dynamics
Slow speaking rate	Slow tempo	Energetic or sustained tones (wails)	Sustained tones; Gliding pitch motions/portamento; Energetic/fast tempo
Lower overall pitch	Low tessitura;	Falsetto phonation	High tessitura
More monotone prosody	Minor mode	Breaking voice	Large pitch range; Wide pitch intervals or leaps
Mumbled articulation	Small pitch range;	Vocalised punctuated exhaling	Repeated staccato/detaché
Dark timbre	Small melodic intervals	Pharyngealization	Harsh or nasal timbres
	Legato articulation;		
	Greater use of sostenuto pedal		
	Dark timbre instruments;		
	Stopped strings;		
	Use of mutes		
Breathy voice	–	Sniffing	–
		Ingressive vocalisation	–

4. Visual Imagery

- Listener comes up with picture to match music they are hearing
- Emotions are result of interaction between music and images
- Used in music therapy contexts
- Associated with episodic memories

5. Episodic Memory

- “Darling, they are playing our tune” phenomena
- Music evokes memories
- Specific to listener
- When memory evoked, so is emotion
 - (Damasio from last lecture!)
 - Associate Pairings
- Related to youth and childhood
- Reminiscence bump
 - Music from ages 15-25 most meaningful throughout life
 - Explains why greatest songs of all time lists (Dad rock)
 - Personal note: know this is true, listen to a lot!!

6. Musical Expectancy

- Emotion results from musical event that violates, confirms, delays musical expectation
- Work of Leonard Meyer
- Inspired by Gestalt School of thinking
 - Rule of Continuation
 - Grouping preferences
- Implicitly learned rules via statistical learning form basis
- Current research also makes use of predictive coding/free energy frameworks

Unified Theories?

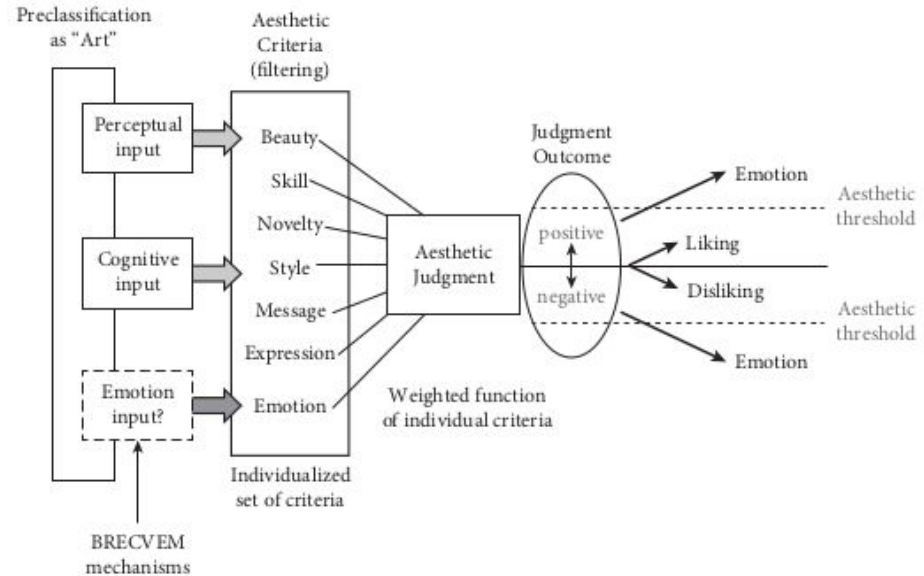


FIGURE 13.2 Schematic model of the aesthetic judgment process during music listening (see Juslin 2013, pp. 246–257 for a full description).

Reproduced from *Physics of Life Reviews*, 10(3), Patrik N. Juslin, From everyday emotions to aesthetic emotions: Towards a unified theory of musical emotions, pp. 235–266, Figure 1, doi:10.1016/j.plrev.2013.05.008, Copyright (2013), with permission from Elsevier.

Check for Understanding

- Compare and contrast the ways that research in music and emotions differs than musical memory
- What are the six proposed mechanisms for emotional response
- Compare and contrast Meyer's four terms discussed at start of lecture with those put forward by BBS article