Supplementary file - Article: Non-contact neuromodulation of the human autonomic nervous system function via different odors: Sex, menstrual cycle, and odor dose- andduration-specific effects

Appendix

Section 1

Table 2. Results from the repeated-measures ANOVAs looking at the visual analogue scale (VAS) scores for 'Intensity' and 'Hedonic value' ratings in all four concentrations (low, moderate-mod and high, sham stimulation-CTR) of each odour of both male and female (follicular and luteal menstrual stages) cohorts. Posthoc Bonferroni pairwise comparisons were performed for each repeated-measures ANOVAs to observe differences across odour of different concentrations (and sham). Posthoc comparisons are coded 'i' - CTR-low, 'ii' - CTR-mod, 'iii' - CTR-high, 'iv' - low-mod, 'v' - low-high, 'vi' - mod-high. The ratings for 30 s and 60 s were also divided into two sections. Partial Eta squared represented effect size, which is provided in the ANOVA columns inside brackets. St.d. = standard deviation, Bonf. = Bonferroni. Degrees of freedom - 3, 60.

Male										
	Intensity 30s					**Intensity 60s**				
	Mean	**St.d.**	**F-statistic**	**p-value**	**Posthoc**	**Mean**	**St.d.**	**F-statistic**	**p-value**	**Posthoc**
Mushroom										
CTR	9.42	10.39	38.588	0.000 (0.659)	i- 0.02, ii & iii- <0.001, iv-0.113, v-0.003, vi-0.038.	9.52	12.19	26.591	0.000 (0.571)	i- 0.006, ii & iii- <0.001, iv-0.245, v-0.002, vi-0.157.
Low	35.90	24.47				29.52	20.37			
Mod	46.57	19.62				38.42	18.54			
High	60.19	17.92				50.09	24			
Lavender										
CTR	6.66	7.52	53.235	0.000 (0.727)	i, ii & iii- <0.001, iv-0.005, v-0.002, vi-1.	7.14	8.29	39.743	0.000 (0.665)	i, ii & iii- <0.001, iv-0.01, v-0.004, vi-1.
Low	34.09	19.28				27.42	16.83			
Mod	53.28	18.52				45.61	17.54			
High	53.28	18.13				46.28	15.88			
Jasmine										
CTR	11.42	21.34	20.707	0.000 (0.509)	i & iii- <0.001, ii-0.003, iv-1, v-0.024, vi-0.273.	10.57	15.42	15.222	0.000 (0.432)	i- 0.001, ii-0.003, iii- <0.001, iv-1, v-0.33, vi-0.439.
Low	38.42	16.53				34.57	20.37			
Mod	43.14	20.84				35.85	21.07			

High	54.19	18.90				45.90	19.41			
Rose										
CTR	8.80	10.24	53.195	0.000 (0.727)	i, ii & iii- <0.001, iv-0.024, v-<0.001, vi-0.203.	4.85	5.55	48.761	0.000 (0.709)	i, ii & iii- <0.001, iv-0.066, v-0.002, vi-1.
Low	37.09	16.87				32.57	18.87			
Mod	51.52	18.04				46	18.75			
High	61.14	22.40				50.52	16.77			
	Hedonic value 30s					**Hedonic value 60s**				
	Mean	**St.d.**	**F-statistic**	**p-value**	**Posthoc**	**Mean**	**St.d.**	**F-statistic**	**p-value**	**Posthoc**
Mushroom										
CTR	6.04	19.08	6.86	0.000 (0.255)	iii-0.046, v-<0.001, vi-0.003.	1.19	30.30	4.239	0.024 (0.175)	v-0.002, vi-0.014.
Low	8.95	36.05				5.76	33.19			
Mod	1.76	34.96				-1.66	28.43			
High	-17.71	34.63				-16.71	34.01			
Lavender										
CTR	3.04	7.87	11.493	0.000 (0.365)	i & ii-<0.001, iii-0.003	-0.429	13.27	13.97	0.000 (0.411)	i-0.004, ii-<0.001, iii-0.001, iv-0.039.
Low	31.09	23.06				20.857	18.15			
Mod	34.09	26.04				33.19	23.81			
High	27.95	25.05				24.95	20.81			
Jasmine										
CTR	6.95	18.39	5.739	0.002 (0.223)	i-0.006, iii-0.014.	7.19	18.10	5.893	0.001 (0.228)	i-0.002, iii-0.024.
Low	25.61	22.94				26.95	22.27			
Mod	24.09	16.51				22.28	18.43			
High	28.14	31.68				25.90	30.12			
Rose										
CTR	2.71	16.35	5.14	0.003 (0.204)	ii-0.028.	3.42	19.10	4.03	0.011 (0.168)	
Low	24.42	33.79				22.42	35.85			
Mod	27.81	36.50				24.57	34.72			
High	26.95	40.58				26.38	41.24			
Female-Follicular										
	Intensity 30s					**Intensity 60s**				
	Mean	**St.d.**	**F-statistic**	**p-value**	**Posthoc**	**Mean**	**St.d.**	**F-statistic**	**p-value**	**Posthoc**
Mushroom										
CTR	25.04	28.39	17.213	0.000 (0.463)	i- 0.041, ii & iii- <0.001, iv-0.123, v-0.011, vi-1.	19.66	24.50	12.551	0.000 (0.386)	i- 0.063; ii & iii- <0.001, iv-0.265, v-0.079, vi-1.
Low	42.28	24.48				35.57	25.90			
Mod	55.42	24.48				47.14	27.87			
High	61.95	28.82				53.04	27.74			
Lavender										

CTR	11.95	15.84	29.609	0.000 (0.597)	i, ii & iii- <0.001, iv-0.002, v-0.146, vi-1.	10.04	15.34	19.443	0.000 (0.493)	i-0.001, ii & iii- <0.001, iv-0.012, v-0.068, vi-1.
Low	37.80	17.81				27.19	20.37			
Mod	52.61	19.12				41.71	22.62			
High	53	28.05				43.71	26.64			
Jasmine										
CTR	18.09	21.70	36.896	0.000 (0.648)	i, ii & iii- <0.001, iv-0.232, v-0.026, vi-1.	15.85	19.61	38.085	0.000 (0.656)	i, ii & iii-<0.001, iv-1, v-0.034, vi-1.
Low	49.23	32.81				46.33	27.65			
Mod	59.28	28.49				50.90	28.83			
High	62.80	29.24				55.57	25.68			
Rose										
CTR	15.95	17.91	37.519	0.000 (0.652)	i, ii & iii- <0.001, iv-0.449, v-0.113, vi-1.	14.23	18.77	30.424	0.000 (0.603)	i-0.001, ii & iii- <0.001, iv-0.03, v-0.082, vi-1.
Low	52.14	29.42				42.52	29.52			
Mod	61.38	24.19				54.95	26.36			
High	65.61	28.73				56.04	27.46			
	Hedonic value 30s					**Hedonic value 60s**				
	Mean	**St.d.**	**F-statistic**	**p-value**	**Posthoc**	**Mean**	**St.d.**	**F-statistic**	**p-value**	**Posthoc**
Mushroom										
CTR	19.80	25.02	0.903	0.445		15.04	23.14	1.148	0.337	
Low	15.71	31.77				9.09	26.78			
Mod	10.57	45				15.85	34.73			
High	6.71	38.54				4.80	32.05			
Lavender										
CTR	11.90	27.59	4.010	0.027 (0.167)		9.90	24.06	4.297	0.018 (0.177)	
Low	26.19	27.19				19.95	21.87			
Mod	32.76	35.07				28.90	31.45			
High	29.23	34.48				32.76	32.76			
Jasmine										
CTR	17.47	30.77	1.143	0.323		14.09	29.92	0.743	0.477	
Low	25.09	37.52				23.47	31.33			
Mod	25.47	48.61				22.80	46.6			
High	12.57	51.22				14.19	50			
Rose										
CTR	15.23	24.47	2.559	0.086		12.52	21.43	1.780	0.161	
Low	37.76	45.01				31.47	41.49			
Mod	27.33	40.44				21.28	41.47			
High	24.47	46.35				20.42	40.89			
Female-Luteal										

	Intensity 30s					Intensity 60s				
	Mean	**St.d.**	**F-statistic**	**p-value**	**Posthoc**	**Mean**	**St.d.**	**F-statistic**	**p-value**	**Posthoc**
Mushroom										
CTR	19.38	20.94	26.160	0.000 (0.567)	i- 0.002; ii & iii- <0.001; iv-0.691, v-0.005, vi-0.109.	15.09	18.43	20.275	0.000 (0.503)	i- 0.001; ii & iii- <0.001; iv-1, v-0.019, vi-1.
Low	45	25.91				41.09	26.94			
Mod	53.66	23.60				45.80	26.71			
High	68.14	29.50				58.85	25.68			
Lavender										
CTR	18.90	23.59	25.104	0.000 (0.557)	i, ii & iii- <0.001; iv-1, v-0.207, vi-1.	17.10	23.33	19.024	0.000 (0.500)	i-0.004, ii-0.001, iii-<0.001, iv-1, v-0.008, vi-0.460.
Low	48.66	29.14				39.65	32.02			
Mod	51.61	23.28				44.7	26.35			
High	57.09	26.30				54.05	29.99			
Jasmine										
CTR	10.71	17.81	57.092	0.000 (0.741)	i, ii & iii- <0.001, iv-0.025, v-0.002, vi-0.039.	12.42	21.30	28.785	0.000 (0.590)	i, ii-& iii-<0.001; iv-0.042, v-0.339, vi-1.
Low	43.57	24.12				40.23	21.11			
Mod	57.09	22.64				52.42	24.90			
High	65.71	21.37				51.19	22.72			
Rose										
CTR	14.14	15.43	51.764	0.000 (0.721)	i, ii & iii- <0.001; iv-0.037, v-0.045, vi-1.	11.52	16.42	41.110	0.000 (0.673)	i, ii & iii- <0.001; iv-1, v-0.56, vi-1.
Low	52.85	22.09				50.47	23.39			
Mod	64.09	23.60				54.80	21.44			
High	69.23	25.85				59.09	22.48			
	Hedonic value 30s					**Hedonic value 60s**				
	Mean	**St.d.**	**F-statistic**	**p-value**	**Posthoc**	**Mean**	**St.d.**	**F-statistic**	**p-value**	**Posthoc**
Mushroom										
CTR	21.66	29.12	1.682	0.201		14.52	29.55	1.300	0.284	
Low	16.23	37.2				13.33	36.26			
Mod	23.80	34.12				18.71	33.81			
High	6.57	49.39				5.33	41.87			
Lavender										
CTR	15.80	33.48	1.234	0.305		13.23	37.60	0.605	0.615	
Low	30	44.35				17	43.13			
Mod	28.61	36.28				20.80	36.12			
High	29.04	42.29				21.95	41.36			
Jasmine										
CTR	11.09	22.69	3.637	0.038 (0.154)	vi-0.021.	12.47	24.81	3.149	0.052	
Low	27.85	40.86				23.71	40.59			

Mod	32.33	46.81				28.47	46			
High	13.76	46.25				7.66	37.15			
Rose										
CTR	10.23	31.60	2.433	0.109		8.95	27.87	0.962	0.396	
Low	31.57	38.87				18.09	36.35			
Mod	26.38	47.08				22.09	47.29			
High	11.14	45.71				9.28	40.92			

Table 3. Results from the repeated-measures ANOVAs from the inter-stimulus wash-out periods looking at the electrocardiogram (ECG) time and frequency domains. For time-domain, results from root mean square of successive differences between normal heartbeats (RMSSD) and stress index (SI) are presented. For frequency-domain, results from low-frequency (LF) power, high-frequency (HF) power and low-high frequency ratio (LF/HF ratio). The values of all four concentrations (low, moderate-mod and high concentrations, sham stimulation - CTR) of each odour are presented. Posthoc Bonferroni pairwise comparisons were performed for each repeated-measures ANOVAs to observe differences between each concentration of odour (and sham). Posthoc-iii = Sham stimulation versus high concentration. Effect sizes are reported in brackets on significant p-values and represents partial Eta squared unless stated otherwise. St.d. = standard deviation. Degrees of freedom was 3, 60.

	Male				**Female-Follicular**				**Female-Luteal**			
	Mean	**St.d.**	**F-statistic**	**p-value**	**Mean**	**St.d.**	**F-statistic**	**p-value**	**Mean**	**St.d.**	**F-statistic**	**p-value**
RMSSD												
Mushroom												
CTR	33.07	10.90	1.278	0.290	35.27	24.61	2.298	0.147	36.95	19.50	0.798	0.458
Low	35.89	13.68			34.50	22.32			36.38	20.31		
Mod	35.96	14.96			36.43	19.21			34.81	17.18		
High	35.64	12.24			39.36	23.27			37.09	21.01		
Lavender												
CTR	35.74	15.89	0.092	0.964	42.63	34.76	0.543	0.633	37.05	26.54	2.495	0.077
Low	36.29	13.09			40.68	28.56			35.22	17.59		
Mod	36.68	13.31			41.64	34.71			32.32	19.04		
High	36.44	11.81			43.25	31.50			40.88	26.37		
Jasmine												

CTR	35.17	13.39	1.062	0.372	40.80	27.82	0.172	0.840	35.29	20.92	3.850	0.034 (0.161)
Low	35.68	15.43			39.44	21.99			33.66	21.16		
Mod	35.98	13.81			39.57	21.82			36.18	21.42		
High	38.79	22.86			40.14	25.30			38.61	23.54		
Rose												
CTR	33.20	13.31	1.814	0.154	36.74	25.62	0.925	0.434	39.01	29.12	1.160	0.307
Low	32.98	14.26			35.70	19.93			46.44	54.82		
Mod	35.71	16.36			34.76	22.47			43.23	41.15		
High	35.20	15.45			33.90	19.27			43.90	44.47		
Stress index												
Mushroom												
CTR	9.77	2.18	0.829	0.483	11.70	4.27	3.329	0.025 (0.143)	11.10	4.39	0.146	0.830
Low	9.23	2.64			11.64	4.10			11.26	4.95		
Mod	9.53	2.70			10.34	2.68			11.32	4.80		
High	9.33	2.33			10.83	3.66			10.94	4.55		
Lavender												
CTR	9.86	3.24	0.377	0.770	11.47	5.08	0.665	0.532	11.91	4.09	2.738	0.051
Low	9.39	2.74			11.77	5.90			10.84	4.02		
Mod	9.63	3.02			11.24	4.63			12.15	4.18		
High	9.57	3.06			10.85	4.75			10.40	3.81		
Jasmine												
CTR	10.12	3.77	0.537	0.659	10.28	3.71	0.746	0.489	11.63	4.05	1.523	0.218
Low	10.42	4.01			10.87	3.91			11.54	3.37		
Mod	9.98	3.69			10.44	3.61			11.26	3.97		
High	9.95	4.05			10.91	5.16			10.75	4.46		
Rose												
CTR	10.32	3.37	0.333	0.802	11.67	4.31	0.938	0.645	11.08	3.65	0.067	0.977
Low	10.59	3.85			11.31	4.20			10.93	3.96		
Mod	10.15	3.74			12.05	5.41			11.10	4.70		
High	10.56	4.20			11.94	4.29			10.91	3.97		
Low-frequency power												

Mushroom												
CTR	2051.8	1251.2	1.109	0.353	1843.5	1242.3	0.508	0.678	2041.7	1783.3	0.517	0.672
Low	2347.1	1486.4			1615.5	1376.7			1708.5	1216.6		
Mod	2156.2	1044.2			1613.8	1000.2			1992.8	1577.9		
High	2512.9	1658.7			1593.7	1433.6			1998.3	1468.9		
Lavender												
CTR	2010.7	1122.8	1.487	0.227	2143.8	1888.1	0.275	0.843	1385.6	1093.8	3.091	0.051
Low	1894	1193			2079.2	2060.0			1671.8	1163.5		
Mod	2352.7	1495.6			2381.9	2227.4			1480.3	962.8		
High	2417.1	1426.6			2256.5	1731.3			1916.7	1236.0		
Jasmine												
CTR	2191.1	1399.2	0.371	0.774	2142.0	2534.1	1.335	0.270	1780	1447.0	0.590	0.565
Low	2084.4	1197.8			1472.0	905.6			1668.1	1390.0		
Mod	2242.5	1531.7			1487.5	694.4			1812.1	1365.0		
High	2376.6	2420.9			1642.6	1424.3			2035.1	1955.4		
Rose												
CTR	2220.5	1492.4	0.34	0.796	1571.0	1459.9	2.875	0.043 (0.126)	1704.9	1493.1	0.223	0.789
Low	2030.7	1438.6			1329.4	1008.3			1886.0	1985.2		
Mod	2177.7	1313.1			1889.7	1465.5			1791.3	1417.3		
High	2370.9	2086.9			1221.9	951.2			1995.0	2037.6		
High-frequency power												
Mushroom												
CTR	434.52	361.3	0.655	0.583	622.42	905.88	0.416	0.621	647.52	576.19	0.138	0.863
Low	539.38	616.9			616.04	740.87			645	613.24		
Mod	578.38	715.88			554.85	563.17			606.80	600.42		
High	477.62	439.76			558.66	580.26			640.09	617.54		
Lavender												
CTR	482.76	328.81	0.421	0.739	861.47	1176.3	0.251	0.832	561.42	608.93	3.171	0.074
Low	471.76	259.85			849.38	1096.8			520.90	521.24		
Mod	515.95	378.09			924.38	1312.9			480.28	582.88		
High	539.52	376.79			882.90	1137.6			931.38	1348.7		

Jasmine												
CTR	493.24	406	0.223	0.880	852.28	1075.02	1.859	0.182	664.33	902.18	0.503	0.600
Low	524.43	515.57			712.33	796.97			731.57	1273.8		
Mod	585.48	542.79			617.14	662.72			707.47	887.4		
High	555.29	763.33			663.85	729.31			811.61	1177.4		
Rose												
CTR	396.62	345.54	1.668	0.184	660	759.07	3.441	0.022 (0.147)	653.42	690.20	0.930	0.348
Low	441.29	363.38			541.14	616.94			1388.52	4047.2		
Mod	613.14	788.45			616.52	734.83			988.76	1831.1		
High	531.29	514.74			367.34	335.79			665.38	887.9		
Low-high frequency ratio												
Mushroom												
CTR	6.19	3.98	1.535	0.215	5.77	4.59	1.736	0.169	4.18	2.95	0.145	0.933
Low	6.14	3.87			4.06	3.13			4.52	4.07		
Mod	6.46	5.03			4.83	3.78			4.64	3.43		
High	7.99	5.65			4.38	3.99			4.54	3.61		
Lavender												
CTR	5.57	3.89	0.269	0.848	5.35	5.41	1.117	0.338	4.05	3.41	1.029	0.386
Low	4.87	3.97			4.99	4.49			4.74	2.95		
Mod	5.30	2.96			6.01	4.24			4.97	3.90		
High	5.35	2.78			4.36	2.42			4.04	2.48		
Jasmine												
CTR	5.94	4.68	0.487	0.693	5.88	7.9	0.948	0.360	4.64	3.65	1.027	0.387
Low	5.80	3.98			4.2	3.69			5.14	4.04		
Mod	5.04	2.79			4.3	3.16			4.46	3.43		
High	5.49	3.16			4.26	3.11			3.99	2.66		
Rose												
CTR	7.09	4.57	1.901	0.139 Posthoc-iii:0.008[#] (Cohen's D - 0.43)	4.47	3.33	1.015	0.377	4.75	5.27	1.141	0.330
Low	6.26	4.21			5.2	4.59			4.50	3.67		
Mod	5.96	3.93			5.6	3.86			4.01	3		
High	5.27	3.82			4.89	4.26			5.61	5.78		

#: While the common practice is not to proceed with post-hoc tests when overall ANOVA result is not significant,several references acknowledge the potential value of this exercise (Hsu JC. Multiple comparisons: theory and methods Chapman & Hall CRC 8 press, Florida,US, 1996, pg177-178). Given that multiple comparisons were a main focus of the present study, it is postulated that they have the power to find differences (CTR:7.09-High:5.27 in this case) between groups even when the overall ANOVA is not significant and such post-hoc results are considered as valid (https://www.graphpad.com/support/faqid/1081/, at 14th Sep 2022). We thus included this particular post-hoc analyses, in the context of above mentioned aspects and the investigatory scope of the present study.

Table 4. Results from the paired comparisons of the baseline (BL), post-stimulation period (Post) looking at all four odours (mushroom, lavender, jasmine and rose) in both cohorts (male, female-follicular, female-luteal) on electrocardiogram (ECG) time-domain (root mean square of successive differences between normal heartbeats - RMSSD and stress index- SI) and frequency-domain (low-frequency power, high-frequency power, low-high frequency ratio) parameters. Cohen – D represented the effect size provided in brackets in the 'p-value' column. St.d. = standard deviation, Df. = degrees of freedom, Mean diff. = mean difference between groups, T/Z = t-statistic or Z-score.

	Male					**Female-Follicular**					**Female-Luteal**				
	Mean	**St.d.**	**Mean diff.**	**T/Z**	**P-value**	**Mean**	**St.d.**	**Mean diff.**	**T/Z**	**P-value**	**Mean**	**St.d.**	**Mean diff.**	**T/Z**	**P-value**
RMSSD															
OD1 BL	36.31	13.81	-1.886	-0.74	0.455	40.14	22.87	-9.343	-0.52	0.602	36.34	21.18	-7.753	-0.76	0.444
OD1 Post	38.20	14.57				49.49	43.2				44.09	33.50			
OD2 BL	43.10	19.34	4.624	-1.39	0.164	44.87	36.65	0.824	-0.08	0.931	43.81	35.52	-14.771	-1.11	0.266
OD2 Post	38.48	14.40				44.04	33.01				58.58	61.16			
OD3 BL	43.52	30.51	6.258	-0.33	0.737	44.14	26.98	-7.524	-0.44	0.654	47.99	39.96	1.667	-0.05	0.958
OD3 Post	37.27	15.34				51.67	42.17				46.32	36.05			
OD4 BL	42.37	27.80	6.248	-0.92	0.355	36.02	23.38	-5.538	-0.64	0.520	41.92	39.37	-7.305	-2.01	0.044 (0.17)
OD4 Post	36.12	17.67				41.56	29.46				49.23	45.96			
Stress index															
OD1 BL	9.65	2.52	0.69	1.046	0.308	10.73	3.08	0.723	1.04	0.310	12.15	5.47	1.238	1.24	0.228
OD1 Post	8.96	2.96				10.00	3.96				10.91	5.14			
OD2 BL	9.35	3.04	-0.08	0.639	0.639	12	5.42	0.696	-1.30	0.192	11.70	5.11	1.180	1.21	0.239
OD2 Post	9.43	2.75				11.3	5.45				10.52	4.88			
OD3 BL	10.30	4.57	1.03	0.247	0.247	10.17	3.80	0.428	0.66	0.514	10.59	3.73	0.138	0.13	0.894
OD3 Post	9.27	3.25				9.74	3.69				10.45	5.09			
OD4 BL	10.28	4.57	0.49	0.314	0.314	13.05	7.13	1.857	-0.71	0.476	11.07	3.93	0.514	0.68	0.504
OD4 Post	9.79	3.87				11.2	3.84				10.56	4.45			
Low-frequency power															
OD1 BL	1945.71	1105.58	-341.33	-1.47	0.140	1484.47	850.28	-784.38	-1.89	0.058	1392.04	1264.14	-497.3	-1.75	0.079
OD1 Post	2287.04	1187.22				2268.85	2094.81				1889.38	1911.80			

OD2 BL	2254.04	1491.73	-373.43	-0.74	0.455	1572.90	1653.08	-901.71	-2.41	0.016 (0.42)	1344.28	1093.68	-682.4	-1.34	0.179
OD2 Post	2627.47	1954.85				2474.61	2462.59				2026.71	2098.17			
OD3 BL	2342.90	2019.42	-145.57	-1.00	0.313	1514.33	1167.60	-354.76	-1.19	0.232	1737.42	1491.33	-625.3	-1.72	0.085
OD3 Post	2488.47	1717.37				1869.09	1033.02				2362.76	1582.64			
OD4 BL	2380.42	2114.90	390.14	-0.07	0.940	1321.90	1272.61	-404.04	-1.68	0.092	2920.66	7425.64	184	-2.13	0.033 (0.03)
OD4 Post	1990.28	1279.01				1725.95	1463.46				2736.66	3298.31			
High-frequency power															
OD1 BL	630.19	621.82	97.19	-1.11	0.266	810.04	1184.30	6.904	-1.86	0.063	660.76	685.17	1.523	-1.33	0.181
OD1 Post	533	494.69				803.14	1053.93				659.23	817.94			
OD2 BL	619.80	516.57	13.95	-0.29	0.768	1474.23	2832.47	309.71	-1.00	0.314	760.52	1014.90	-278	-1.23	0.218
OD2 Post	605.85	453.71				1164.52	1596.75				1038.52	1418.23			
OD3 BL	1073.85	2255.65	523.62	-1.06	0.286	837.04	1037.44	111.09	-0.11	0.911	1109.52	1909.65	178.90	-0.33	0.741
OD3 Post	550.23	594.88				725.95	676.09				725.95	676.09			
OD4 BL	781	984.66	237.43	-1.19	0.232	667.90	742.97	71.38	-1.16	0.244	840.38	1463.99	-51.85	-0.46	0.639
OD4 Post	543.57	618.13				596.52	665.88				892.23	1734.80			
Low-high frequency ratio															
OD1 BL	4.31	2.65	-1.85	-2.65	0.008 (0.58)	3.67	3.09	-0.736	-1.06	0.289	3.47	2.84	-1.999	-2.41	0.016 (0.55)
OD1 Post	6.16	3.63				4.41	2.09				5.47	4.20			
OD2 BL	4.27	1.95	-0.93	-1.09	0.274	3.07	2.64	-0.906	-1.56	0.117	3.74	2.69	0.353	-0.44	0.654
OD2 Post	5.20	3.37				3.97	2.93				3.38	2.70			
OD3 BL	4.22	3.10	-3.00	-2.76	0.006 (0.79)	4.10	3.73	-0.225	0.00	1	3.02	2.30	-0.808	-2.03	0.042 (0.35)
OD3 Post	7.22	4.38				4.33	3.61				3.83	2.30			
OD4 BL	4.50	3.04	-1.23	-0.82	0.411	3.37	2.60	-1.279	-1.79	0.073	3.85	2.54	-0.830	-1.26	0.205
OD4 Post	5.73	4.47				4.65	3.88				4.68	3.07			

Section 2

Table A1.1 Results from the one-way ANOVA looking at cohort comparisons in the change values from the baseline and post-stimulation periods in an ECG (time-domain: root mean square of successive differences between normal heart-beats - RMSSD and stress index - SI; frequency-domain: low-frequency - LF power, high-frequency - HF power and LF/HF ratio) and eye-tracker (pupil diameter) after the repetitive presentation of **mushroom** odour. St.d. – standard deviation, Df. – degrees of freedom, RMSSD – root mean square of successive differences between normal heartbeats, SI – stress index, LF – low-frequency, HF – high-frequency, Cohort (1 – male, 2 – female-follicular, 3 – female-luteal).

Cohort	Mean	St.d.	Df.	F-statistic	p-value
		RMSSD			
1	-1.88	11.82	2, 60	0.356	0.702
2	-9.34	41.76			
3	-7.75	29.10			
		Stress index			
1	0.69	3.02	2, 60	0.148	0.863
2	0.72	3.18			
3	1.23	4.55			
		LF power			
1	-341.33	1011.47	2, 60	0.594	0.555
2	-784.38	1772.41			
3	-497.33	1090.60			
		HF power			
1	97.19	495.33	2, 60	0.138	0.872
2	6.90	913.78			
3	1.52	490.72			
		LF/HF ratio			
1	-1.84	3.5	2, 60	0.865	0.426
2	-0.73	3.35			
3	-1.99	3.34			
		Eye-tracker (pupil diameter)			
1	-0.08	0.28	2, 60	0.131	0.877
2	-0.11	0.23			
3	-0.11	0.17			

Table A1.2 Results from the one-way ANOVA looking at cohort comparisons in the change values from the baseline and post-stimulation periods in an ECG (time-domain: root mean square of successive differences between normal heart-beats - RMSSD and stress index - SI; frequency-domain: low-frequency - LF power, high-frequency - HF power and LF/HF ratio) and eye-tracker (pupil diameter) after the repetitive presentation of **lavender** odour. St.d. – standard deviation, Df. – degrees of freedom, RMSSD – root mean square of successive differences between normal heartbeats, SI – stress index, LF – low-frequency, HF – high-frequency, Cohort (1 – male, 2 – female-follicular, 3 – female-luteal).

Cohort	Mean	St.d.	Df.	F-statistic	p-value
		RMSSD			
1	4.62	12.57	2, 60	1.541	0.223
2	0.82	16.53			

3	-14.77	62.34			
Stress index					
1	-0.07	2.04	2, 60	0.579	0.564
2	0.69	4.43			
3	1.18	4.46			
LF power					
1	-373.42	1619.35	2, 60	0.462	0.632
2	-901.71	1675.20			
3	-682.42	2045.31			
HF power					
1	13.95	423.12	2, 60	1.177	0.315
2	309.71	1807.41			
3	-278	1085.20			
LF/HF ratio					
1	-0.93	3.36	2, 60	1.21	0.305
2	-0.90	3.08			
3	0.35	2.68			
Eye-tracker (pupil diameter)					
1	-0.11	0.33	2, 60	0.032	0.968
2	-0.13	0.21			
3	-0.12	0.20			

Table A1.3 Results from the one-way ANOVA looking at cohort comparisons in the change values from the baseline and post-stimulation periods in ECG (time-domain: root mean square of successive differences between normal heart-beats - RMSSD and stress index - SI; frequency-domain: low-frequency - LF power, high-frequency - HF power and LF/HF ratio) and eye-tracker (pupil diameter) after the repetitive presentation of **jasmine** odour. St.d. – standard deviation, Df. – degrees of freedom, RMSSD - root mean square of successive differences between normal heartbeats, SI – stress index, LF – low-frequency, HF – high-frequency, Cohort (1 – male, 2 – female-follicular, 3 – female-luteal). Posthoc Bonferroni pairwise comparison for significant differences in ANOVA is shown in brackets in the '**p-value**' column.

Cohort	**Mean**	**St.d.**	**Df.**	**F-statistic**	**p-value**
RMSSD					
1	6.25	22.88	2, 60	0.929	0.401
2	-7.52	31.31			
3	1.66	42.85			
Stress index					
1	1.03	2.95	2, 60	0.336	0.716
2	0.42	2.95			
3	0.13	4.70			
LF power					
1	-145.57	1332.32	2, 60	0.594	0.555
2	-354.76	1500.36			
3	-625.33	1451.04			
HF power					
1	523.61	2154.73	2, 60	0.437	0.648

2	111.09	1104.04			
3	178.90	1095.20			
LF/HF ratio					
1	-2.99	3.96	2, 60	4.084	0.022 (1 – 2
2	-0.22	3.58			: p-value =
3	-0.80	2.08			0.026)
Eye-tracker (pupil diameter)					
1	-0.09	0.22	2, 60	0.469	0.628
2	-0.14	0.19			
3	-0.09	0.21			

Table A1.4 Results from the one-way ANOVA looking at cohort comparisons in the change values from the baseline and post-stimulation periods in an ECG (time-domain: root mean square of successive differences between normal heart-beats - RMSSD and stress index - SI; frequency-domain: low-frequency - LF power, high-frequency - HF power and LF/HF ratio) and eye-tracker (pupil diameter) after the repetitive presentation of **rose** odour. St.d. – standard deviation, Df. – degrees of freedom, RMSSD – root mean square of successive differences between normal heartbeats, SI – stress index, LF – low-frequency, HF – high-frequency, Cohort (1 – male, 2 – female-follicular, 3 – female-luteal).

Cohort	**Mean**	**St.d.**	**Df.**	**F-statistic**	**p-value**
RMSSD					
1	6.25	18.71	2, 60	3.154	0.05
2	-5.53	21.32			
3	-7.30	16.74			
Stress index					
1	0.49	2.45	2, 60	0.673	0.514
2	1.85	6.26			
3	0.51	3.46			
LF power					
1	390.143	1686.53	2, 60	0.381	0.685
2	-404.04	1628.98			
3	184	4752.27			
HF power					
1	237.42	684.29	2, 60	1	0.374
2	71.38	648.44			
3	-51.85	662.99			
LF/HF ratio					
1	-1.22	3.98	2, 60	0.106	0.899
2	-1.27	3.39			
3	-0.83	2.91			
Eye-tracker (pupil diameter)					
1	-0.16	0.22	2, 60	0.064	0.938
2	-0.18	0.20			
3	-0.19	0.20			

Table A2.1 Results from the two-way ANOVA looking at cohort (male, females in the follicular and the luteal stage of the menstrual cycle) comparisons in the change values between sham stimulation and each of the three concentrations (low, moderate and high) of each odour in the inter-stimulus washout period in root mean square of successive difference between normal heartbeats - RMSSD scores (time-domain ECG) after acute stimulation. St.d. – standard deviation, Df – degrees of freedom, Cohort (1 – male, 2 – female-follicular, 3 – female-luteal) Conc. – concentration (1 – low, 2 – moderate, 3 – high).

Mush						
Cohort	**Conc.**	**Mean**	**St.d.**	**Df**	**F-statistic**	**p-value**
1	1	-2.81	5.97	8, 180	0.692	0.599
	2	-2.89	9.37			
	3	-2.57	5.93			
2	1	0.76	7.32			
	2	-1.16	10.18			
	3	-4.09	12.78			
3	1	0.56	3.75			
	2	2.13	8.77			
	3	-0.14	6.27			
Lavender						
Cohort	**Conc.**	**Mean**	**St.d.**	**Df**	**F-statistic**	**p-value**
1	1	-0.54	7.04	8, 180	0.739	0.567
	2	-0.93	9.49			
	3	-0.69	11.65			
2	1	1.95	9.71			
	2	0.99	8.42			
	3	-0.61	12.04			
3	1	1.83	16.83			
	2	4.72	15.24			
	3	-382	18.01			
Jasmine						
Cohort	**Conc.**	**Mean**	**St.d.**	**Df**	**F-statistic**	**p-value**
1	1	-0.51	6.57	8, 180	0.318	0.866
	2	-0.81	6.96			
	3	-3.62	15.08			
2	1	1.36	9.80			
	2	1.23	13.37			
	3	0.66	9.30			
3	1	1.62	5.91			
	2	-0.89	4.42			
	3	-3.32	6.02			
Rose						
Cohort	**Conc.**	**Mean**	**St.d.**	**Df**	**F-statistic**	**p-value**
1	1	0.22	5.46	8, 180	0.281	0.89
	2	-2.50	7.72			
	3	-1.99	6.05			
2	1	1.04	9.95			
	2	1.98	8.26			
	3	2.84	8.41			
3	1	-7.4	29.36			

	2	-4.21	13.39
	3	-4.89	19.83

Table A2.2 Results from the two-way ANOVA looking at cohort (male, females in the follicular and the luteal stage of the menstrual cycle) comparisons in the change values between sham stimulation and each of the three concentrations (low, moderate and high) of each odour in the inter-stimulus washout period in stress index - SI scores (time-domain ECG) after acute stimulation. St.d. – standard deviation, Df – degrees of freedom, Cohort (1 – male, 2 – female-follicular, 3 – female-luteal) Conc. – concentration (1 – low, 2 – moderate, 3 – high).

Mush						
Cohort	**Conc.**	**Mean**	**St.d.**	**Df**	**F-statistic**	**p-value**
1	1	0.53	1.65	8, 180	0.213	0.931
	2	0.23	2.08			
	3	0.44	1.94			
2	1	-1.16	6.19			
	2	-0.83	6.01			
	3	-1.06	4.45			
3	1	-1.6	3.79			
	2	-1.11	4.16			
	3	-0.319	3.06			
Lavender						
Cohort	**Conc.**	**Mean**	**St.d.**	**Df**	**F-statistic**	**p-value**
1	1	0.47	2.03	8, 180	0.143	0.966
	2	0.22	2.32			
	3	0.29	2.25			
2	1	-2.83	6.28			
	2	-3.16	6.29			
	3	-1.84	5.12			
3	1	0.97	5.78			
	2	0.18	4.26			
	3	1.06	4.18			
Jasmine						
Cohort	**Conc.**	**Mean**	**St.d.**	**Df**	**F-statistic**	**p-value**
1	1	-0.30	1.60	8, 180	0.08	0.989
	2	0.14	2.43			
	3	0.16	1.62			
2	1	-0.34	4.40			
	2	-0.11	6.16			
	3	-0.47	5.25			
3	1	-0.07	3.62			
	2	-0.37	5.09			
	3	-0.48	4.00			
Rose						
Cohort	**Conc.**	**Mean**	**St.d.**	**Df**	**F-statistic**	**p-value**
1	1	-0.26	1.83	8, 180	0.272	0.896
	2	0.16	2.23			
	3	-0.24	2.70			
2	1	-2.77	7.88			

	2	-3.52	7.29
	3	-2.33	7.04
3	1	0.06	2.22
	2	-1.21	3.40
	3	0.16	3.10

Table A2.3 Results from the two-way ANOVA looking at cohort (male, females in the follicular and the luteal stage of the menstrual cycle) comparisons in the change values between sham stimulation and each of the three concentrations (low, moderate and high) of each odour in the inter-stimulus washout period in low-frequency - LF power scores (frequency-domain ECG) after acute stimulation. St.d. – standard deviation, Df – degrees of freedom, Cohort (1 – male, 2 – female-follicular, 3 – female-luteal) Conc. – concentration (1 – low, 2 – moderate, 3 – high).

Mush						
Cohort	**Conc.**	**Mean**	**St.d.**	**Df**	**F-statistic**	**p-value**
1	1	-295.38	956.47	8, 180	0.268	0.898
	2	-104.47	1183.78			
	3	-461.14	1258.87			
2	1	228	1172.04			
	2	229.76	1053.66			
	3	249.80	1390.36			
3	1	333.23	1343.73			
	2	48.90	1489.88			
	3	43.42	1581.91			
Lavender						
Cohort	**Conc.**	**Mean**	**St.d.**	**Df**	**F-statistic**	**p-value**
1	1	116.66	1208.12	8, 180	0.53	0.714
	2	-342	1348.23			
	3	-406.47	1270.25			
2	1	64.52	1472.61			
	2	-238.09	1643.04			
	3	-112.71	1181.67			
3	1	-286.23	831.97			
	2	-94.76	713.28			
	3	-531.14	1153.06			
Jasmine						
Cohort	**Conc.**	**Mean**	**St.d.**	**Df**	**F-statistic**	**p-value**
1	1	106.71	687.56	8, 180	0.024	0.999
	2	-51.38	656.02			
	3	-185.52	1704.56			
2	1	669.90	2468.36			
	2	654.42	2398.93			
	3	499.38	2008.97			
3	1	111.85	1151.38			
	2	-32.14	814.57			
	3	-255.19	1499.48			
Rose						
Cohort	**Conc.**	**Mean**	**St.d.**	**Df**	**F-statistic**	**p-value**

1	1	189.76	1506.19	8, 180	0.734	0.57
	2	42.80	1178.94			
	3	-150.38	1774.11			
2	1	241.66	1330.93			
	2	-318.61	790.04			
	3	349.14	1274.42			
3	1	-181.19	1892.29			
	2	-86.47	836.31			
	3	-290.19	1575.45			

Table A2.4 Results from the two-way ANOVA looking at cohort (male, females in the follicular and the luteal stage of the menstrual cycle) comparisons in the change values between sham stimulation and each of the three concentrations (low, moderate and high) of each odour in the inter-stimulus washout period in high-frequency - HF power scores (frequency-domain ECG) after acute stimulation. St.d. – standard deviation, Df – degrees of freedom, Cohort (1 – male, 2 – female-follicular, 3 – female-luteal) Conc. – concentration (1 – low, 2 – moderate, 3 – high).

Mush						
Cohort	**Conc.**	**Mean**	**St.d.**	**Df**	**F-statistic**	**p-value**
1	1	-104.85	394.30	8, 180	0.194	0.941
	2	-143.85	481.00			
	3	-43.09	340.33			
2	1	6.381	304.77			
	2	67.57	460.55			
	3	63.76	489.25			
3	1	2.52	269.91			
	2	40.71	423.75			
	3	7.42	343.64			
Lavender						
Cohort	**Conc.**	**Mean**	**St.d.**	**Df**	**F-statistic**	**p-value**
1	1	11	249.35	8, 180	1.645	0.165
	2	-33.19	268.44			
	3	-56.76	356.51			
2	1	12.09	541.59			
	2	-62.90	478.09			
	3	-21.42	398.80			
3	1	40.52	363.48			
	2	81.14	474.50			
	3	-369.95	985.75			
Jasmine						
Cohort	**Conc.**	**Mean**	**St.d.**	**Df**	**F-statistic**	**p-value**
1	1	-31.19	324.60	8, 180	0.172	0.952
	2	-92.23	364.67			
	3	-62.04	746.54			
2	1	139.95	518.32			
	2	235.14	744.71			
	3	188.42	548.12			
3	1	-67.23	493.79			

	2	-43.14	378.78			
	3	-147.28	640.14			
			Rose			
Cohort	**Conc.**	**Mean**	**St.d.**	**Df**	**F-statistic**	**p-value**
1	1	-44.66	215.41	8, 180	0.535	0.71
	2	-216.52	512.58			
	3	-134.66	418.21			
2	1	118.85	411.62			
	2	43.47	351.92			
	3	292.65	583.25			
3	1	-735.09	3654.33			
	2	-335.33	1366.90			
	3	-11.95	461.41			

Table A2.5 Results from the two-way ANOVA looking at cohort (male, females in the follicular and the luteal stage of the menstrual cycle) comparisons in the change values between sham stimulation and each of the three concentrations (low, moderate and high) of each odour in the inter-stimulus washout period in low-high frequency ratio - LF/HF ratio scores (frequency-domain ECG) after acute stimulation. St.d. – standard deviation, Df – degrees of freedom, Cohort (1 – male, 2 – female-follicular, 3 – female-luteal) Conc. – concentration (1 – low, 2 – moderate, 3 – high).

			Mush			
Cohort	**Conc.**	**Mean**	**St.d.**	**Df**	**F-statistic**	**p-value**
1	1	-1.04	6.49	8, 180	0.522	0.72
	2	0.48	4.71			
	3	0.73	3.92			
2	1	1.70	3.79			
	2	0.93	3.29			
	3	1.38	4.87			
3	1	-0.34	3.18			
	2	-0.46	3.90			
	3	-0.36	3.18			
			Lavender			
Cohort	**Conc.**	**Mean**	**St.d.**	**Df**	**F-statistic**	**p-value**
1	1	3.50	6.45	8, 180	0.086	0.987
	2	2.01	8.66			
	3	3.70	6.07			
2	1	0.36	3.08			
	2	-0.66	5.49			
	3	0.98	4.15			
3	1	-0.68	2.68			
	2	-0.92	3.63			
	3	0.04	2.63			
			Jasmine			
Cohort	**Conc.**	**Mean**	**St.d.**	**Df**	**F-statistic**	**p-value**
1	1	2.91	9.88	8, 180	0.085	0.987
	2	2.68	5.62			
	3	3.93	8.84			

2	1	1.68	7.81			
	2	1.58	7.26			
	3	1.62	6.85			
3	1	-0.49	2.79			
	2	0.18	3.15			
	3	0.65	2.22			
			Rose			
Cohort	**Conc.**	**Mean**	**St.d.**	**Df**	**F-statistic**	**p-value**
1	1	-0.63	6.71	8, 180	0.87	0.483
	2	-0.28	8.17			
	3	1.69	7.19			
2	1	-0.72	3.30			
	2	-1.12	2.63			
	3	-0.41	1.54			
3	1	0.25	2.31			
	2	0.74	4.70			
	3	-0.85	4.86			

Table A2.6 Results from the two-way ANOVA looking at cohort (male, females in the follicular and the luteal stage of the menstrual cycle) comparisons in the change values between sham stimulation and each of the three concentrations (low, moderate and high) of each odour in the inter-stimulus washout period in pupil diameter (eye-tracker) after acute stimulation. St.d. – standard deviation, Df – degrees of freedom, Cohort (1 – male, 2 – female-follicular, 3 – female-luteal) Conc. – concentration (1 – low, 2 – moderate, 3 – high).

			Mush			
Cohort	**Conc.**	**Mean**	**St.d.**	**Df**	**F-statistic**	**p-value**
1	1	-0.023	0.05	8, 180	0.561	0.691
	2	-0.00	0.08			
	3	-0.02	0.04			
2	1	-0.00	0.07			
	2	0.01	0.08			
	3	0.00	0.08			
3	1	-0.02	0.07			
	2	-0.02	0.05			
	3	-0.00	0.05			
			Lavender			
Cohort	**Conc.**	**Mean**	**St.d.**	**Df**	**F-statistic**	**p-value**
1	1	-0.03	0.12	8, 180	0.452	0.771
	2	-0.01	0.07			
	3	-0.01	0.06			
2	1	0.01	0.06			
	2	0.01	0.06			
	3	0.00	0.04			
3	1	0.02	0.06			
	2	0.01	0.04			
	3	0.01	0.04			
			Jasmine			

Cohort	Conc.	Mean	St.d.	Df	F-statistic	p-value
1	1	-0.00	0.07	8, 180	0.249	0.91
	2	0.00	0.10			
	3	-0.01	0.07			
2	1	-0.02	0.05			
	2	0.00	0.06			
	3	0.00	0.07			
3	1	0.00	0.06			
	2	0.00	0.04			
	3	0.00	0.04			

Rose

Cohort	Conc.	Mean	St.d.	Df	F-statistic	p-value
1	1	-0.01	0.05	8, 180	0.685	0.603
	2	0.00	0.07			
	3	-0.04	0.07			
2	1	0.00	0.05			
	2	0.00	0.06			
	3	0.00	0.06			
3	1	0.00	0.06			
	2	0.01	0.07			
	3	-0.01	0.06			

Section 3

Pilot investigation: 1st odour presentation versus baseline

The results for this pilot investigation are presented in **Table A3.1 in the Appendix**. Only specific concentrations of odours showed a significant effect on time-domain ECG parameters of RMSSD and SI. For RMSSD, only a low concentration of *jasmine* showed a significant decrease in the post-odour wash-out period in comparison to the baseline (p-value = 0.008, Cohen's D value of 0.46 indicating a small size). In comparison, all three concentrations of *jasmine* modulated SI scores increasing this parameter in the post-odour wash-out periods in comparison to the baseline period (low concentration - p-value = 0.004, Cohen's D value of 0.69 indicating a medium size; moderate concentration - p-value = 0.008, Cohen's D value of 0.39 indicating a small size; high concentration - p-value = 0.033, Cohen's D value of 0.46 indicating a small size; **Table A3.1 in the Appendix**). Moderate concentration of *lavender* (p-value = 0.003, Cohen's D value of 0.40 indicating a small size) and high concentration of *rose* (p-value = 0.007, Cohen's D value of 0.26 indicating a small size) also showed a significant increase in SI scores in the post-odour wash-out period in comparison to the baseline period. This domain of ECG analysis showed robustness as there were no significant differences present in the sham stimulation post-odour wash-out periods in any of the four odours in both RMSSD and SI parameters. However, the same robustness was not present in the frequency-domain ECG analysis. There was an increased LF/HF ratio towards sympathetic dominance after sham stimulation in comparison to baseline in the *jasmine* group (p-value = 0.029, Cohen's D value of 0.57 indicating a medium size). We also observed a reduced HF power in the low (p-value = 0.038, Cohen's D value of 0.27 indicating a small size) and high (p-value = 0.047, Cohen's D value of 0.36 indicating a small size) concentrations of *lavender* in comparison to baseline and an increased LF/HF ratio towards a sympathetic dominance of the ANS after low concentrations of *mushroom* (p-value = 0.041, Cohen's D value of 0.65 indicating a medium size) and *lavender* (p-value = 0.041, Cohen's D value of 0.71 indicating a medium size) odours (*see* **Table A3.1 in the Appendix**).

Table A3.1 Pilot results from the baseline (BL) compared to the 1st odour presentation washout period for all four concentrations (low, moderate-mod and high concentrations and sham stimulation) of all odours (mushroom, lavender, jasmine, rose) in n = 15 collated in sex (male and female cohorts) and menstrual stage (female-follicular, female-luteal). Paired comparisons (paired t-test or Wilcoxon sign-rank test) were used to compare baseline period with the 1st odour presentation washout periods. Each parameter of ECG time-domain (root mean square of successive differences between normal heartbeats - RMSSD, stress index) and frequency-domain (low-frequency power, high-frequency power and low-high frequency ratio) are reported in separate sections in the table for clarity. St.d. – standard deviation, Z/T – Z-score or t-statistic, degrees of freedom for all data is '14'. Effect size (Cohen's D) calculations are provided in brackets under the 'p-value' column.

Time-domain ECG								
RMSSD								
	Mushroom				**Lavender**			
	mean	**st.d.**	**Z/T**	**p-value**	**mean**	**st.d.**	**Z/T**	**p-value**
BL	39.87	16.78	1.906	0.077	51.73	37.26	0.738	0.473
Sham	35.38	15.98			46.92	22.97		

BL	33.96	20.38	1.623	0.127	47.13	37.49	1.785	0.088
Low	29.46	15.21			40.74	33.39		
BL	33.82	21.59	0.496	0.496	40.68	21.91	0.125	0.125
Mod	34.03	19.20			37.08	20.21		
BL	43.32	21.32	0.156	0.156	41.51	24.71	0.211	0.211
High	39.84	18.38			36.21	20.50		
	Jasmine				**Rose**			
BL	49.62	43.21	0.478	0.478	34.65	20.88	0.670	0.670
Sham	39.20	28.89			30.54	12.49		
BL	48.42	22.73	3.455	0.008 (0.46)	44.60	34.13	1.570	0.139
Low	38.72	18.46			36.28	23.62		
BL	44.85	42.23	0.112	0.112	42.68	21.74	0.139	0.891
Mod	36.12	22.94			42.74	20.34		
BL	44.70	32.54	0.496	0.496	39.65	44.04	-0.031	0.975
High	42	25.61			40.64	51.43		

Stress Index

	Mushroom				**Lavender**			
	mean	**st.d.**	**Z/T**	**p-value**	**mean**	**st.d.**	**Z/T**	**p-value**
BL	10.11	2.62	0.211	0.211	9.38	4.09	0.397	0.397
Sham	11.59	4.89			9.74	3.54		
BL	12.80	4.99	-1.138	0.274	11.26	5.64	-0.266	0.794
Low	14.11	6.17			11.41	5.33		
BL	11.02	3.31	-1.882	0.081	10.46	3.12	-3.641	0.003 (0.40)
Mod	12.59	4.37			11.86	3.83		
BL	9.63	3.55	-0.502	0.624	10.98	3.98	-1.773	0.098
High	9.96	3.65			12.49	4.25		
	Jasmine				**Rose**			
BL	11.44	6.09	-1.063	0.306	11.38	3.53	0.532	0.532
Sham	13.30	6.85			11.91	5.01		
BL	8.58	2.28	-2.898	0.004 (0.69)	11.68	7.73	-1.307	0.191
Low	11.21	4.81			12.78	7.99		
BL	10.62	4.36	-3.116	0.008 (0.39)	9.56	5.67	-1.534	0.125
Mod	12.65	5.88			10.5	5.34		
BL	9.97	3.62	-2.131	0.033 (0.46)	12.54	5.48	-3.123	0.007 (0.26)
High	12.62	7.28			14.27	7.30		

Frequency-domain ECG

Low-frequency power

	Mushroom				**Lavender**			
	mean	**st.d.**	**Z/T**	**p-value**	**mean**	**st.d.**	**Z/T**	**p-value**
BL	1528.466	740.08	0.545	0.594	2153.86	1579.48	-0.538	0.599
Sham	1384.53	713.87			2437.53	1930.73		
BL	1222.33	888.64	-1.578	0.137	1731.60	1633.94	-1.378	0.190
Low	1570.80	1263.96			2238.80	2194.19		
BL	1423.20	794.15	-0.795	0.427	2019.33	1315.06	0.549	0.592
Mod	1410.73	731.90			1873.46	1630.75		
BL	2168.13	1584.44	-0.152	0.882	1485.00	971.10	-0.518	0.612
High	2213.66	1544.31			1602.40	1256.77		
	Jasmine				**Rose**			
BL	1999.53	2149.62	-1.305	0.213	1731.33	1779.33	-0.566	0.580

Sham	2655.46	3123.61			1850.60	1680.85		
BL	1975.40	1247.70	-0.436	0.669	1602.80	1777.12	0.170	0.868
Low	2122.26	1323.04			1541.26	1197.73		
BL	2005.33	1879.99	1.048	0.312	2167.80	1724.19	-2.034	0.061
Mod	1540.86	1061.43			2829.33	1506.20		
BL	1822.13	1612.40	-1.500	0.156	3354.73	8776.27	0.798	0.438
High	2615.00	3021.62			1686.26	1538.80		

High-frequency power

	Mushroom				**Lavender**			
	mean	**st.d.**	**Z/T**	**p-value**	**mean**	**st.d.**	**Z/T**	**p-value**
BL	512.00	409.72	0.130	0.898	1131.13	1353.06	1.167	0.263
Sham	500.53	433.03			987.80	1283.76		
BL	490.80	481.81	0.957	0.355	1236.06	1823.13	2.288	0.038
Low	384.00	432.90			815.93	1164.50		(0.27)
BL	766.66	1357.17	1.090	0.294	1352.00	3012.65	1.196	0.251
Mod	528.06	610.51			602.93	732.40		
BL	830.20	906.37	1.694	0.112	554.26	488.21	-1.988	0.047
High	564.20	567.25			404.26	312.81		(0.36)
	Jasmine				**Rose**			
BL	1729.20	2939.67	1.337	0.203	574.60	778.71	1.125	0.279
Sham	769.33	1090.84			413.93	390.88		
BL	931.06	631.70	1.852	0.085	814.73	1104.70	0.786	0.445
Low	739.80	797.06			636.86	747.50		
BL	1017.66	1977.57	1.052	0.311	738.20	691.63	-1.310	0.211
Mod	676.66	892.59			878.86	742.01		
BL	1286.26	2616.00	1.234	0.237	825.86	1612.711	1.554	0.143
High	716.60	909.64			512.81	967.04		

Low frequency-highfrequency ratio

	Mushroom				**Lavender**			
	mean	**st.d.**	**Z/T**	**p-value**	**mean**	**st.d.**	**Z/T**	**p-value**
BL	4.51	3.83	0.263	0.797	3.61	2.98	-1.783	0.096
Sham	4.30	3.08			5.34	4.35		
BL	3.32	1.86	-2.251	0.041	3.34	2.27	-2.045-	0.041
Low	5.37	4.04		(0.65)	5.68	4.01		(0.71)
BL	3.97	2.20	0.377	0.712	3.95	2.47	-0.885	0.391
Mod	3.75	2.89			5.00	4.82		
BL	4.58	3.58	0.435	0.670	3.81	2.38	-0.511	0.609
High	4.20	2.30			4.07	2.33		
	Jasmine				**Rose**			
BL	4.08	4.29	-2.436	0.029	4.43	2.87	-0.061	0.952
Sham	8.32	9.53		(0.57)	4.47	3.62		
BL	2.77	2.23	-1.460	0.166	3.42	2.30	-0.754	0.464
Low	4.58	4.00			4.34	5.02		
BL	3.52	1.82	-0.909	0.363	4.68	3.43	-1.156	0.267
Mod	4.88	3.67			6.56	7.46		
BL	3.96	4.10	0.174	0.864	3.73	2.04	-1.041	0.316
High	3.78	2.80			4.81	4.78		