This document explains how subjects were selected and subsequently paired. All subject specific data is in this folder.

The demographics of the full data of 98 subjects is stored in *BK1ProjectDetails.mat*. This can be viewed in a table format by running *displayDemographicDetails* which is in the display folder outside this folder. Out of these, 20 subjects are discarded because they belong to beginner (B) meditator category. We proceed with the remaining 78 subjects (38 meditators and 40 controls).

Next, for each meditator, we find controls of the same gender and age within 2 years. This is obtained by running *runGetMatchedSubjectList* with ageLim (line 16) set to 2. Two meditators who do not have any controls are rejected, yielding 36 meditators and 40 controls. These are saved in the *BK1AllSubjectList.mat* mat file.

Next, data from these 76 subjects are segmented and preprocessing done using codes available in the preprocessingCodes under the programs folder.

Preprocessing codes yield a set of bad electrodes and a common set of bad stimulus repeats (see details in the preprocessing folder). Five more subjects (1 meditator and 4 control are rejected because more than 24 electrodes are bad. This ensures that at least 40 electrodes are good. The program getGoodSubjectsBK1 returns the remaining 71 subjects (35 meditators and 36 controls).

Finally, we paired meditation and control subjects which enables us to do pairwise comparisons. These matched pairs can be obtained using the program *getMatchedSubjectsBK1*. The rationale is explained in the program itself and also below. From this, we get 30 pairs (16 males and 14 females).

The list shown below is obtained when we run the program *runGetMatchedSubjectList* with ageLim set to 1. This program lists all the control subjects for each meditator who have within 1 year of age difference. Each entry is further specified by 4 numbers – age, gender, years of education and menstrual phase (days from the first day of last cycle; set to NaN for males and 0 for females who have reached menopause).

From this, we find one control subject for each mediator. The chosen control is highlighted in green. Reasons for choosing one control over others (in order of preference) is:

1. [Age]: Age difference is less.
2. [Edu]: education level difference is less.
3. [MC]: Menstrual cycle phase difference is less (if applicable).
4. [Date]: EEG recording date is closer to the meditator.

This reason is highlighted in yellow.

For two male subjects, there was no control within 1 year. Hence, a control with 2 years of difference was chosen. For one female subject, a 2-year older control had to be chosen because the better age matched control had too many bad electrodes. These three entries are highlighted in purple.

Two female meditators could not be paired because there was a single control for 2 meditators. These are highlighted in red.

**Male subjects**

1: 019CKa (23,M,17,NaN). Control(s): 022SSP (22,M,16,NaN) 027SM (22,M,16,NaN) [Date]

2: 096MS (26,M,15,NaN). Control(s): 021PB (25,M,15,NaN) 026HM (26,M,16,NaN) [Age]

3: 040VS (27,M,17,NaN). Control(s): 026HM (26,M,16,NaN) 093AK (28,M,16,NaN) 100UK (28,M,18,NaN) [Edu]

4: 012GK (28,M,15,NaN). Control(s): 075AD (29,M,23,NaN) 093AK (28,M,16,NaN) 100UK (28,M,18,NaN) [Remaining choices either used below or above]

5: 095KM (30,M,15,NaN). Control(s): 075AD (29,M,23,NaN) 092KB (31,M,15,NaN) [092KB used below]

6: 051RA (31,M,17,NaN). Control(s): 092KB (31,M,15,NaN) [No longer used since 092 has too many bad electrodes]

7: 090AV (32,M,15,NaN). Control(s): 028HB (33,M,18,NaN) 092KB (31,M,15,NaN) [092KB used above]

8: 054MP (35,M,17,NaN). Control(s): 043AK (34,M,18,NaN) 098GS (35,M,13,NaN) [098GS used below]

9: 015RK (37,M,15,NaN). Control(s): [Special case: 098GS (35,M,13,NaN) used even though age difference is -2 years because otherwise there is no control for 015RK]

10: 038DK (38,M,10,NaN). Control(s): 071GK (39,M,17,NaN)

11: 041AG (41,M,12,NaN). Control(s): 003S (42,M,23,NaN) 077LK (40,M,18,NaN) [Edu]

12: 053DR (43,M,12,NaN). Control(s): 003S (42,M,23,NaN) 063VK (43,M,17,NaN) [Age] [Special Case: 003S was used even though the age difference is -1 because 063VK has too many bad electrodes]

13: 045SP (47,M,12,NaN). Control(s): 078BM (48,M,24,NaN)

14: 025RK (49,M,9,NaN). Control(s): 070TB (49,M,24,NaN) 078BM (48,M,24,NaN) 080RP (50,M,16,NaN) [Age]

15: 035SS (50,M,12,NaN). Control(s): 048RU (51,M,NaN,NaN) 070TB (49,M,24,NaN) 080RP (50,M,16,NaN) [Age]

16: 010AK (54,M,12NaN). Control(s): 069MG (55,M,17,NaN) [No longer used since 069MG has too many bad electrodes]

17: 044PN (54,M,15,NaN). Control(s): ~~069MG (55,M,17,NaN)~~ [Special case: 101PB (52,M,15,NaN) is used even though age difference is -2 years because otherwise 069MG already used for 010AK above. 101PB is also better education matched with 044PN compared to 010AK]

18: 046ME (62,M,15,NaN). Control(s): 068RV (61,M,NaN,NaN) 085BM (61,M,17,NaN) [Edu]

19: 029KV (74,M,15,NaN). Control(s):

**Female subjects**

20: 031BK (24,F,15,28). Control(s): ~~081SN (23,F,17,18)~~ [Special case: 081SN was found to have too many bad electrodes, so we use 073SK instead even though the difference is two years]

21: 056PR (27,F,15,29). Control(s): 073SK (26,F,16,31) 086AB (28,F,22,38) [073SK used above]

22: 052PR (31,F,15,6). Control(s): 082MS (31,F,18,23) 087KR (31,F,18,9) [Too many bad trials in G2 for 087KR]

23: 059MS (34,F,22,26). Control(s): 064PK (35,F,18,26) 102AS (35,F,22,34) [Edu]

24: 013AR (35,F,15,NaN). Control(s): 064PK (35,F,18,26) 102AS (35,F,22,34) [102AS used above]

25: 074KS (36,F,17,27). Control(s): 064PK (35,F,18,26) 084AK (37,F,17,16) 102AS (35,F,22,34) [other two used above]

26: 006SR (41,F,17,13). Control(s): 062MT (42,F,18,25)

27: 094SR (45,F,15,0). Control(s): 049KK (46,F,15,0)

28: 036MS (47,F,10,0). Control(s): 049KK (46,F,15,0) – Not used because there is a single control (049KK) for two meditators but 094SR has better education matching

29: 017KG (49,F,12,22). Control(s): 072DK (49,F,17,27)

30: 042VA (50,F,10,0). Control(s): 072DK (49,F,17,27) 097SV (51,F,15,0) 099SP (51,F,17,0) [Edu]

31: 060GV (51,F,10,18). Control(s): 097SV (51,F,15,0) 099SP (51,F,17,0) [097SV used above]

32: 050UR (53,F,10,0). Control(s): 083SP (53,F,15,1)

33: 004P (54,F,17,0). Control(s): 083SP (53,F,15,1) – Not used because there is a single control (083SP) for two meditators but 05OUR has better age matching. Also, this subject was found to have too many bad electrodes.

34: 030SH (56,F,15,0). Control(s): 076BH (56,F,12,2)

35: 089AB (62,F,10,0). Control(s): 079SG (62,F,18,0)

36: 008RS (64,F,17,0). Control(s):

37: 024SK (64,F,15,0). Control(s):

38: 009UA (65,F,15,0). Control(s):