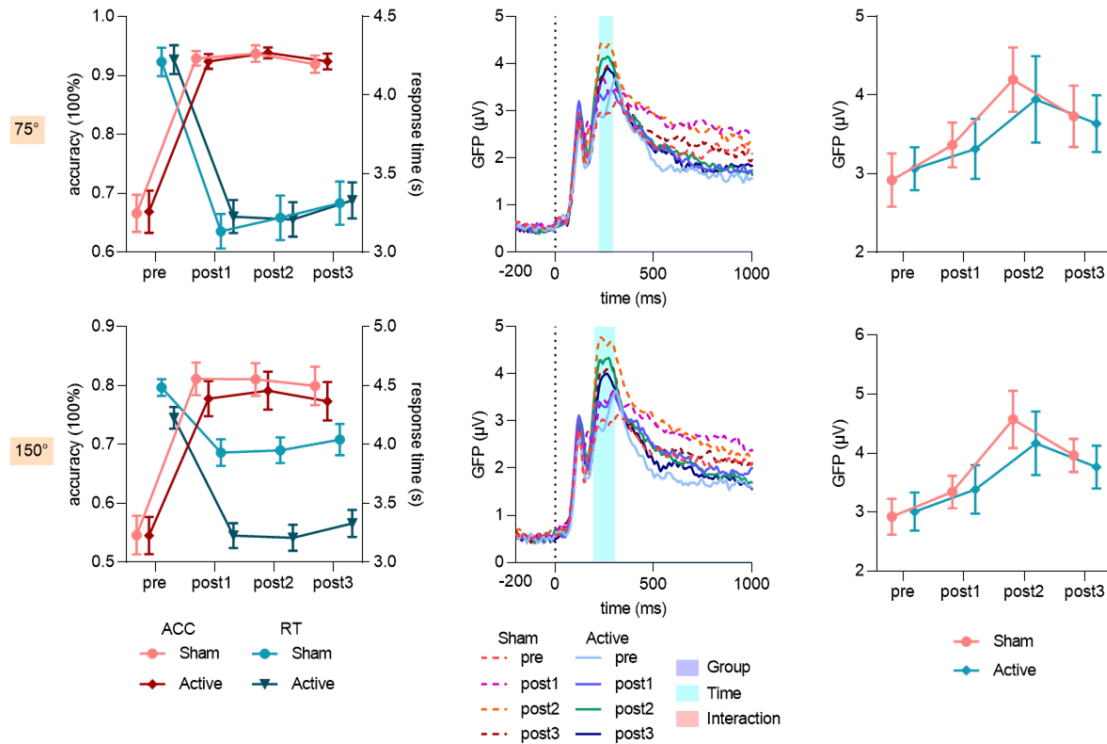
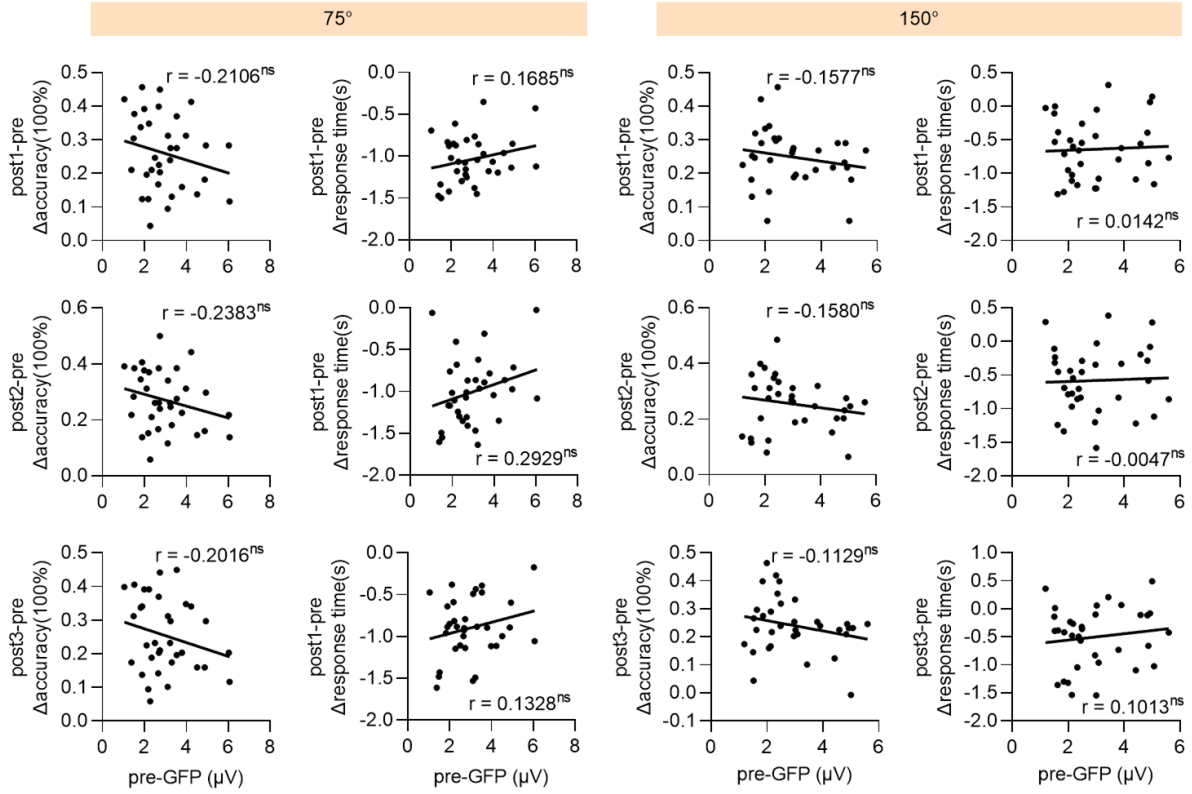


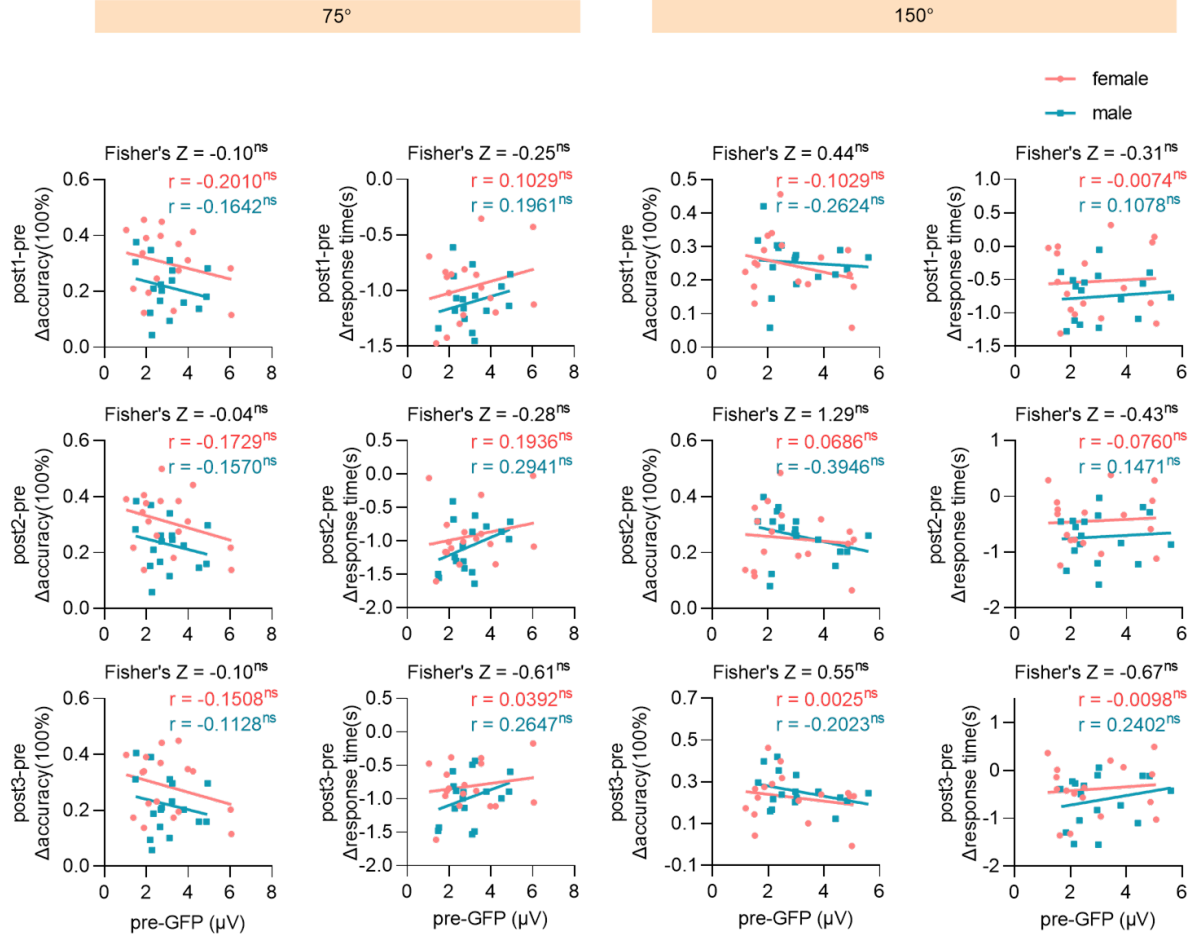
Supplementary Materials



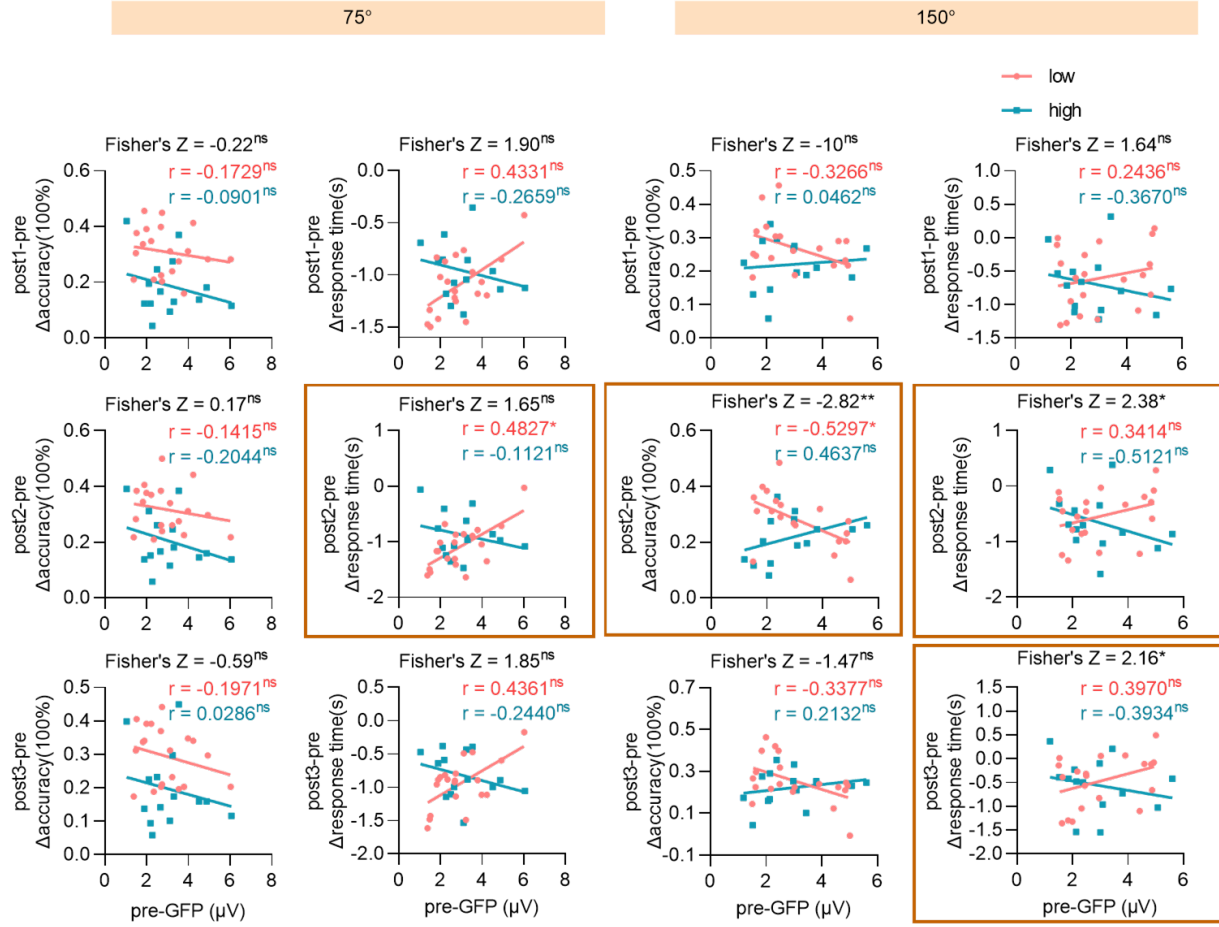
APPENDIX Figure 1. Behavioral performance and the GFP for participants in the Active and Sham groups. The first row represents the 75° task and the second row represents the 150° task. The first column shows behavioral accuracy (obeying the left axis) and response time (obeying the right axis). The second column shows the GFP over time, where the results of the bootstrap-based two-way mixed-design Group (Active vs. Sham) by Time (pre-test vs. post1-test vs. post2-test vs. post3-test) ANOVAs are shaded in the figure, with purple shaded portions indicating the significant effect of Group, green shaded portions indicating the significant effect of Time, and pink shaded portions indicating the point in time at which the interaction effect was significant. The third column is the P300 GFP of 200~300 ms.



APPENDIX Figure 2. The correlation between GFP on the pre-test and the changes in behavior performance. The first two columns are for the 75° task and the second two columns are for the 150° task. ns: $P > 0.05$.



APPENDIX Figure 3. The correlation between GFP on the pre-test and the changes in behavior performance for the females and males. The Fisher' Z test results between groups are presented above the subgraph. The first two columns are for the 75° task and the second two columns are for the 150° task. ns: $P > 0.05$.



APPENDIX Figure 4. The correlation between pre-GFP and the changes in behavior performance for the Low-performance and High-performance groups. The Fisher's Z test results between groups are presented above the subgraph. The first two columns are for the 75° task and the second two columns are for the 150° task. ns: $P > 0.05$, *: $P < 0.05$.

APPENDIX Table 1. The posterior comparative statistics of behavioral performance and GFP in all participants. *P*-values have been corrected by FDR and the statistically significant results have been bolded.

		ACC			RT			GFP		
		<i>T</i> (16)	<i>P_{adjust}</i>	<i>Cohen'd</i>	<i>T</i> (16)	<i>P_{adjust}</i>	<i>Cohen'd</i>	<i>T</i> (16)	<i>P_{adjust}</i>	<i>Cohen'd</i>
75	post1	-13.53	<0.001	4.639	21.34	<0.001	7.320	-1.90	0.007	0.651
	pre post2	-14.93	<0.001	5.122	14.44	<0.001	4.952	-4.56	<0.001	1.564
	post3	-13.59	<0.001	4.662	14.57	<0.001	4.999	-3.25	<0.001	1.114
	post1 post2	-1.98	0.003	0.678	-0.92	0.175	0.315	-3.06	<0.001	1.050
	post3	0.73	0.270	0.250	-4.17	<0.001	1.429	-1.53	0.021	0.526
	post2 post3	2.49	0.001	0.856	-2.87	<0.001	0.984	1.83	0.013	0.626
150	post1 post2	-17.26	<0.001	5.919	8.20	<0.001	2.813	-3.06	<0.001	1.051
	pre post2	-15.40	<0.001	5.282	7.01	<0.001	2.404	-5.65	<0.001	1.938
	post3	-14.00	<0.001	4.800	5.40	<0.001	1.853	-4.70	<0.001	1.612
	post1 post2	-0.72	0.248	0.247	-2.17	0.001	0.745	-4.03	<0.001	1.384
	post3	0.82	0.220	0.283	-3.24	<0.001	1.113	-2.60	<0.001	0.892
	post2 post3	1.60	0.026	0.547	-2.10	0.001	0.721	2.11	0.002	0.724

APPENDIX Table 2. In the 75° and 150° tasks, the posterior comparative statistics of behavioral performance and GFP between the Female group and the Male group. *P*-values have been corrected by FDR and the statistically significant results have been bolded.

		ACC			RT			GFP		
		<i>T</i> (32)	<i>P_{adjust}</i>	<i>Cohen'd</i>	<i>T</i> (32)	<i>P_{adjust}</i>	<i>Cohen'd</i>	<i>T</i> (32)	<i>P_{adjust}</i>	<i>Cohen'd</i>
75	pre	-2.15	0.152	0.738	0.52	0.613	0.177	0.03	0.986	0.011
	post1	-0.63	0.543	0.217	1.37	0.304	0.469	0.15	0.986	0.052
	post2	-0.97	0.460	0.332	1.25	0.304	0.429	0.32	0.986	0.111
	post3	-1.61	0.230	0.551	1.35	0.304	0.463	1.35	0.732	0.464
150	pre	-0.97	0.335	0.332	-0.73	0.486	0.250	0.49	0.975	0.167
	post1	-1.28	0.290	0.439	0.83	0.486	0.285	0.04	0.975	0.012
	post2	-1.27	0.290	0.435	1.11	0.486	0.381	-0.14	0.975	0.048
	post3	-1.60	0.290	0.550	0.71	0.486	0.244	1.80	0.351	0.616

APPENDIX Table 3. In the 75° and 150° tasks, the posterior comparative statistics of behavioral performance and GFP between 4 experiments in the Female group and the Male group. *P*-values have been corrected by FDR and the statistically significant results have been bolded.

			ACC			RT			GFP		
			<i>T</i> (16)	<i>P_{adjust}</i>	<i>Cohen'd</i>	<i>T</i> (16)	<i>P_{adjust}</i>	<i>Cohen'd</i>	<i>T</i> (16)	<i>P_{adjust}</i>	<i>Cohen'd</i>
75	Female	post1	-10.73	<0.001	3.679	12.86	<0.001	4.410	-1.10	0.165	0.378
		pre post2	-11.98	<0.001	4.110	8.85	<0.001	3.035	-2.74	<0.001	0.941
		post3	-10.79	<0.001	3.702	9.37	<0.001	3.215	-1.79	0.010	0.613
	Male	post2	-0.89	0.203	0.306	-0.73	0.332	0.249	-2.03	0.010	0.698
		post1 post3	1.21	0.098	0.416	-3.06	<0.001	1.050	-0.11	0.832	0.037
		post2 post3	2.21	0.004	0.759	-1.92	0.004	0.658	2.00	0.010	0.688
	Female	post1	-9.71	<0.001	3.332	18.74	<0.001	6.429	-1.61	0.023	0.551
		pre post2	-10.52	<0.001	3.608	11.91	<0.001	4.084	-3.68	<0.001	1.263
		post3	-9.02	<0.001	3.093	11.55	<0.001	3.962	-2.82	<0.001	0.968
	Male	post2	-2.36	0.002	0.808	-0.55	0.407	0.187	-2.23	0.005	0.765
		post1 post3	-0.87	0.198	0.298	-2.75	<0.001	0.944	-1.92	0.007	0.658
		post2 post3	1.20	0.098	0.413	-2.14	0.004	0.735	0.52	0.482	0.179
150	Female	post1	-11.07	<0.001	3.795	4.22	<0.001	1.447	-2.58	0.001	0.884
		pre post2	-9.46	<0.001	3.245	3.63	<0.001	1.245	-4.31	<0.001	1.479
		post3	-8.03	<0.001	2.756	2.90	<0.001	0.994	-2.76	0.001	0.946
	Male	post2	-0.42	0.552	0.143	-2.44	0.001	0.836	-2.91	<0.001	0.999
		post1 post3	1.35	0.040	0.464	-2.16	0.002	0.740	-0.42	0.541	0.145
		post2 post3	1.66	0.032	0.569	-0.94	0.142	0.322	3.04	<0.001	1.044
	Female	post1	-13.21	<0.001	4.532	8.47	<0.001	2.905	-1.69	0.012	0.581
		pre post2	-12.55	<0.001	4.304	6.83	<0.001	2.343	-3.59	<0.001	1.232
		post3	-12.74	<0.001	4.371	4.86	<0.001	1.667	-3.92	<0.001	1.345
	Male	post2	-0.62	0.444	0.212	-0.73	0.265	0.252	-2.71	<0.001	0.928
		post1 post3	-0.12	0.837	0.040	-2.38	0.001	0.816	-3.63	<0.001	1.244
		post2 post3	0.46	0.552	0.159	-2.02	0.001	0.693	0.18	0.752	0.063

APPENDIX Table 4. In the 75° and 150° tasks, the posterior comparative statistics of behavioral performance and GFP between the Low-performance group and the High-performance group. *P*-values have been corrected by FDR and the statistically significant results have been bolded.

		ACC			RT			GFP		
		<i>T</i> (32)	<i>P_{adjust}</i>	<i>Cohen's d</i>	<i>T</i> (32)	<i>P_{adjust}</i>	<i>Cohen's d</i>	<i>T</i> (32)	<i>P_{adjust}</i>	<i>Cohen's d</i>
75	pre	-3.61	0.004	1.238	9.46	<0.001	3.246	-0.40	0.913	0.138
	post1	-1.50	0.142	0.513	3.95	<0.001	1.354	0.79	0.875	0.271
	post2	-2.17	0.042	0.744	2.53	0.016	0.868	-0.07	0.952	0.023
	post3	-2.67	0.018	0.915	3.22	0.005	1.104	0.93	0.875	0.318
150	pre	-4.08	0.002	1.399	4.93	<0.001	1.691	0.34	0.801	0.117
	post1	-2.74	0.016	0.938	3.35	0.005	1.148	0.95	0.801	0.326
	post2	-2.16	0.041	0.742	3.17	0.006	1.089	-0.27	0.801	0.091
	post3	-2.86	0.015	0.982	2.71	0.012	0.928	0.66	0.801	0.226

APPENDIX Table 5. In the 75° and 150° tasks, the posterior comparative statistics of behavioral performance and GFP between 4 experiments in the Low-performance group. *P*-values have been corrected by FDR and the statistically significant results have been bolded.

		ACC			RT			GFP		
		<i>T</i> (19)	<i>P_{adjust}</i>	<i>Cohen's d</i>	<i>T</i> (19)	<i>P_{adjust}</i>	<i>Cohen's d</i>	<i>T</i> (19)	<i>P_{adjust}</i>	<i>Cohen's d</i>
75	post1	-16.02	<0.001	5.493	17.39	<0.001	5.966	-2.23	0.002	0.766
	pre post2	-17.21	<0.001	5.902	12.53	<0.001	4.297	-3.68	<0.001	1.261
	post3	-15.37	<0.001	5.271	11.56	<0.001	3.964	-3.04	<0.001	1.042
	post1 post2	-1.13	0.083	0.388	0.01	0.999	0.002	-1.64	0.026	0.564
	post3	1.48	0.058	0.506	-3.29	<0.001	1.129	-1.15	0.113	0.394
	post2 post3	2.68	<0.001	0.920	-3.49	<0.001	1.196	0.60	0.422	0.205
150	post1	-14.20	<0.001	4.870	5.70	<0.001	1.956	-3.68	<0.001	1.263
	pre post2	-12.78	<0.001	4.385	5.25	<0.001	1.800	-3.94	<0.001	1.352
	post3	-10.42	<0.001	3.573	3.89	<0.001	1.333	-3.77	<0.001	1.295
	post1 post2	-1.09	0.130	0.373	-1.80	0.012	0.618	-2.52	<0.001	0.864
	post3	1.16	0.082	0.397	-2.54	0.001	0.870	-1.57	0.015	0.540
	post2 post3	2.37	0.002	0.812	-1.56	0.016	0.536	0.95	0.173	0.327

APPENDIX Table 6. In the 75° and 150° tasks, the posterior comparative statistics of behavioral performance and GFP between four experiments in the High-performance group. *P*-values have been corrected by FDR and the statistically significant results have been bolded.

		ACC			RT			GFP		
		<i>T</i> (13)	<i>P_{adjust}</i>	<i>Cohen'd</i>	<i>T</i> (13)	<i>P_{adjust}</i>	<i>Cohen'd</i>	<i>T</i> (13)	<i>P_{adjust}</i>	<i>Cohen'd</i>
75	post1	-6.58	<0.001	2.256	12.89	<0.001	4.422	-0.09	0.871	0.032
	pre post2	-7.55	<0.001	2.590	8.07	<0.001	2.769	-2.62	<0.001	0.899
	post3	-6.38	<0.001	2.187	8.90	<0.001	3.054	-1.37	0.057	0.468
	post1 post2	-1.65	0.021	0.565	-1.37	0.069	0.470	-3.04	0.001	1.042
	post3	-1.05	0.144	0.359	-2.47	<0.001	0.848	-1.07	0.126	0.367
	post2 post3	0.73	0.292	0.249	-0.80	0.310	0.276	2.18	0.007	0.746
	post1	-10.73	<0.001	3.679	5.89	<0.001	2.022	-0.89	0.205	0.305
	pre post2	-9.89	<0.001	3.393	4.55	<0.001	1.561	-4.00	<0.001	1.373
	post3	-9.62	<0.001	3.300	3.66	<0.001	1.254	-2.71	0.001	0.930
150	post2	0.23	0.776	0.081	-1.19	0.060	0.408	-3.23	<0.001	1.108
	post1 post3	-0.10	0.871	0.035	-1.96	0.008	0.671	-2.27	0.002	0.778
	post2 post3	-0.36	0.695	0.122	-1.36	0.029	0.467	2.17	0.002	0.744