Read-Me Guide for Emotion Recognition Task Data

This folder contains all the raw data collected for the Emotion Recognition (ER) Task. The ER task was conducted with seven emotion types (joy, sadness, surprise, anger, disgust, fear, and neutral) \* three intensity levels (low, medium, high, please note there was no intensity change for ‘neutral’) in three experimental groups (music training, music listening, and the control). For each participant, seven data-collection sessions were conducted bi-weekly. I have organised the data in three levels of hierarchy for a clear presentation.

1. Primary folders: three folders for the three experimental groups (Music training group, Music listening group, and Control group).
2. Secondary folders: data folders for each participant with participant number, e.g., ‘P01’ represents the data folder for the participant number 1.
3. Tertiary folders: Seven data folders (week1, week3, week5, week7, week9, week11, week13) for each participant that represents the seven bi-weekly data-collection points.

There are four data files within each tertiary folder, the following is a guide to understand the file name.

**01MS\_M\_19\_20\_Apr\_2018\_13\_50\_48\_mt\_part\_1**

**01MS** – 01 represents the first data-collection point, you will see 01-07 for each participant. MS is the initials of the participant.

**M\_19**– Participant’s gender and age, in this case, male and 19 years old.

**20\_Apr\_2018**– Date of this data-collection point in day-month-year.

**13\_50\_48**– Time of this data-collection point in hour-minute-second.

**mt** – the experimental group participant was in, MT-music training, ML-music listening, C-control.

**part\_1** –The number of the test part. Because the ER test was quite long, for each data collection, we divided the whole test into 4 parts. This is the reason you can see 4 data files under each tertiary folder (part1-part4). The data of these 4 parts should be processed together.

The following is a guide to read each raw data file.

Take the first 5 lines of the file ‘01MS\_M\_19\_20\_Apr\_2018\_13\_50\_48\_mt\_part\_1’

for example, open this file you will see:

‘MS

M

19

M06-Surprise-low 7 2.6233

M12-Joy-low 4 3.7964’

The first three lines are the initials of the participant, gender, and age. The data in the following two lines should be viewed in three parts.

The first part, e.g., ‘M06-Surprise-low’, represents the name of ER test clip viewed by the participants. The M06 indicated the actor/actress number that portrayed this emotion which is irrelevant to the data processing. The key information is ‘Surprise-Low’, which means this test clip was a low-intensity, emotion ‘surprise’.

The second part is a one-digit number that represents the answer of participant’s emotion recognition judgement. With 1=anger, 2=disgust, 3=fear, 4=joy, 5=neutral, 6=sadness, and 7=surprise.

The third part, e.g., ‘2.6233’ shows the participant’s reaction time for this trial.

ER Data Processing Guide

As you may realise, the data in the ER raw data file does not include information about accuracy. Also, the reaction time data was recorded for all trials, however, it is only the RTs for the correct judgements we were interested in. To further address this problem and draw the key data we need for each participant, that is, the bi-weekly average accuracies and RTs (for only correct answers) of emotion recognition for seven emotions at the three intensities, we wrote a program in MATLAB (please see **Emotion\_analysis.m)** to process the raw data.

Take participant 01’s ER data on the week1 for example. The **Emotion\_analysis.m** would return 7 files, one for each emotion. If you open the MATLAB output file for the emotion ‘anger’, you will find a line of 6 numbers:

‘0.67 1.00 1.00 3.54 2.20 2.40’,

they represent the average accuracies and RTs for only correct answers for the emotion ‘anger’ on low, medium, high intensities. It is the same for all the rest emotions except the emotion ‘neutral’, because there was no intensity variation for it, thus only two numbers are included in the MATLAB output file for ‘neutral’, which is the average accuracy and the RT.