Distinct Varieties of Aesthetic Chills in Response to Multimedia

Dataset Release Notes

Version 2.0

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The contents of this data release are tied to the following study:

> Bannister, S. (under review). Distinct Varieties of Aesthetic Chills in Response to Multimedia.

All data that is subjected to analysis and interpretation in this study is made available in the present dataset on Harvard Dataverse.

There is one main data source/file available in this dataset, and it is comprised of a variety of self-report data in response to multimedia stimuli; these responses include *chills reports, physical sensations, emotional responses, stimulus familiarity, empathy,* and *musical*

sophistication. Some demographic data are also provided, in the form of *age*, *gender*, and whether participants play an *instrument*. Additionally, there is descriptive information about the fifteen multimedia stimuli used, and source/catalogue information indicating how these might be accessed.

This document provides guidelines on how to approach the dataset, how to interpret the variable names, and any further details related to the data made available.

The structure of this supporting document is as follows: Firstly, the fifteen stimuli will be introduced, summarised, and attributed to specific variable labels utilised within the self-report dataset; furthermore, source information will be provided should any reader choose to use these stimuli for further research. Secondly, detailed information regarding self-reports, such as coding formats, data-type, and scoring will be provided. Finally, if you would like to get in touch with queries or requests, contact details will be presented towards the end of the document.

1. Stimuli

The stimuli used for this experiment included a variety of images, texts, videos, music videos, and music excerpts. Apart from the music excerpts (derived from a previous listening experiment; see Bannister & Eerola, 2018), all stimuli were sourced from an online forum dedicated to stimuli that elicit '*frisson'* (www.reddit.com/r/frisson).

All stimuli in this experiment were kept to a reasonably similar duration. Participants were presented with any single video or music video stimulus for no less than 45 seconds, and no more than one minute; images or texts were presented for 20 seconds, and musical excerpts were each presented for 56 seconds. In the dataset, variables involving images use the tag '**IM**', videos use '**VID**', texts use '**TXT**', music videos use '**MV**', and music uses '**MUS**'.

1.1 Descriptions, Variable Names, Timestamps and Sources

To condense information, pertinent information regarding the stimuli used is presented in Table 1 below (this table is also replicated as a separate document as part of the data release –

'stimulus_descriptives.tab', but included here for convenience). The first column of the table refers to the specific variable label often used in the self-report dataset, to allow an easy reference point for interpreting the data in the early stages. The second column provides a name for the stimulus (either the name of a piece of music, or the name given to the video/image/text submission on the Reddit '*frisson'* forum). The third column provides descriptive information about the characteristics of the stimulus, and the fourth column provides timestamp information, indicating which segment was used for the study, and thematic grouping information of the stimulus as discussed in the corresponding study. The fifth column displays any convenient source information (URL, or catalogue information in the case of musical excerpts). It is important to note that the timestamp information (where relevant) is tied to the source detailed in the table.

Table 1: List of stimuli, corresponding variable name in the available dataset, and important description and source information.

Variable Name	Stimulus Title	Description	Timestamp And ***Theme***	Source Information
IM_1	Veteran	Last WWII veteran marching on Memorial Day	N/A (20 second display) ***Distress and Support***	https://imgur.com/MyxObav
IM_2	Gorilla	Man comforting gorilla after its mother was killed by poachers	N/A (20 second display) ***Distress and Support***	https://i.imgur.com/Y01CTLO.jpg

IM_3	Innocence	Man told he is innocent after 40 years in prison	N/A (20 second display) ***Distress and Support***	https://imgur.com/3tMeMSu
VID_1	Scientists	Scientists watching and celebrating a rocket landing	0:12 – 1:12 (60 second display) ***Communion***	https://www.youtube.com/watch?v=igEWYbnoHc4
VID_2	Dog Reunion	Dog reunited with owner after long separation	0:00 – 0:45 (45 second display) ***Love and Gratitude***	http://i.imgur.com/IEHbOVc.gifv
VID_3	Funeral Haka	School students perform Haka at teacher's funeral	0:35 – 1:20 (45 second display) ***Communion***	https://www.youtube.com/watch?v=M6Qtc_zlGhc
TXT_1	Professor	Quote from an anthropology professor about caring for oneself	N/A (25 second display) ***Love and Gratitude***	http://i.imgur.com/ZAgoWG6.jpg

TXT_2	Addict	Message of gratitude from recovered addict to medical staff	N/A (30 second display) ***Love and Gratitude***	https://www.reddit.com/r/Frisson/comments/52w7xq/text_a_thank_you_letter_from_a_heroin_addict/
TXT_3	Father Pride	Message of pride from father to son	N/A (30 second display) ***Love and Gratitude***	https://www.reddit.com/r/Frisson/comments/5kd1ks/text_a_bit_unconventional_for_this_sub_but_one_of/
MV_1	Queen Audience	Audience singing to Queen reocrding whilst waiting for live performance	2:14 – 3:07 (53 second display) ***Communion***	https://www.youtube.com/watch?v=cZnBNuqqz5g&feature=youtu.be
MV_2	Swiss Band	Swiss band has crowd singalong in debut American performance	0:43 – 1:27 (45 second display) ***Communion***	https://www.youtube.com/watch?v=IEng60LouQo&feature=youtu.be
MV_3	Ave Maria	Man sings 'Ave Maria' in shipping container	0:08 – 0:53 (45 second display) ***Solo Voice and Instrument***	https://www.youtube.com/watch?v=a04O1RmCS8M

MUS_1	Glósóli	Chills excerpt from piece by Sigur Rós	4:21 – 5:17 (56 second display) ***N/A***	Taken from album '*Takk…*' (Released 2009 under EMI Music Australia) Catalogue number = 695 4682 Barcode = 5099969546822 Musicbrainz Identifier = d79744e1-a616-3e75-844d-9d83ad5da6a3
MUS_2	Jupiter	Chills excerpt from piece by Gustav Holst	3:09 – 4:05 (56 second display) ***Solo Voice and Instrument***	Taken from album '*The Planets / Suite de Ballet, op. 10*' (Released 1991 under Naxos) Catalogue number = 8.550193 Barcode = 4891030501935 Musicbrainz Identifier = 2e5015c8-c0a1-4b50-aa68-2dad4529c972
MUS_3	Ancestral	Chills excerpt from piece by Ancestral	3:56 – 4:52 (56 second display) ***Solo Voice and Instrument***	Taken from album '*Hand. Cannot. Erase.*' (Released 2015 under Kscope) Catalogue number = KSCOPE316 Barcode = 802644831671 Musicbrainz Identifier = 0cfad70c-4fa9-43c2-918e-eb638f0dd597

Typically, in the self-report dataset the variable names follow a structure; if for example we look to see whether a participant experienced tingling in response to music video 3, the variable name would be 'MV_3.phys_tingle', where the 'phys' indicates physical sensations, and 'tingle' indicates the specific sensation in question. Similarly, if we are interested in melancholy ratings in response to text 2, the corresponding variable name would be 'TXT_2.emo_melancholy'. Most variables in the dataset can be navigated and deducted using a similar logic to that described.

2. Self-report Data

Self-report data collected in the web-study corresponds to basic demographic information, chills information, stimulus familiarity data, empathy and musical sophistication data, physical sensation data, and emotional experience data. The dataset is organised such that columns are dependent variables and stimulus categories, and rows are the individual participants. An important note is that each participant experienced one random stimulus from each modal category (image, video, text, music video, music), and so all rows contain empty cells corresponding to certain columns in which the stimulus was not experienced. Furthermore, ratings from the practice trial at the start of the study are included, indicated by the '`Prac`' label. The main self-report data can be found in the file '`self_reports.tab`'.

2.1 Demographic Data

Demographic information refers to the following variables:

`Age` [numerical]
`Gender` [coded numerically as: 1 = *Male*, 2 = *Female*, 3 = *Transgender/Other*]
`Nationality` [string]
`Occupation` [string]
`English Proficiency` [coded numerically as: 1 = *Very High Proficiency,* 2 = *High Proficiency,* 3 = *Moderate Proficiency,* 4 = *Low Proficiency,* 5 = *Very Low Proficiency*]
`Instrument` [coded numerically as: 1 = *Yes they play an instrument,* 2 = *No they do not play an instrument*]
`Listening Mode` [coded numerically as: 1 = *Headphones*, 2 = *Computer Speakers,* 3 = *Desk Speakers,* 4 = *Other*]
`Chills Freq` [coded numerically as: 1 = *Yearly*, 2 = *Every Few Months*, 3 = *Monthly*, 4 = *Weekly*, 5 = *Daily*]
`MSI` [coded as: 1 = *Non-musician*, 2 = *Music-loving non-musician*, 3 = *Amateur musician*, 4 = *Serious amateur musician,* 5 = *Semi-professional musician,* 6 = *Professional Musician*]
`Number` [indicates individual participant number; useful for repeated-measures analysis routes]

MSI refers to musical sophistication, and refers to a very short, convenient measure of musical sophistication by asking a single question: '*How do you see yourself?'*.

2.2 Physical Response Data

Following the previous variable naming logic, all physical and emotional response data is formatted as:

```
[IM/VID/TXT/MV/MUS]_[1/2/3].[phys/emo]_[specific]
```

Following this, the 12 physical sensations reported by participants are defined by the 'specific' portion of the variable name, which are:

`smile`
`laugh` (experience of laughter)
`goosebumps`
`chest` (warm feelings in the chest)
`throat` (feeling a lump in the throat)
`tingle`
`shivers`
`tears`
`breathing` (experience a change of breathing)
`cold`
`warmth`
`frown`

All physical response data are treated as binary count data; in the self-report dataset, a 1 indicates the experience of a physical response, whereas all other cells are empty, which could for example be populated with 0, and NA for participants who did not experience the stimulus in question, as per the study design.

There is also a single variable for each stimulus related to whether chills were experienced or not; as an example:

`IM_1.Chill` [coded as: 1 = *Chills experienced,* 2 = *Chills not experienced*, 3 = *Unsure*)

Finally, there is a single variable for each stimulus related to how familiar a participant was with a stimulus; as an example:

`IM_1.Fam` [coded as: 1 = *Not familiar at all*, 2 = *Slightly familiar*, 3 = *Moderately familiar*, 4 = *Very familiar*, 5 = *Extremely familiar*]

2.3 Emotional Response Data

In addition to physical sensations, participants were also asked to provide emotional experience ratings for 15 descriptors. Again, using the same variable name formatting style, the 15 descriptors are:

`moved`
`inspired`
`happy`
`tender`
`anger`
`relaxed`
`nostalgia`
`stimulated`
`melancholy`
`intense`
`affection`
`energy`
`calm`
`nervous`
`sad`

These rating scales are treated as numerical data on unipolar Likert scales, and range from 1 (emotion not felt at all) to 7 (emotion felt very much).

2.4 Empathy Data

The final main self-reports utilised in the analysis refers to trait empathy ratings. To measure trait empathy, the Interpersonal Reactivity Index was used (IRI; Davis, 1980). The instrument includes 28 statements about oneself that can be evaluated by participants using a bipolar 1 to 5 scale (1 = Strongly disagree, 3 = Neither agree nor disagree, 5 = Strongly Agree). By using these 1 to 5 values, we can derive a mean trait empathy score for the participant, and even break the results down to smaller factors, such as *fantasy, empathic concern, perspective taking* and *personal distress*. However, it is important to note that numerous items in the IRI are reversed scores (i.e. a score of 5 would indicate lower levels of empathy); however, for present purposes these reverse scores have been dealt with in the dataset; for all items therefore, a score of 5 represent a maximum trait empathy score.

The following variables refer to all aspects of trait empathy self-reports:

`Empathy_1`
`Empathy_2`
`Empathy_3`
… [items labelled up to 28, and correspond to 28 statements in the IRI]

`concern` [mean of summed score for items 2, 4, 9, 14, 18, 20, 22]
`fantasy` [mean of summed score for items 1, 5, 7, 12, 16, 23, 26]
`perspective` [mean of summed score for items 3, 8, 11, 15, 21, 25, 28]
`distress` [mean of summed score for items 6, 10, 13, 17, 19, 24, 27]
`full_emp` [mean of summed score for all 28 items]

3. References

Bannister, S., and Eerola, T. (2018). Suppressing the chills: Effects of musical manipulation on the chills response. *Frontiers in Psychology, 9*: 2046.

Davis. M. (1980). A multidimensional approach to individual differences in empathy. *JSAS Catalog of Selected Documents in Psychology, 10*, 85.

4. Contact

The primary contact for the current data release is Scott Bannister (scott.c.bannister@durham.ac.uk).