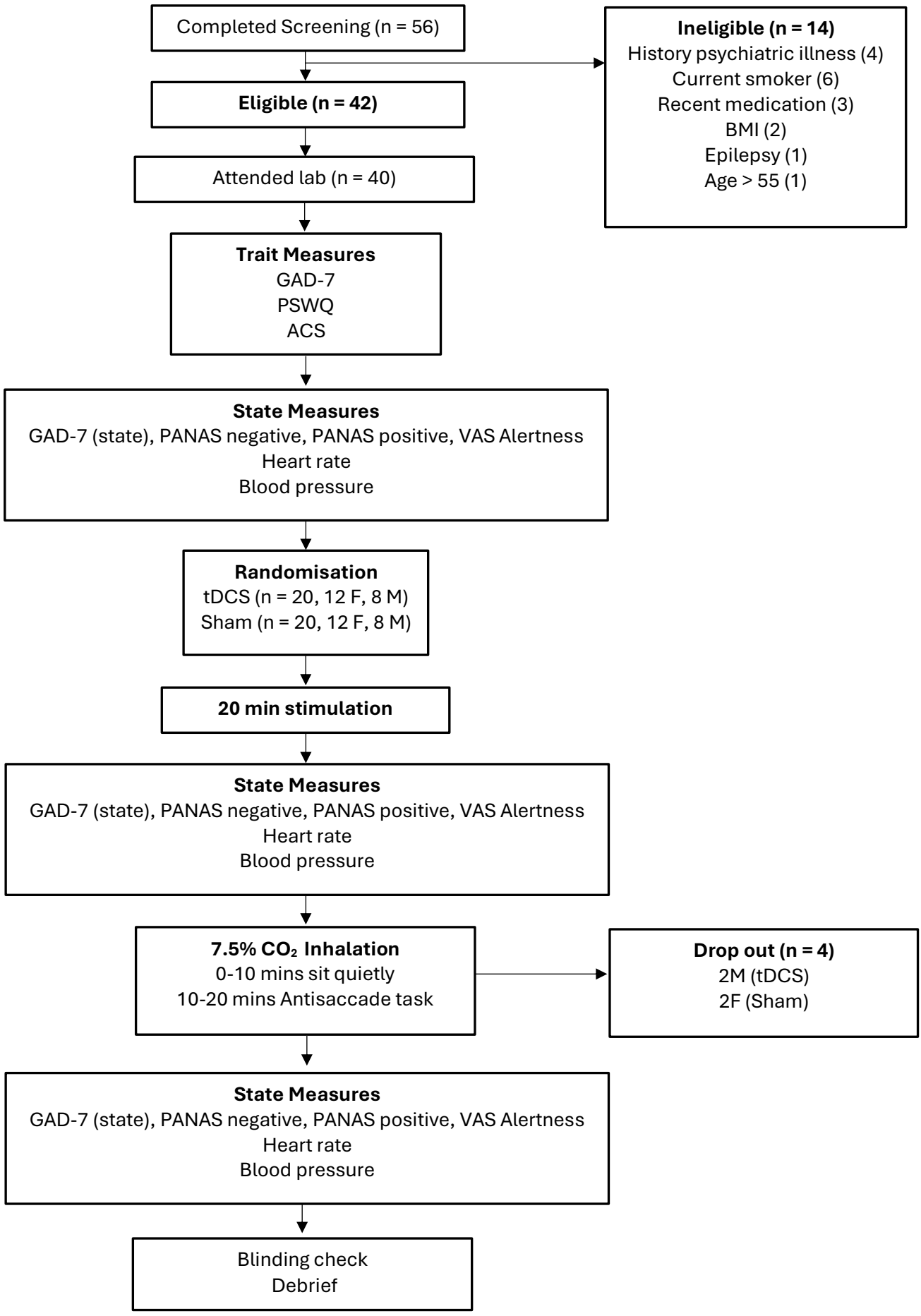

Figure 1. Summary of study protocol.

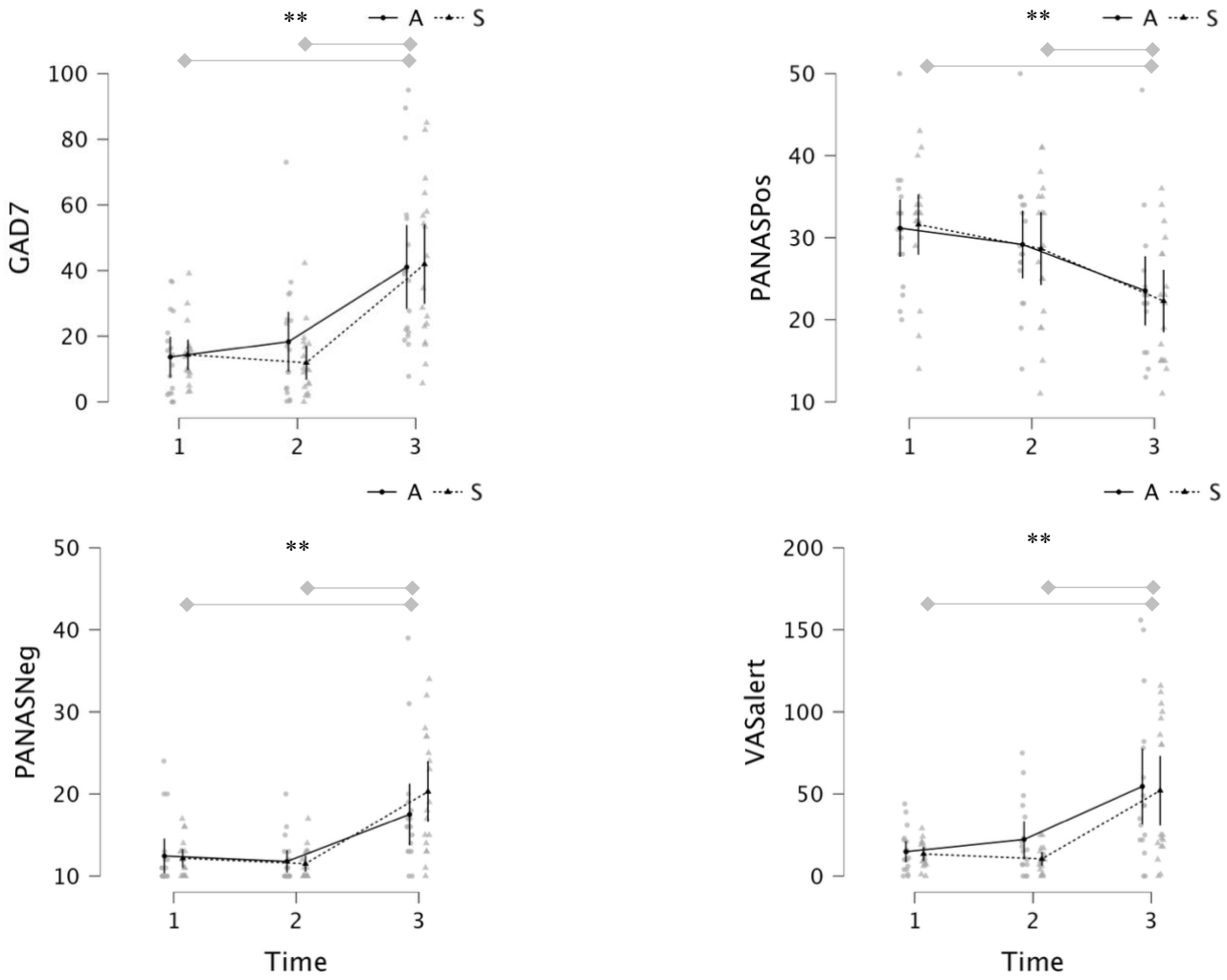

Figure 2. Anxiety (top left), positive affect (top right), negative affect (bottom left) and alertness (bottom right) at baseline (1), post stimulation (2) and post CO_2 inhalation (3) in 'Active' and 'Sham' groups. 95% confidence intervals. *$P_{Bonf =} < .05$ **$P_{Bonf =} < .01$

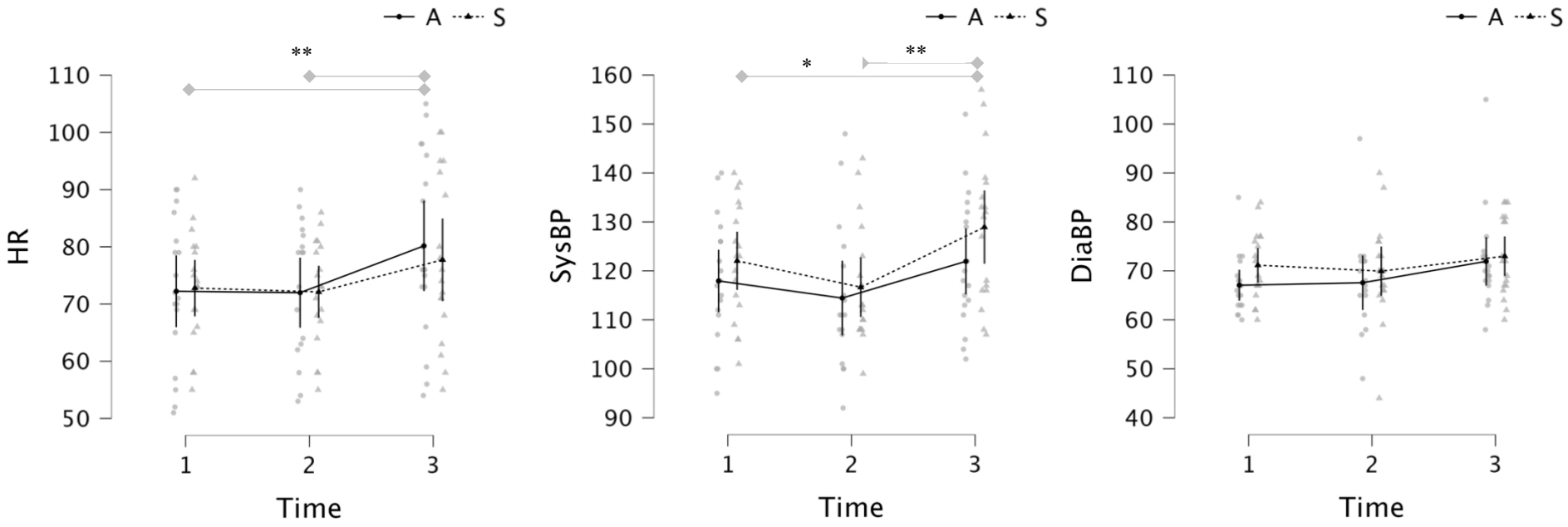

Figure 3. Heart rate (left), systolic blood pressure (middle) and diastolic blood pressure (right) at baseline (1), post stimulation (2) and post CO_2 inhalation (3) in 'Active' and 'Sham' groups. 95% confidence intervals. *$P_{Bonf} < .05$ **$P_{Bonf} < .01$

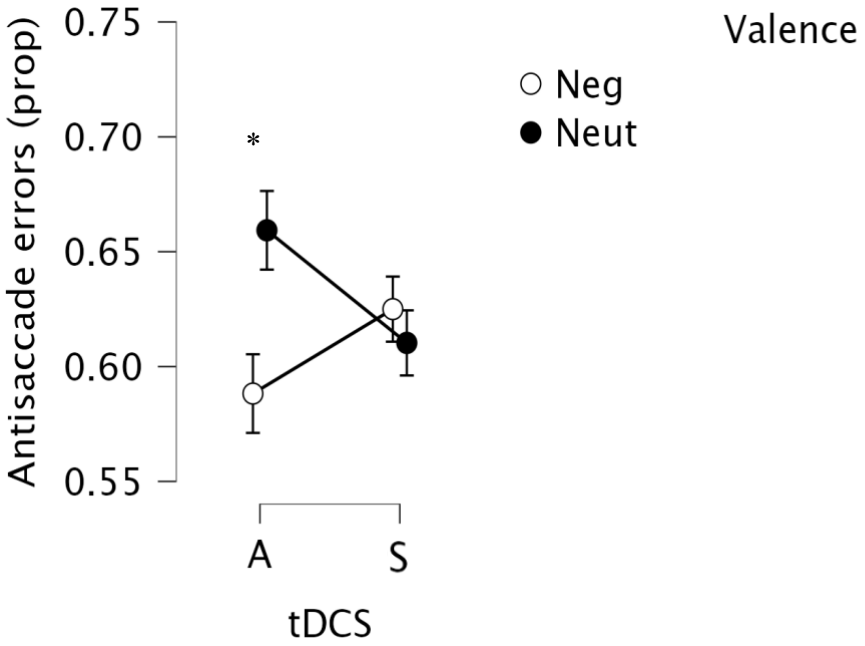

Figure 4. Eye-movement antisaccade errors towards negative and neutral stimuli during CO_2 inhalation in 'Active' and 'Sham' groups (Standard Error bars). *P_{Bonf} = .013

Table 1. Sample characteristics (trait measures)

		Active tDCS n = 18 (12 females) Mean age = 21.44 yrs (SD = 2.87)		Sham tDCS n = 18 (10 females) Mean age = 21.29 yrs (SD = 3.16)	
Trait measures	Time	M	SD	M	SD
GAD 7 (Anxiety)	Pre-session	21.28	10.56	18.09	10.35
PSWQ	Pre-session	38.22	13.44	37.06	12.05
ACS	Pre-session	50.76	7.08	49.28	9.52

Table 2. Subjective anxiety, mood and autonomic arousal at session baseline (pre-stimulation), post-stimulation and post-CO_2 challenge.

		Active tDCS		Sham tDCS		Time F(2,66)	Group F(1,33)	Time x Group F(2,66)
State measure	Time	M	SD	M	SD			
GAD 7 (Anxiety)	Baseline	13.64	12.43	14.32	9.28	7.261**, np^2 = .180	.033, ns, np^2 < .001	0.934, ns, np^2 < .001
	Post-tDCS	18.33	18.24	11.90	10.43			
	Post-CO_2	41.07	25.69	41.92	24.30			
PANAS-Positive	Baseline	31.17	7.02	31.61	7.41	8.256**, np^2 =0.210	0.011, ns, np^2 <.001	0.664, ns, np^2 = .02
	Post-tDCS	29.12	8.02	28.67	8.93			
	Post-CO_2	23.41	8.20	22.28	7.65			
PANAS-Negative	Baseline	12.44	4.26	12.17	2.30	5.834**, np^2 = .154	0.843, ns , np^2 = .026	1.558, ns, np^2 = .046
	Post-tDCS	11.78	2.76	11.50	1.98			
	Post-CO_2	17.47	7.30	20.28	7.39			
Alertness	Baseline	49.94	20.26	58.00	25.70	4.877*, np^2 = .132	0.787, ns, np^2 = .024	.508, ns, np^2 = .053
	Post-tDCS	46.97	21.70	49.14	30.24			
	Post-CO_2	65.19	36.73	71.56	27.70			
Heart Rate (BPM)	Baseline	72.22	12.62	72.78	9.91	4.107**, np^2 = .111	.014, ns, np^2 < .001	0.452, ns, np^2 = .014

	Post-tDCS	69.00	20.33	71.11	9.20			
	Post-CO_2	80.20	15.91	77.72	14.54			
SBP	Baseline	117.94	12.83	122.06	11.96	4.7837*, np^2 = .130	0.680, ns, np^2 = .021	0.478, ns, np^2 = .015
	Post-tDCS	108.11	29.93	116.67	12.24			
	Post-CO_2	121.94	13.54	128.94	15.05			
DBP	Baseline	70.94	17.06	71.17	7.06	0.105, ns, np^2 = .003	0.03, ns, np^2 = .01	0.037, ns, np^2 = .001
	Post-tDCS	61.00	22.02	69.94	10.11			
	Post-CO_2	71.94	9.97	73.00	8.13			

*P < .05, ** P < .01

Table 3. Error Rates (proportion of trials) by Trial Type and Valence in the Active and Sham tDCS Conditions.

	Active tDCS		Sham tDCS	
	M	SD	M	SD
Prosaccade Negative	0.03	0.06	0.04	0.04
Prosaccade Neutral	0.04	0.05	0.04	0.06
Antisaccade Negative	0.59	0.22	0.63	0.18
Antisaccade Neutral	0.66	0.21	0.61	0.21

Values with different supercripts (a,b) differ p <.05

Table 4. Mean Eye-Movement Latencies by Trial Type and Valence in the Active and Sham tDCS Conditions.

	Active tDCS		Sham tDCS	
	M	SD	M	SD
Prosaccade Negative	174.85	31.67	159.67	14.42
Prosaccade Neutral	172.78	23.26	167.94	15.26
Antisaccade Negative	287.96	49.43	274.28	49.43
Antisaccade Neutral	270.41	57.19	272.81	52.40