Ear goggles: can preference for previously heard and concurrent music influence ratings of attractiveness of human faces?

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Introduction
- Participants rate human faces as more attractive having listened to highly arousing music (Marin et al., 2017)
- Stems from misattribution of arousal – arousal due to one stimulus is misattributed for arousal towards another stimulus, e.g. from hearing music towards attractiveness of a person (Dutton & Aron, 1974)
- We explored whether this misattribution occurred both before (Experiment 1), in which participants listened to the music and then rated the faces in quiet (similar to the mood and arousal paradigm; Schellenberg, 2005) and during (Experiment 2), in which participants rated the faces whilst ignoring the music (similar to irrelevant sound effect paradigm; Colie & Welsh, 1976)

Experiment 1
Rationale
- Explore whether exposure to music that one likes can affect attractiveness ratings both after listening to the music

Method
Participants
- 40 participants (all heterosexual apart from one homosexual), 15 males, 25 females, 18–48 years old

Design
- Mixed design: VI – sound (liked, quiet, disliked); within, attractiveness levels (high, medium, low); within, attractiveness ratings analysis only, sex of participant (male, female; between); time (after music, after ratings; within, mood ratings analysis only)

Materials
- 189 Facebook profile, face-forward image photographs, 106 females, 83 males
- 3 slideshows containing high, medium, low attractiveness faces (similar means obtained from previous study)
- Mood rating of happiness: 1–5, extremely unhappy to completely happy

Procedure
- Listened to (dis)liked music or complete word search in quiet
- Completed mood rating
- Rated 63 faces for attractiveness
- Completed mood rating
- Repeated for other two sound conditions

Results
Attractiveness ratings

- Significant main effect of sound, F(1,628, 61.879) = 20.8, MSE = .42, p < .001, η² = .35
- Bonferroni adjustment pairwise comparisons, ratings in all sounds significantly different from each other: liked>quiet>disliked, p < .001 apart from liked and quiet, p = .017

- Significant main effect of attractiveness, F(1,223, 46.48) = 225.73, MSE = 1.65, p < .001, η² = .86
- Bonferroni adjustment pairwise comparisons, ratings in all sounds significantly different from each other: high>medium>low, all p < .001

Happiness ratings

- Significant main effect of sound, F(2, 76) = 60.27, MSE = 41.7, p < .001, η² = .61
- Significant main effect of time, F(1, 38) = 7.55, MSE = .02, p < .001, η² = .17
- Significant interaction of sound*time, F(2, 76) = 11.38, MSE = .39, p < .001, η² = .23
- Bonferroni adjustment pairwise comparisons, for disliked music, happiness lower after listening to the music than after completing the task
- For both after listening to music and after completing ratings, happiness greater for liked, then quiet, then disliked respectively – p < .001 for all comparisons apart from p = .017 (after listening to music, liked and quiet), p = .02 (after completing ratings, liked and quiet)

- Significant main effect of sound, F(2, 76) = 11.32, MSE = 4.08, p < .001, η² = .23
- Bonferroni adjustment pairwise comparisons, ratings in liked significantly greater than disliked (p < .001) and ratings in quiet significantly greater than disliked (p = .014)
- Significant main effect of attractiveness, F(1,2, 45.73) = 243.363, MSE = 1.49, p < .001, η² = .87
- Bonferroni adjustment pairwise comparisons, ratings in all sounds significantly different from each other: high>medium>low, all p < .001

Vigour ratings

- Significant interaction of time and sound, F(1,974, 75.019) = 3.96, MSE = 52.21, p = .0024 η² = .94
- Bonferroni adjustment pairwise comparisons, significantly higher vigour ratings before music than after music in disliked music (p = .004) and significantly higher vigour ratings in liked, compared to disliked music after music (p = .042)

Experiment 2
Rationale
- Replicate Experiment 1 but ignoring background music

Method
Participants
- 40 participants (all heterosexual), 20 males, 20 females, 18–38 years old

Design
- Mixed design: VI – sound (liked, quiet, disliked); within, attractiveness levels (high, medium, low); within, attractiveness ratings analysis only, sex of participant (male, female; between); time (after music, after ratings; within, mood ratings analysis only)

Materials
- Images – identical to Experiment 1
- Profile of Mood of States (POMS)

Procedure
- Completed POMS
- Rated 63 faces for attractiveness whilst ignoring music or in quiet
- Completed POMS
- Repeated for other two sound conditions

Results
Attractiveness ratings

- Significant interaction of time and sound, F(1,974, 75.019) = 3.96, MSE = 52.21, p = .0024 η² = .94
- Bonferroni adjustment pairwise comparisons, significantly higher vigour ratings before music than after music in disliked music (p = .004) and significantly higher vigour ratings in liked, compared to disliked music after music (p = .042)

General Discussion
- Support for misattribution of arousal effect (Dutton & Aron, 1974)
- Replicate general effect of music preference increasing ratings of attractiveness for human faces (Marin et al., 2017)
- No difference between male and female participants
- Occurred both when attending to music but rating faces in quiet, and when ignoring music and rating faces in background music
- Support for mood and arousal mediating the effect – participants in happier (Experiment 1) and more vigorous (Experiment 2) moods rated faces as more attractive

Limitations
- Focused on heterosexual participants
- Did not differentiate between ratings of male and female faces
- Could explore mood more consistently
- Age not considered

References