Evaluating the Consistency and Thematic Content of Music-Induced Visual Mental Imagery

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Background

There has been a resurgence in research into visual mental imagery during music listening (Taruffi & Küssner, 2019). Visual imagery refers to the experience of a mental image formed in the absence of an external stimulus. Very little is currently known about the content and nature of music-induced visual imagery (Küssner & Eerola, 2019), and how consistent it is within and across participants.

Aims

1. To examine the thematic content of music-induced visual imagery reports (Braun & Clarke, 2006)
2. To assess the extent to which such content is consistent within and across participants

Methods

Survey 1
353 online participants (153 female, 198 male, 2 prefer not to say), aged 18-66 (M = 26.41, SD = 9.41)

Survey 2
After 3 weeks, 254 returning participants (102 female, 149 male, 3 prefer not to say), aged 18-66 (M = 26.85, SD = 9.04)

Materials & Procedure
Participants:
- listened to three 45-second musical excerpts, conveying Happy, Tender and Fearful emotions (Eerola & Vuoskoski, 2011)
- were encouraged to pay attention to and report any visual imagery that they may or may not have experienced while listening ('*Describe the content of your VMI (if at all)*')

Data Analysis
- Two independent coders conducted a thematic analysis to identify prominent themes in the dataset (comprising 1,059 reports across 3 excerpts in survey 1).
- In order to assess consistency, each code and theme was allocated a numeric label that could be assigned to any given participant description as relevant.
- Coders 1 and 2 independently tested the numeric labelling system on 60 reports (5-6% of total), and on finding 65-73% similarity* (thus confirming the feasibility of this approach), Coder 1 alone continued with labelling the rest of the data.
- The frequency of visual imagery reports (as assessed by the numeric labels) across all 3 theme levels were computed (see Figure 1 for Level 2 theme frequencies) and used as a preliminary gauge of across-participant consistency

* Jaccard Coefficient as an estimate

Results

- The thematic analysis revealed lower level themes and codes that could be organised under 4 higher order themes:
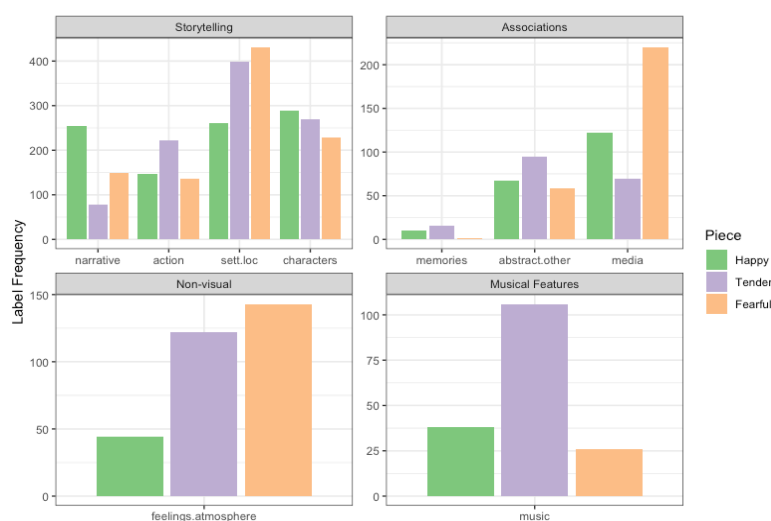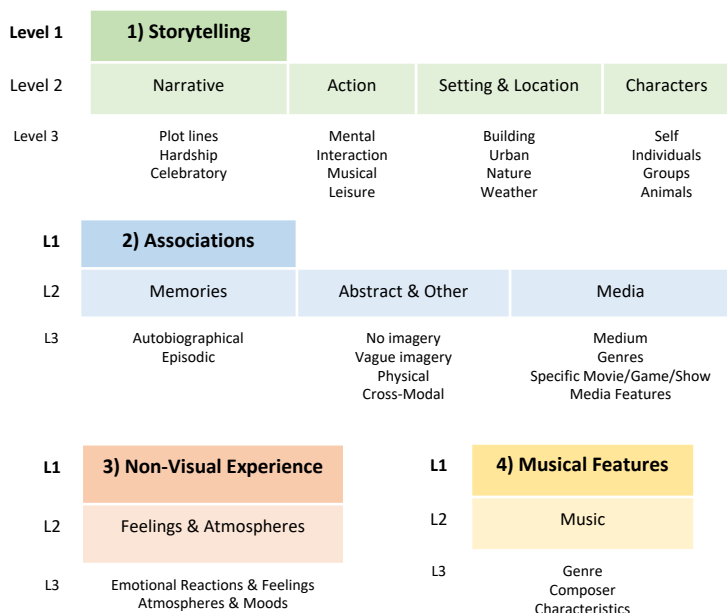
Level 1	1) Storytelling			
Level 2	Narrative	Action	Setting & Location	Characters
Level 3	Plot lines Hardship Celebratory	Mental Interaction Musical Leisure	Building Urban Nature Weather	Self Individuals Groups Animals

L1	2) Associations		
L2	Memories	Abstract & Other	Media
L3	Autobiographical Episodic	No imagery Vague imagery Physical Cross-Modal	Medium Genres Specific Movie/Game/Show Media Features

L1	3) Non-Visual Experience
L2	Feelings & Atmospheres
L3	Emotional Reactions & Feelings Atmospheres & Moods

L1	4) Musical Features
L2	Music
L3	Genre Composer Characteristics

Figure 1. Frequency of visual imagery reports along Level 2 themes (second row of above tables), across musical excerpts

- On average, Storytelling was the most prominent aspect of participants' visual imagery (especially with setting and locations)
- Theme frequency profiles for the three pieces suggested some consistency in the imagery induced across participants
  - *The Fearful excerpt led more participants to recall media (e.g. movies) and report affective states and atmospheres*
  - *In contrast, the Happy excerpt was highest in narrative features (e.g. coronations, celebrations, festivities)*
  - *The Tender excerpt induced most memories and commentary on the most salient musical feature (the main instrument)*
- <u>Next steps</u> include finalising an objective assessment of the consistency of qualitative visual imagery data, and computing within-person consistency across surveys 1 and 2

References

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