

Supplementary Material

Table S1. Comparison of Regional Mean Power in DRD4 <=4-Repeat/<=4-Repeat Carriers (Upper Row) and Long-Allele Carriers (>4-Repeat, Lower Row) for each EEG Channel

	theta	alpha	beta	beta1	beta2
F7	10.3 (10.2)	21.1 (22.1)	3.0 (3.5)	3.8 (5.7)	2.2 (2.3)
	11.2 (9.4)	24.5 (27.0)	2.7 (2.8)	3.4 (3.4)	2.1 (2.2)
F3	7.5 (7.5)	24.4 (29.4)	2.8 (4.1)	3.5 (7.1)	2.0 (2.2)
	8.6 (8.5)	27.3 (33.9)	3.1 (4.7)	3.7 (5.6)	2.4 (3.8)
Fz	9.1 (8.1)	30.7 (36.8)	2.8 (4.8)	3.7 (8.9)	1.9 (2.1)
	10.4 (9.3)	32.4 (38.4)	3.0 (4.1)	3.6 (4.7)	2.3 (3.5)
F4	8.9 (8.1)	27.4 (34.1)	3.1 (4.4)	4.0 (7.6)	2.3 (2.5)
	9.6 (9.3)	27.2 (32.3)	3.1 (3.9)	3.7 (4.3)	2.6 (3.5)
F8	10.1 (9.2)	21.1 (26.2)	2.9 (3.3)	3.7 (5.3)	2.1 (2.2)
	10.5 (7.2)	21.6 (24.2)	2.7 (2.6)	3.4 (3.1)	2.1 (2.1)
T3	5.8 (5.1)	12.4 (11.9)	2.7 (2.5)	3.1 (3.0)	2.2 (2.4)
	6.4 (7.1)	14.9 (14.7)	3.3 (4.7)	3.4 (4.2)	3.1 (5.3)
C3	6.0 (5.5)	18.0 (19.1)	2.3 (2.5)	2.9 (4.0)	1.7 (1.5)
	7.3 (6.6)	18.4 (19.3)	2.8 (3.2)	3.3 (3.6)	2.2 (2.8)
Cz	8.2 (7.3)	24.7 (30.1)	2.2 (3.2)	2.8 (5.7)	1.6 (1.7)
	9.8 (8.2)	23.8 (24.0)	2.3 (2.8)	2.7 (3.3)	1.9 (2.4)
C4	6.6 (5.9)	18.5 (21.3)	2.4 (2.4)	3.0 (3.6)	1.8 (1.7)
	7.4 (6.4)	17.9 (20.5)	3.1 (3.2)	3.8 (3.6)	2.4 (3.0)
T4	6.8 (6.3)	13.2 (14.7)	3.0 (3.0)	3.5 (3.4)	2.5 (2.9)
	7.7 (5.8)	13.2 (13.0)	4.7 (8.6)	4.9 (7.5)	4.6 (9.7)
T5	9.9 (14.1)	35.0 (58.4)	3.7 (5.4)	4.7 (8.9)	2.6 (3.1)
	9.1 (9.8)	26.9 (31.5)	3.7 (5.8)	4.3 (5.9)	3.1 (5.7)
P3	6.2 (10.2)	17.4 (21.0)	2.4 (2.7)	3.0 (4.0)	1.7 (2.0)
	5.7 (6.0)	20.3 (33.5)	2.4 (3.1)	3.0 (3.6)	1.8 (2.8)
Pz	6.9 (10.0)	16.8 (17.8)	1.8 (1.9)	2.3 (2.9)	1.3 (1.3)
	7.4 (7.4)	21.7 (29.8)	2.2 (3.6)	2.8 (4.6)	1.6 (2.6)
P4	6.9 (8.7)	21.6 (25.8)	2.8 (3.4)	3.6 (5.4)	1.9 (2.1)
	6.5 (5.3)	27.1 (30.6)	2.8 (3.2)	3.4 (3.5)	2.2 (2.9)
T6	13.1 (15.3)	62.9 (75.5)	5.4 (8.4)	7.1 (14.7)	3.7 (3.9)
	14.6 (15.0)	90.3 (110.2)	6.9 (10.3)	7.3 (7.9)	6.6 (12.9)
O1	16.8 (21.9)	104.1 (156.0) 7.8 (14.4)	10.3 (23.5)	5.2 (9.4)	
	13.7 (13.0)	76.2 (96.8)	5.7 (6.7)	6.7 (7.6)	4.6 (6.0)
Oz	16.6 (18.2)	117.7 (151.4) 8.2 (14.5)	11.2 (25.7)	5.2 (7.5)	
	14.5 (12.1)	99.6 (96.0)	5.8 (4.0)	7.2 (4.3)	4.3 (4.1)
O2	14.0 (15.1)	60.0 (74.0)	6.7 (10.0)	9.1 (16.9)	4.3 (5.2)
	12.8 (7.7)	56.6 (61.8)	5.7 (4.8)	7.4 (7.1)	4.0 (2.9)

The mean power (x100) was expressed as "mean (STD)".
None of the above power differences reached $P < 0.01$

Table S2. Comparison of the Values of Mutual Information in DRD4 ≤ 4 -Repeat/ ≤ 4 -Repeat Carriers (Upper Row) and Long-Allele Carriers (> 4 -Repeat, Lower Row) for each EEG Connection-Frequency Pair

	theta	alpha	beta	beta1	beta2
F7-F8	22.1 (4.0)	30.2 (12.4)	14.1 (6.5)	15.4 (7.6)	10.6 (2.2)
	22.2 (4.2)	29.6 (14.5)	13.3 (5.5)	14.7 (7.5)	9.6 (1.0)
F3-F4	23.8 (6.3)	45.9 (20.1)	18.3 (8.8)	21.5 (10.8)	11.7 (3.2)
	24.1 (5.6)	45.0 (23.1)	18.4 (9.5)	21.9 (12.6)	11.0 (1.9)
C3-C4	21.4 (4.2)	26.2 (11.4)	13.2 (4.8)*	13.7 (5.1)	10.4 (2.2)
	21.6 (4.2)	20.8 (5.7)	11.8 (0.9)	12.9 (1.1)	9.9 (1.1)
T3-T4	21.5 (3.6)	18.9 (4.8)	12.7 (3.3)	12.9 (3.2)	11.2 (2.5)
	21.6 (3.4)	19.9 (4.9)	12.1 (1.8)	12.7 (1.8)	10.3 (1.5)
T5-T6	21.9 (4.6)	23.3 (8.0)	13.5 (4.3)	13.7 (4.2)	11.0 (2.1)
	21.5 (4.0)	22.2 (8.6)	11.9 (2.1)	12.1 (1.8)	10.6 (0.8)
P3-P4	21.1 (3.9)	21.2 (6.3)	13.6 (3.7)	13.6 (3.5)	11.0 (2.0)
	19.8 (3.3)	20.8 (7.6)	13.2 (2.2)	13.3 (2.2)	10.8 (0.7)
O1-O2	29.6 (9.6)	36.7 (16.1)	22.7 (11.4)	23.6 (11.6)	16.2 (6.3)
	26.8 (6.0)	32.7 (13.5)	20.5 (6.0)	21.4 (6.5)	14.6 (4.1)
F7-T3	33.9 (10.6)	41.2 (18.5)	20.7 (10.1)	23.0 (11.0)	15.6 (6.8)
	35.8 (10.5)	43.4 (19.5)	18.3 (6.6)	21.1 (7.3)	13.8 (5.7)
F7-T5	21.4 (3.6)	21.3 (7.0)	12.4 (4.1)	12.8 (4.4)	10.3 (1.9)
	22.0 (2.1)	21.5 (6.9)	11.2 (1.5)	11.8 (1.5)	9.8 (1.5)
F3-T3	24.4 (5.4)	29.6 (12.7)	15.2 (5.7)	16.5 (6.8)	11.6 (2.6)
	25.7 (4.6)	31.4 (17.0)	14.9 (4.8)	16.3 (5.9)	11.2 (1.7)
F3-T5	21.6 (4.1)	24.8 (9.4)	13.2 (4.4)	13.5 (4.8)	10.4 (1.9)
	21.4 (2.5)	21.9 (9.2)	11.6 (2.3)	12.3 (2.0)	9.8 (1.5)
F4-T4	22.8 (4.9)	25.5 (10.6)	14.1 (5.4)	15.0 (5.6)	11.2 (2.9)*
	21.8 (2.9)	22.4 (9.4)	12.5 (1.9)	13.4 (2.5)	10.0 (0.8)
F4-T6	22.5 (4.6)	28.6 (11.4)	14.6 (5.1)	15.4 (5.6)	10.9 (2.1)
	22.6 (5.4)	30.5 (14.7)	14.6 (4.4)	15.9 (5.3)	10.8 (1.3)
F8-T4	33.1 (10.8)	37.4 (16.2)	20.2 (9.5)	21.9 (9.8)	15.9 (6.6)
	30.0 (9.9)	30.3 (16.1)	16.1 (4.8)	17.7 (5.1)	13.0 (3.5)
F8-T6	20.9 (3.3)	22.1 (7.7)	12.6 (4.0)	13.1 (4.3)	10.2 (1.8)
	20.3 (3.1)	22.8 (10.7)	12.0 (3.7)	12.6 (3.8)	9.8 (1.1)
F7-C3	20.6 (3.5)	26.7 (11.1)	14.3 (6.1)	15.3 (7.1)	10.9 (2.4)
	21.1 (3.7)	27.6 (12.5)	13.5 (3.0)	14.6 (3.8)	10.6 (1.6)
F7-P3	20.8 (3.9)	21.5 (6.5)	12.3 (3.0)	12.8 (3.2)	10.2 (1.8)
	19.4 (2.4)	20.2 (6.5)	11.7 (2.4)	12.2 (3.2)	9.9 (0.6)
F3-C3	27.1 (7.7)	43.6 (19.1)	22.4 (10.1)	24.1 (11.4)	16.2 (5.4)
	26.8 (8.5)	41.6 (21.5)	21.1 (7.2)	22.4 (7.9)	16.1 (4.3)
F3-P3	21.0 (4.1)	22.6 (7.3)	13.3 (3.9)	13.5 (4.0)	10.6 (2.0)
	20.3 (2.6)	21.4 (7.4)	13.0 (3.2)	12.9 (3.5)	10.2 (1.3)
F4-C4	27.3 (9.4)	41.6 (19.0)	21.8 (9.5)*	23.2 (10.5)*	16.0 (5.8)
	26.6 (9.4)	30.2 (12.8)	16.3 (4.0)	17.9 (4.0)	13.1 (3.2)

(Table S2) Contd.....

	theta	alpha	beta	beta1	beta2
F4-P4	21.3 (3.6)	24.2 (9.1)	14.1 (5.1)	14.6 (5.5)	10.8 (2.1)
	20.8 (2.7)	28.9 (15.1)	15.5 (6.0)	16.4 (7.5)	11.0 (1.7)
F8-C4	21.1 (4.0)	25.5 (10.9)	14.2 (6.4)	15.1 (6.8)	10.9 (2.7)
	20.6 (2.1)	21.5 (7.0)	12.0 (2.4)	13.0 (3.0)	10.2 (1.0)
F8-P4	21.2 (3.4)	23.0 (8.4)	13.1 (4.5)	13.6 (5.0)	10.4 (1.8)
	21.1 (4.1)	25.3 (13.6)	13.7 (5.4)	14.6 (6.6)	10.3 (1.3)
F3-F7	29.2 (8.2)	48.7 (19.4)	25.3 (11.6)	28.3 (13.5)	17.8 (6.3)
	30.1 (6.4)	49.0 (20.5)	24.7 (9.4)	27.9 (12.4)	16.8 (5.0)
F4-F8	27.1 (8.1)	42.9 (19.2)	23.1 (10.6)	25.8 (12.1)	16.4 (5.7)
	25.5 (5.4)	41.6 (20.8)	22.2 (10.5)	25.8 (12.6)	14.8 (3.2)
T3-C3	21.8 (4.3)	27.1 (10.7)	15.9 (6.0)	17.3 (7.1)	12.3 (3.0)
	22.2 (4.4)	28.4 (13.2)	14.4 (2.5)	16.4 (3.6)	11.1 (1.9)
T3-P3	20.7 (3.3)	20.5 (5.5)	13.1 (3.5)	13.4 (3.4)	11.0 (2.5)
	20.0 (2.6)	20.9 (6.6)	12.7 (2.0)	13.4 (2.5)	10.9 (1.1)
T5-C3	21.0 (3.9)	23.0 (8.6)	12.8 (4.1)	13.0 (4.3)	10.5 (1.8)
	21.6 (4.1)	20.9 (7.7)	11.7 (1.3)	12.5 (2.1)	9.9 (1.3)
T5-P3	23.4 (5.2)	24.9 (8.2)	17.8 (6.1)	17.7 (6.0)	14.6 (4.3)
	22.0 (2.9)	26.4 (11.9)	17.0 (4.3)	18.0 (5.0)	14.1 (2.5)
T4-C4	22.1 (4.2)	24.7 (9.6)	15.3 (5.9)	16.1 (6.0)	12.2 (3.4)
	21.8 (1.8)	21.8 (7.0)	13.5 (2.2)	15.1 (3.2)	11.0 (1.4)
T4-P4	21.0 (3.5)	19.9 (5.7)	13.1 (3.9)	13.3 (3.7)	11.2 (2.6)
	22.1 (4.1)	20.4 (6.7)	12.8 (2.9)	13.0 (2.6)	11.0 (1.9)
T6-C4	22.0 (4.5)	25.8 (9.9)	13.5 (4.5)	13.9 (4.7)	10.6 (2.0)
	21.9 (4.1)	22.7 (7.5)	11.6 (1.7)	12.8 (2.3)	10.2 (1.3)
T6-P4	24.9 (5.5)	28.2 (10.9)	19.4 (7.6)	19.6 (7.8)	15.3 (4.6)
	24.1 (4.2)	32.6 (15.6)	18.6 (7.1)	19.8 (7.8)	14.3 (2.8)
T3-T5	26.9 (6.4)	24.4 (7.5)	15.8 (5.7)	16.3 (5.6)	13.3 (4.3)
	28.6 (9.6)	27.9 (10.7)	15.2 (4.3)	16.6 (5.4)	12.7 (2.8)
T4-T6	23.6 (5.0)	21.7 (6.1)	13.8 (4.4)	14.0 (4.3)	12.0 (3.0)
	23.2 (6.3)	21.2 (7.7)	12.2 (3.1)	12.6 (2.6)	11.2 (2.9)
P3-C3	22.5 (4.5)	23.2 (7.4)	15.4 (4.8)	15.2 (4.7)	12.6 (2.9)
	21.3 (3.9)	24.1 (9.5)	15.1 (3.0)	15.9 (4.9)	11.9 (1.8)
P4-C4	22.9 (4.3)	22.3 (7.7)	14.8 (5.1)	14.7 (5.1)	11.9 (2.9)
	23.0 (3.7)	21.6 (7.1)	14.2 (2.6)	14.4 (2.4)	12.1 (1.6)
Fz-Pz	21.0 (3.6)	23.5 (8.3)	13.6 (4.2)	13.8 (4.7)	10.6 (1.9)
	20.0 (3.1)	23.9 (9.9)	12.9 (3.7)	13.4 (3.7)	10.6 (1.3)

The value of mutual information(x100) was expressed as "mean (STD)".

The between group differences with $P < 0.01$ were marked in bold (two-sided)

The threshold of P value after Bonferroni correction is 0.0013; * $P < 0.0013$.