

Modifiable Arousal in Attention-Deficit/Hyperactivity Disorder and Its Etiological Association With Fluctuating Reaction Times

Supplemental Information

Table S1. Means and group differences in SCL and SCR amplitude between 3 four-minute segments of baseline condition and the fast-incentive condition (controls = 144, ADHD = 73). Baseline 1: 0-3.59 mins, Baseline 2: 4-7.59 mins, Baseline 3: 8-11.59 mins. Fast-incentive condition: 0-4 minutes.

	Control	ADHD probands	Group comparisons	
	Mean	Mean	<i>t</i>	<i>p</i>
<i>SCL</i>				
Baseline 1	1.86	1.56	2.41	0.01*
Baseline 2	1.83	1.52	1.99	0.03*
Baseline 3	1.79	1.51	2.10	0.03*
Fast-incentive	3.20	3.70	1.10	0.27
<i>SCR amplitude</i>				
Baseline 1	0.41	0.40	0.25	0.40
Baseline 2	0.37	0.37	1.21	0.20
Baseline 3	0.39	0.41	0.52	0.60
Fast-incentive	0.34	0.32	0.07	0.91

Skin conductance level (SCL), skin conductance response (SCR) amplitude. Group means of transformed data and subsequent group comparison tests are listed. * $p < 0.05$.

Table S2. Main effect of group (ADHD vs control), condition (segment of baseline condition vs the fast-incentive condition), and group x condition interaction, controlling for age (controls = 144, ADHD = 73). Baseline 1: 0-3.59 mins, Baseline 2: 4-7.59 mins, Baseline 3: 8-11.59 mins. Fast–incentive condition: 0-4 minutes.

Condition	Main effects	<i>t</i>	<i>p</i>
<i>SCL</i>			
Baseline 1 vs fast-incentive	group	1.37	0.17
	condition	4.58	0.01
	group x condition	2.48	0.01
Baseline 2 vs fast-incentive	group	1.22	0.22
	condition	4.59	0.01
	group x condition	2.21	0.04
Baseline 3 vs fast-incentive	group	1.55	0.12
	condition	2.10	0.03
	group x condition	2.03	0.04
<i>SCR amplitude</i>			
Baseline 1 vs fast-incentive	group	1.39	0.16
	condition	0.81	0.42
	group x condition	0.75	0.45
Baseline 2 vs fast-incentive	group	0.95	0.34
	condition	0.52	0.61
	group x condition	0.45	0.34
Baseline 3 vs fast-incentive	group	0.78	0.30
	condition	0.55	0.56
	group x condition	0.69	0.49

Skin conductance level (SCL), skin conductance response (SCR) amplitude.

Table S3. Means and group differences in SCL and SCR amplitude between unmedicated and medicated ADHD participants in the baseline condition and the fast-incentive condition (unmedicated = 35, medicated = 38), controlling for age.

	Unmedicated ADHD	Medicated ADHD	Group comparisons	
	Mean (SD)	Mean (SD)	<i>t</i>	<i>p</i>
<i>SCL</i>				
Baseline	1.66 (0.40)	1.56 (0.38)	0.67	0.50
Fast-incentive	5.27 (1.54)	5.49 (2.01)	0.76	0.45
<i>SCR</i>				
Baseline	-0.94 (0.49)	-0.83 (0.59)	-0.68	0.49
Fast-incentive	-1.32 (0.65)	-1.26 (0.76)	0.06	0.95

Note: raw scores are reported. Skin conductance level (SCL), skin conductance response (SCR) amplitude.

Table S4. Main effect of group (ADHD vs control), condition (whole baseline condition vs fast-incentive condition), and group x condition interactions, controlling for age and stimulant medication use (controls = 144, ADHD = 73).

Main effect	<i>t</i>	<i>p</i>
<i>SCL</i>		
Group	0.10	0.91
Condition	29.94	<0.01
Group x condition	2.55	0.01
<i>SCR amplitude</i>		
Group	0.21	0.84
Condition	0.37	0.71
Group x condition	0.71	0.48

Skin conductance level (SCL), skin conductance response (SCR) amplitude.

Table S5. Main effect of group (ADHD vs control), condition (whole baseline condition vs fast-incentive condition), and group x condition interactions in an un-medicated sample (controls = 144, ADHD = 35), controlling for age.

Main effect	<i>t</i>	<i>p</i>
<i>SCL</i>		
Group	1.47	0.14
Condition	20.88	<0.01
Group x condition	2.24	0.01
<i>SCR amplitude</i>		
Group	0.07	0.94
Condition	0.25	0.80
Group x condition	0.98	0.33

Skin conductance level (SCL), skin conductance response (SCR) amplitude.

Table S6. Main effect of group (ADHD vs control), condition (whole baseline condition vs fast-incentive condition), and group x condition interactions controlling for age, and anxiety, and depression scores (controls = 144, ADHD = 73). Anxiety and depression scores are taken from the Clinical Interview Schedule-Revised (CIS-R).

Covariates	ADHD mean (SD)	Control Mean (SD)	<i>t</i>	<i>p</i>
<i>Anxiety</i>	0.45 (0.93)	0.19 (0.54)	2.00	0.05
<i>Depression</i>	0.31 (0.80)	0.22 (0.56)	0.73	0.47

Covariates	Main effect	<i>t</i>	<i>p</i>
<i>Age and anxiety score</i>			
	<i>SCL</i>		
	Group	0.58	0.56
	Condition	23.63	<0.01
	Group x condition	2.47	0.01
	<i>SCR amplitude</i>		
	Group	1.35	0.14
	Condition	0.87	0.49
	Group x condition	0.78	0.48
<i>Age and depression score</i>			
	<i>SCL</i>		
	Group	0.58	0.56
	Condition	23.63	<0.01
	Group x condition	2.47	0.01
	<i>SCR amplitude</i>		
	Group	1.31	0.19
	Condition	0.88	0.41
	Group x condition	0.72	0.47

Skin conductance level (SCL), skin conductance response (SCR) amplitude.

Table S7. Pearson correlations in ADHD and control groups separately, between skin conductance level (SCL), skin conductance response (SCR) amplitude and reaction time variability (RTV), in the baseline and fast-incentive condition.

	SCL	SCR amplitude
<i>Control</i>		
RTV-baseline	-0.12	-0.10
RTV-fast-incentive	-0.16	-0.02
<i>ADHD</i>		
RTV-baseline	-0.31**	-0.09
RTV-fast-incentive	-0.29**	-0.32

** $p < 0.01$ skin conductance level (SCL), skin conductance response (SCR) amplitude.