

01 Physiological phase summaries

Source analysis: 01 Rj

	Measure	N	Baseline_mean	Baseline_SD	Task_mean	Task_SD	Change_mean	Change_SD	CI_low	CI_high
	HR_Change	31	76.011624	9.985054	96.675004	11.7432379	20.6633804	8.370361	17.5931074	23.733653
	GSR_Change	31	4.130026	2.877326	8.817646	4.2831785	4.6876197	2.390592	3.8107434	5.564496
	Delta_SCL_uS	31	3.580268	2.584148	7.908847	4.2518169	4.3285792	2.406965	3.4456974	5.211461
	Delta_SCR_per_min	31	5.056813	3.594579	11.832884	4.6662164	6.7760708	4.056922	5.2879797	8.264162
	Delta_SCR_amplitude_uS	30	0.183988	0.086848	0.247564	0.0908719	0.0635754	0.104119	0.0246967	0.102454

02 RT-slope correlations: original participant-label permutations

Source analysis: 02 Rj

Predictor	N	Pearson_r	CI_low	CI_high	Pearson_p	Spearman_rho	Spearman_p	Permutation_p	Holm5_permutation_p	Permutations	Seed
HR_Change	31	0.451647	0.115846	0.694794	0.0107567	0.4323016	0.0151509	0.01405	0.07025	99999	20261002
GSR_Change	31	0.126198	-0.238822	0.459970	0.4987371	0.1032362	0.5805001	0.50251	1.00000	99999	20261003
Delta_SCL_uS	31	0.171525	-0.194645	0.495735	0.3562007	0.1584677	0.3945183	0.35920	1.00000	99999	20261004
Delta_SCR_per_min	31	-0.094025	-0.433909	0.269287	0.6148848	-0.0362903	0.8463198	0.62301	1.00000	99999	20261005
Delta_SCR_amplitude_uS	30	-0.191546	-0.516194	0.181230	0.3105880	-0.1541713	0.4159715	0.29641	1.00000	99999	20261006
Holm5_Pearson_p											
Holm5_Spearman_p											
		0.0537837									
		0.0757545									
		1.0000000									
		1.0000000									
		1.0000000									
		1.0000000									
		1.0000000									

03 RT trajectories: cluster-t and original participant-label permutations

Source analysis: 03 Rj

Predictor	N	N_bins	beta	SE	CI_low	CI_high	t	df	p	Wald_p	Holm5_cluster_t_p	Permutation_p
HR_Change	31	620	18.86694	6.40778	5.78051	31.95338	2.944379	30	0.00619619	0.00323603	0.0309809	0.02966
GSR_Change	31	620	8.89936	9.74346	-10.99945	28.79816	0.913367	30	0.36833214	0.36104967	1.0000000	0.31171
Delta_SCL_uS	31	620	10.64619	9.61749	-8.99535	30.28773	1.106962	30	0.27710790	0.26831057	1.0000000	0.22486
Delta_SCR_per_min	31	620	-2.08508	6.73074	-15.83109	11.66094	-0.309784	30	0.75886674	0.75672507	1.0000000	0.81492
Delta_SCR_amplitude_uS	30	600	-7.92685	6.94729	-22.13566	6.28195	-1.140999	29	0.26320530	0.25387019	1.0000000	0.36631
Holm5_permutation_p	Permutations		Seed									
	0.14830	99999	20261102									
	0.93513	99999	20261103									
	0.89944	99999	20261104									
	0.93513	99999	20261105									
	0.93513	99999	20261106									

04 H2 primary empirical-logit models: participant-clustered t inference

Source analysis: 04 Rj

Outcome	N	N_bins	RT_SD_ms	beta	SE	CI_low	CI_high	t	df	p	Wald_p	Holm2_p
failure	31	620	38.2663	-0.0833647	0.0366187	-0.158150	-0.00857942	-2.27656	30	0.0301135	0.0228123	0.060227
omission	31	620	38.2663	-0.0687212	0.0346068	-0.139398	0.00195526	-1.98577	30	0.0562638	0.0470585	0.060227

05 H2 grouped-binomial sensitivity: participant-clustered t inference

Source analysis: 05 Rj

Outcome	N	N_bins	RT_SD_ms	Beta		SE	Odds_ratio	OR_CI_low	OR_CI_high	t	df	p	Holm2_p
failure	31	620	38.2663	-0.0991764	0.0363337		0.905583	0.840818	0.975336	-2.72960	30	0.0105066	0.0210132
omission	31	620	38.2663	-0.0881308	0.0382998		0.915641	0.846750	0.990137	-2.30108	30	0.0285126	0.0285126

06 Participant-level covariate sensitivities: HC3 inference

Source analysis: 06 Rj

Predictor	Adjustment	N	beta	SE	CI_low	CI_high	t	df	p	Wald_p
HR_Change	HR_Baseline	31	0.4671065	0.117959	0.225479	0.708734	3.959922	28	0.000467830	7.49741e-05
HR_Change	DT_RT_median_ms	31	0.3917207	0.104934	0.176773	0.606669	3.733013	28	0.000855600	1.89203e-04
HR_Change	DT_Accuracy	31	0.4903622	0.168245	0.145728	0.834997	2.914569	28	0.006931628	3.56181e-03
HR_Change	DT_Stimuli	31	0.4400429	0.107583	0.219670	0.660416	4.090277	28	0.000329715	4.30859e-05
GSR_Change	GSR_Baseline	31	0.1333001	0.258797	-0.396822	0.663422	0.515076	28	0.610542884	6.06500e-01
GSR_Change	DT_RT_median_ms	31	0.0618260	0.191529	-0.330504	0.454155	0.322802	28	0.749243472	7.46845e-01
GSR_Change	DT_Accuracy	31	0.1024629	0.231446	-0.371632	0.576558	0.442708	28	0.661378146	6.57977e-01
GSR_Change	DT_Stimuli	31	0.1038353	0.210033	-0.326397	0.534068	0.494376	28	0.624896990	6.21040e-01
Delta_SCL_uS	Baseline_SCL_uS	31	0.1829311	0.277194	-0.384876	0.750738	0.659938	28	0.514685806	5.09293e-01
Delta_SCL_uS	DT_RT_median_ms	31	0.1180231	0.181687	-0.254146	0.490192	0.649596	28	0.521246864	5.15953e-01
Delta_SCL_uS	DT_Accuracy	31	0.1490218	0.224854	-0.311571	0.609614	0.662749	28	0.512910242	5.07491e-01
Delta_SCL_uS	DT_Stimuli	31	0.1676405	0.203989	-0.250212	0.585493	0.821811	28	0.418127652	4.11184e-01
Delta_SCR_per_min	Baseline_SCR_per_min	31	-0.0982246	0.189311	-0.486011	0.289562	-0.518853	28	0.607940374	6.03864e-01
Delta_SCR_per_min	DT_RT_median_ms	31	-0.1015186	0.183480	-0.477359	0.274322	-0.553296	28	0.584451761	5.80060e-01
Delta_SCR_per_min	DT_Accuracy	31	-0.1031073	0.175490	-0.462582	0.256368	-0.587539	28	0.561550173	5.56841e-01
Delta_SCR_per_min	DT_Stimuli	31	-0.1034876	0.179539	-0.471257	0.264282	-0.576406	28	0.568945997	5.64341e-01
Delta_SCR_amplitude_uS	Baseline_SCR_amplitude_uS	30	-0.2724375	0.225906	-0.735959	0.191084	-1.205976	27	0.238288975	2.27827e-01
Delta_SCR_amplitude_uS	DT_RT_median_ms	30	-0.1456320	0.190899	-0.537324	0.246060	-0.762876	27	0.452151586	4.45537e-01
Delta_SCR_amplitude_uS	DT_Accuracy	30	-0.1673914	0.204348	-0.586678	0.251896	-0.819150	27	0.419873063	4.12701e-01
Delta_SCR_amplitude_uS	DT_Stimuli	30	-0.1775382	0.173420	-0.533367	0.178291	-1.023746	27	0.315040754	3.05955e-01

07 RT-trajectory covariate sensitivities: participant-clustered t inference

Source analysis: 07 Rj

Predictor	Adjustment	N	N_bins	beta	SE	CI_low	CI_high	t	df	p	Wald_p
HR_Change	HR_Baseline	31	620	20.143247	6.66725	6.52691	33.75959	3.0212227	30	0.00510939	0.00251756
HR_Change	DT_RT_median_ms	31	620	16.094312	5.73931	4.37308	27.81554	2.8042256	30	0.00876207	0.00504376
HR_Change	DT_Accuracy	31	620	18.007260	7.61923	2.44671	33.56781	2.3633950	30	0.02478415	0.01810836
HR_Change	DT_Stimuli	31	620	18.376562	5.89992	6.32733	30.42580	3.1147159	30	0.00403039	0.00184122
GSR_Change	GSR_Baseline	31	620	7.845368	10.69016	-13.98685	29.67759	0.7338868	30	0.46871492	0.46301774
GSR_Change	DT_RT_median_ms	31	620	6.111238	7.68268	-9.57888	21.80136	0.7954568	30	0.43259689	0.42634783
GSR_Change	DT_Accuracy	31	620	7.143800	9.75691	-12.78246	27.07006	0.7321787	30	0.46974134	0.46405949
GSR_Change	DT_Stimuli	31	620	7.977815	8.45806	-9.29585	25.25148	0.9432201	30	0.35310291	0.34556835
Delta_SCL_uS	Baseline_SCL_uS	31	620	8.316684	11.46281	-15.09349	31.72686	0.7255363	30	0.47374527	0.46812306
Delta_SCL_uS	DT_RT_median_ms	31	620	8.308221	7.47254	-6.95274	23.56918	1.1118340	30	0.27504049	0.26620951
Delta_SCL_uS	DT_Accuracy	31	620	8.904376	9.66465	-10.83348	28.64223	0.9213341	30	0.36422627	0.35687602
Delta_SCL_uS	DT_Stimuli	31	620	10.482782	8.39387	-6.65979	27.62536	1.2488611	30	0.22137355	0.21171589
Delta_SCR_per_min	Baseline_SCR_per_min	31	620	0.426131	7.57975	-15.05378	15.90604	0.0562197	30	0.95553954	0.95516677
Delta_SCR_per_min	DT_RT_median_ms	31	620	-2.421789	7.12621	-16.97546	12.13188	-0.3398422	30	0.73634326	0.73397533
Delta_SCR_per_min	DT_Accuracy	31	620	-2.731730	7.00022	-17.02808	11.56462	-0.3902350	30	0.69911989	0.69636276
Delta_SCR_per_min	DT_Stimuli	31	620	-2.482684	7.02832	-16.83643	11.87107	-0.3532399	30	0.72637875	0.72390856
Delta_SCR_amplitude_uS	Baseline_SCR_amplitude_uS	30	600	-5.146851	9.86146	-25.31580	15.02210	-0.5219157	29	0.60569289	0.60172901
Delta_SCR_amplitude_uS	DT_RT_median_ms	30	600	-5.884923	7.78687	-21.81087	10.04102	-0.7557491	29	0.45589483	0.44979963
Delta_SCR_amplitude_uS	DT_Accuracy	30	600	-5.624725	8.31023	-22.62105	11.37160	-0.6768436	29	0.50386875	0.49850519
Delta_SCR_amplitude_uS	DT_Stimuli	30	600	-7.356696	7.27503	-22.23581	7.52242	-1.0112252	29	0.32027195	0.31190867

08 Aggregate response quality and exposure: original permutations

Source analysis: 08 Rj

Predictor	Outcome	N	Pearson_r	CI_low	CI_high	Pearson_p	Spearman_rho	Spearman_p	Permutation_p
HR_Change	DT_Accuracy	31	0.453961477	0.118718	0.6962974	0.0103115	0.28027019	0.1267249	0.01216
HR_Change	DT_Omission_proportion	31	-0.435676372	-0.684366	-0.0961851	0.0142915	-0.33067850	0.0692201	0.01406
HR_Change	DT_Stimuli	31	-0.042944607	-0.391330	0.3162072	0.8185695	-0.12987799	0.4861960	0.82082
HR_Change	DT_Correct	31	0.125341403	-0.239642	0.4592832	0.5016791	-0.00231902	0.9901215	0.50560
GSR_Change	DT_Accuracy	31	0.203847785	-0.162209	0.5205853	0.2713604	0.21736062	0.2401595	0.27342
GSR_Change	DT_Omission_proportion	31	-0.121042501	-0.455832	0.2437522	0.5165757	-0.13630406	0.4646906	0.51495
GSR_Change	DT_Stimuli	31	-0.079629457	-0.422061	0.2826869	0.6702420	-0.13895331	0.4559730	0.66966
GSR_Change	DT_Correct	31	-0.030759557	-0.380948	0.3271462	0.8695243	-0.05495059	0.7690629	0.86908
Delta_SCL_uS	DT_Accuracy	31	0.213198239	-0.152676	0.5276753	0.2495033	0.21774194	0.2393154	0.24873
Delta_SCL_uS	DT_Omission_proportion	31	-0.195841566	-0.514480	0.1703177	0.2910332	-0.22822581	0.2168807	0.28860
Delta_SCL_uS	DT_Stimuli	31	-0.013542955	-0.366126	0.3424405	0.9423564	-0.05726961	0.7595959	0.94084
Delta_SCL_uS	DT_Correct	31	0.044343650	-0.314945	0.3925163	0.8127612	0.03730215	0.8420877	0.81205
Delta_SCR_per_min	DT_Accuracy	31	0.063144437	-0.297860	0.4083479	0.7357681	0.08266129	0.6584289	0.73810
Delta_SCR_per_min	DT_Omission_proportion	31	-0.073143141	-0.416684	0.2886788	0.6957729	-0.11693548	0.5310073	0.69500
Delta_SCR_per_min	DT_Stimuli	31	-0.032356015	-0.382313	0.3257185	0.8628145	-0.04012906	0.8302869	0.86107
Delta_SCR_per_min	DT_Correct	31	-0.007953504	-0.361275	0.3473656	0.9661288	0.00322613	0.9862578	0.96493
Delta_SCR_amplitude_uS	DT_Accuracy	30	-0.271864992	-0.575743	0.0980031	0.1461322	0.00333704	0.9860369	0.14534
Delta_SCR_amplitude_uS	DT_Omission_proportion	30	0.000262764	-0.360041	0.3604979	0.9989005	-0.03759733	0.8436332	0.99885
Delta_SCR_amplitude_uS	DT_Stimuli	30	0.050111437	-0.315860	0.4031032	0.7925706	-0.04895416	0.7972610	0.79705
Delta_SCR_amplitude_uS	DT_Correct	30	0.044827557	-0.320620	0.3986584	0.8140413	-0.03737902	0.8445302	0.81624

08 Aggregate response quality and exposure: original permutations

Source analysis: 08 Rj | Continued

Column continuation: rows retain the order shown on the preceding page.

Holm20_permutation_p	Permutations	Seed
0.24320	99999	20261202
0.26714	99999	20261203
1.00000	99999	20261204
1.00000	99999	20261205
1.00000	99999	20261206
1.00000	99999	20261207
1.00000	99999	20261208
1.00000	99999	20261209
1.00000	99999	20261210
1.00000	99999	20261211
1.00000	99999	20261212
1.00000	99999	20261213
1.00000	99999	20261214
1.00000	99999	20261215
1.00000	99999	20261216
1.00000	99999	20261217
1.00000	99999	20261218
1.00000	99999	20261219
1.00000	99999	20261220
1.00000	99999	20261221

09 Late-minus-early temporal measures: original permutations

Source analysis: 09 Rj

Predictor	Outcome	N	Pearson_r	CI_low	CI_high	Pearson_p	Spearman_rho	Spearman_p	Permutation_p
HR_Change	late_minus_early_ms	31	0.37402108	0.0226878	0.6431271	0.0381915	0.3093054	0.0904221	0.04234
HR_Change	late_minus_early_mad_ms	31	0.01017307	-0.3454122	0.3632039	0.9566843	0.0619014	0.7407905	0.95672
HR_Change	late_minus_early_failure_rate	31	-0.05538724	-0.4018409	0.3049376	0.7672778	0.0814927	0.6629728	0.76214
HR_Change	late_minus_early_omission_rate	31	-0.05928322	-0.4051134	0.3013880	0.7514033	0.1107190	0.5532132	0.75579
GSR_Change	late_minus_early_ms	31	0.14266756	-0.2229430	0.4730916	0.4438991	0.1403367	0.4514556	0.44581
GSR_Change	late_minus_early_mad_ms	31	-0.08344690	-0.4252140	0.2791472	0.6553809	-0.1929630	0.2983227	0.65636
GSR_Change	late_minus_early_failure_rate	31	-0.15803460	-0.4852043	0.2079503	0.3958284	-0.0839133	0.6535740	0.39590
GSR_Change	late_minus_early_omission_rate	31	-0.18972951	-0.5097966	0.1764748	0.3066476	-0.1284663	0.4909877	0.30729
Delta_SCL_uS	late_minus_early_ms	31	0.20431493	-0.1617343	0.5209405	0.2702399	0.2524194	0.1706991	0.27356
Delta_SCL_uS	late_minus_early_mad_ms	31	-0.06767980	-0.4121362	0.2937038	0.7175351	-0.1959677	0.2907163	0.71702
Delta_SCL_uS	late_minus_early_failure_rate	31	-0.21349634	-0.5279006	0.1523707	0.2488262	-0.1694232	0.3622137	0.25090
Delta_SCL_uS	late_minus_early_omission_rate	31	-0.26502440	-0.5661939	0.0985725	0.1496223	-0.2276669	0.2180393	0.14868
Delta_SCR_per_min	late_minus_early_ms	31	0.00041576	-0.3539765	0.3547036	0.9982289	0.0866935	0.6428424	0.99803
Delta_SCR_per_min	late_minus_early_mad_ms	31	-0.08549705	-0.4269041	0.2772421	0.6474523	-0.0701613	0.7076224	0.64784
Delta_SCR_per_min	late_minus_early_failure_rate	31	-0.31393347	-0.6013769	0.0454640	0.0854572	-0.3896733	0.0302403	0.08632
Delta_SCR_per_min	late_minus_early_omission_rate	31	-0.20803138	-0.5237629	0.1579520	0.2614324	-0.2405727	0.1923521	0.26095
Delta_SCR_amplitude_uS	late_minus_early_ms	30	-0.11084035	-0.4530194	0.2598034	0.5598243	-0.1684093	0.3736813	0.54589
Delta_SCR_amplitude_uS	late_minus_early_mad_ms	30	0.15934646	-0.2131598	0.4914053	0.4003007	0.2186874	0.2456322	0.40305
Delta_SCR_amplitude_uS	late_minus_early_failure_rate	30	-0.11227931	-0.4541767	0.2584442	0.5547077	-0.0945916	0.6190466	0.54827
Delta_SCR_amplitude_uS	late_minus_early_omission_rate	30	0.00792068	-0.3533569	0.3671422	0.9668650	-0.0157988	0.9339614	0.96727

09 Late-minus-early temporal measures: original permutations

Source analysis: 09 Rj | Continued

Column continuation: rows retain the order shown on the preceding page.

Holm20_permutation_p	Permutations	Seed
0.8468	99999	20261402
1.0000	99999	20261403
1.0000	99999	20261404
1.0000	99999	20261405
1.0000	99999	20261406
1.0000	99999	20261407
1.0000	99999	20261408
1.0000	99999	20261409
1.0000	99999	20261410
1.0000	99999	20261411
1.0000	99999	20261412
1.0000	99999	20261413
1.0000	99999	20261414
1.0000	99999	20261415
1.0000	99999	20261416
1.0000	99999	20261417
1.0000	99999	20261418
1.0000	99999	20261419
1.0000	99999	20261420
1.0000	99999	20261421

10 Common-case correlations and RT variability

Source analysis: 10 Rj

Output 1: Common-case correlations: participant RT slope and physiological changes

Predictor	N	Pearson_r	CI_low	CI_high	Pearson_p	Spearman_rho	Spearman_p
HR_Change	30	0.4495552	0.106541	0.696946	0.0126896	0.4369785	0.0157557
GSR_Change	30	0.1229626	-0.248307	0.462733	0.5174122	0.1085772	0.5679152
Delta_SCL_uS	30	0.1688819	-0.203786	0.498803	0.3723223	0.1644049	0.3853129
Delta_SCR_per_min	30	-0.0851844	-0.432190	0.283794	0.6544680	-0.0117909	0.9506909
Delta_SCR_amplitude_uS	30	-0.1915459	-0.516194	0.181230	0.3105880	-0.1541713	0.4159715

Output 2: Mean SC change and tonic SCL change

N	Pearson_r	CI_low	CI_high	Pearson_p	Spearman_rho	Spearman_p
31	0.945139	0.888287	0.973465	1.25592e-15	0.921464	1.95541e-13

Output 3: Participant RT slope and late-minus-early RT MAD

N	Pearson_r	CI_low	CI_high	Pearson_p	Spearman_rho	Spearman_p
31	0.461847	0.128544	0.701402	0.00890918	0.406452	0.0232692

Output 4: Leave-one-out correlation range: participant RT slope and late-minus-early RT MAD

L00_r_min	L00_r_max
0.39183	0.536826

11 Upward RT change points: original circular-block bootstrap

Source analysis: 11 Rj

tau	delta_BIC	pre	post	change	Nominal_candidate	Directional_max_delta_BIC	Circular_block_bootstrap_p	Holm31_bootstrap_p
0.50	-4.149496	23.3479	-67.05607	-90.4040	FALSE	NA	1.0000	1.0000
0.40	-3.082601	-191.9830	-40.17221	151.8108	FALSE	NA	1.0000	1.0000
0.75	-4.561591	10.3981	-109.05944	-119.4575	FALSE	NA	1.0000	1.0000
0.30	-4.363037	-141.7640	31.26201	173.0260	FALSE	-4.363037	0.1867	1.0000
0.30	-3.229070	-89.9927	145.37353	235.3662	FALSE	-3.229070	0.1249	1.0000
0.75	-4.042832	-50.1209	268.86799	318.9889	FALSE	-4.042832	0.2175	1.0000
0.25	-3.786646	-179.9216	8.69692	188.6186	FALSE	-3.786646	0.1771	1.0000
0.75	-4.856874	-111.2821	93.92601	205.2081	FALSE	-4.856874	0.1629	1.0000
0.65	-0.204406	63.1818	-161.37348	-224.5553	FALSE	NA	1.0000	1.0000
0.25	-0.890839	-294.7138	41.01288	335.7266	FALSE	-0.890839	0.0707	1.0000
0.25	-5.204716	-95.0160	96.65587	191.6718	FALSE	-5.204716	0.3531	1.0000
0.30	1.342291	-255.0622	59.88503	314.9473	FALSE	1.342291	0.0320	0.9600
0.25	-3.496501	-232.7859	5.82148	238.6074	FALSE	-3.496501	0.1655	1.0000
0.65	-5.321504	36.2396	117.24208	81.0024	FALSE	-5.321504	0.3803	1.0000
0.35	-4.085040	280.8165	108.72157	-172.0950	FALSE	NA	1.0000	1.0000
0.65	13.745062	-162.3466	558.51028	720.8569	TRUE	13.745062	0.0038	0.1178
0.70	-5.201864	50.0301	-50.82291	-100.8530	FALSE	-5.715040	0.4545	1.0000
0.30	-3.150339	-98.0922	126.24007	224.3323	FALSE	-3.150339	0.1667	1.0000
0.25	-5.354391	-175.9678	38.18589	214.1537	FALSE	-5.354391	0.3943	1.0000
0.25	-5.393167	121.5333	-7.36101	-128.8943	FALSE	NA	1.0000	1.0000
0.40	-1.070134	107.4592	-78.20178	-185.6610	FALSE	NA	1.0000	1.0000
0.75	-5.062469	26.8005	-139.97020	-166.7707	FALSE	-5.927497	0.5510	1.0000
0.50	-5.713462	37.6185	-14.81845	-52.4370	FALSE	-5.961763	0.6081	1.0000
0.75	0.380673	70.3205	-279.94042	-350.2609	FALSE	-5.890425	0.5888	1.0000
0.50	-5.533527	29.3654	-36.39217	-65.7575	FALSE	-5.944862	0.5690	1.0000
0.70	-5.084501	-34.0791	138.07415	172.1533	FALSE	-5.084501	0.3567	1.0000
0.70	-2.431184	55.2520	-242.11996	-297.3720	FALSE	NA	1.0000	1.0000
0.25	-4.987686	-101.1908	15.50214	116.6930	FALSE	-4.987686	0.2723	1.0000
0.25	-5.131101	-143.2555	73.95167	217.2072	FALSE	-5.131101	0.3073	1.0000
0.25	-2.269525	-140.5055	35.74851	176.2540	FALSE	-2.269525	0.1068	1.0000
0.45	-2.528108	97.5788	-77.81719	-175.3960	FALSE	NA	1.0000	1.0000

11 Upward RT change points: original circular-block bootstrap

Source analysis: 11 Rj | Continued

Column continuation: rows retain the order shown on the preceding page.

Bootstrap_replicates	Block_length_bins	Seed
9999	3	20261002
9999	3	20261003
9999	3	20261004
9999	3	20261005
9999	3	20261006
9999	3	20261007
9999	3	20261008
9999	3	20261009
9999	3	20261010
9999	3	20261011
9999	3	20261012
9999	3	20261013
9999	3	20261014
9999	3	20261015
9999	3	20261016
9999	3	20261017
9999	3	20261018
9999	3	20261019
9999	3	20261020
9999	3	20261021
9999	3	20261022
9999	3	20261023
9999	3	20261024
9999	3	20261025
9999	3	20261026
9999	3	20261027
9999	3	20261028
9999	3	20261029
9999	3	20261030
9999	3	20261031
9999	3	20261032

12 Original descriptive PCA, clustering, and leave-one-out prediction

Source analysis: 12 Rj

Output 1: Temporal-cost principal component loadings

Component	Variable	Loading	Explained_variance_ratio
PC1_temporal_cost	rt_slope_fullprogress_ms	0.618734	0.755791
PC1_temporal_cost	late_minus_early_ms	0.627154	0.755791
PC1_temporal_cost	late_minus_early_mad_ms	0.473123	0.755791

Output 2: Temporal-cost component correlations

Outcome	Predictor	r	CI_low	CI_high	Permutation_p
TemporalCost_PC1	HR_Change	0.3445598	-0.0111404	0.622855	0.0623469
TemporalCost_PC1	GSR_Change	0.0850568	-0.2776515	0.426541	0.6520674
TemporalCost_PC1	DT_Accuracy	0.1154251	-0.2491033	0.451307	0.5320234
TemporalCost_PC1	DT_Omission_proportion	-0.1843242	-0.5056393	0.181896	0.3210339
TemporalCost_PC1	DT_Stimuli	-0.3045274	-0.5946961	0.055838	0.0962952

Output 3: Cluster separation and bootstrap stability

k	Silhouette	Bootstrap_ARI_median	Bootstrap_ARI_Q1	Bootstrap_ARI_Q3
2	0.1294060	0.133755	-0.0125577	0.307570
3	0.1238678	0.131962	0.0517061	0.254077
4	0.0735929	0.179226	0.0922986	0.292220

Output 4: Leave-one-out prediction

Model	L00CV_Q2	L00CV_RMSE_ms	Correlation_observed_predicted
HR_Change	0.1251050	46.2899	0.366177
GSR_Change	-0.1599996	53.3012	-0.407667
HR_Change+GSR_Change	0.0506646	48.2190	0.294958

13 Calibrated-channel sensitivity: correlations and original permutations

Source analysis: 13 Rj

Predictor	N	Pearson_r	CI_low	CI_high	Pearson_p	Spearman_rho	Spearman_p	Permutation_p	Holm5_permutation_p	Permutations	Seed
HR_Change	31	0.448772	0.112288	0.692925	0.0113321	0.3427419	0.0590917	0.01545	0.07725	99999	20261002
GSR_Change	31	0.138948	-0.226546	0.470141	0.4559898	0.1318548	0.4795265	0.45900	1.00000	99999	20261003
Delta_SCL_uS	31	0.171525	-0.194645	0.495735	0.3562007	0.1584677	0.3945183	0.35920	1.00000	99999	20261004
Delta_SCR_per_min	31	-0.094025	-0.433909	0.269287	0.6148848	-0.0362903	0.8463198	0.62301	1.00000	99999	20261005
Delta_SCR_amplitude_uS	30	-0.191546	-0.516194	0.181230	0.3105880	-0.1541713	0.4159715	0.29641	1.00000	99999	20261006
Holm5_Pearson_p											
Holm5_Spearman_p											
		0.0566606			0.295459						
		1.0000000			1.000000						
		1.0000000			1.000000						
		1.0000000			1.000000						
		1.0000000			1.000000						

14 Calibrated-channel sensitivity: trajectories and original permutations

Source analysis: 14 Rj

Predictor	N	N_bins	beta	SE	CI_low	CI_high	t	df	p	Wald_p	Holm5_cluster_t_p	Permutation_p
HR_Change	31	620	20.70612	7.08585	6.23489	35.17735	2.922180	30	0.00654878	0.00347591	0.0327439	0.01782
GSR_Change	31	620	9.67275	9.74371	-10.22657	29.57207	0.992717	30	0.32878781	0.32084785	1.0000000	0.27125
Delta_SCL_uS	31	620	10.64619	9.61749	-8.99535	30.28773	1.106962	30	0.27710790	0.26831057	1.0000000	0.22486
Delta_SCR_per_min	31	620	-2.08508	6.73074	-15.83109	11.66094	-0.309784	30	0.75886674	0.75672507	1.0000000	0.81492
Delta_SCR_amplitude_uS	30	600	-7.92685	6.94729	-22.13566	6.28195	-1.140999	29	0.26320530	0.25387019	1.0000000	0.36631
Holm5_permutation_p	Permutations		Seed									
	0.08910	99999	20261102									
	0.89944	99999	20261103									
	0.89944	99999	20261104									
	0.89944	99999	20261105									
	0.89944	99999	20261106									

15 PRV 1: participant-level data and QC (31 participants)

Source analysis: 44 Rj

One independent record per participant. Parametric estimates are computed from the OMV; resampling outputs are archived with input checks.

Primary n=26 | strict n=22 | borderline sensitivity n=27

QC15 and short-window allowances are post hoc.

Baseline	Task	Rejected_B_pct	Rejected_T_pct	Strict	Primary
OK	OK	0.53763441	0.22075055	1	1
OK	OK	1.9417476	0.76923077	1	1
OK	OK	1.2594458	1.8823529	1	1
OK	OK	1.2019231	0.21413276	1	1
OK	OK	0.61919505	1.026694	1	1
OK	OK	0.34013605	1.1428571	1	1
OK	ACCEPTED_QC15	2.9255319	12.21374	0	1
OK	OK	1.7910448	0.2688172	1	1
OK	OK	0	0.4950495	1	1
OK	OK	0	0.36101083	1	1
OK	REVIEW	4.1450777	41.598361	0	0
OK	OK	0.29325513	0.243309	1	1
OK	OK	0	0.59055118	1	1
OK	OK	0.24570025	0.1650165	1	1
ACCEPTED_SHORT	OK	1.4409222	5.8951965	0	1
ACCEPTED_QC15	OK	11.711712	5.3608247	0	1
OK	OK	0.21141649	0.58479532	1	1
OK	REVIEW	3.7647059	22.925764	0	0
OK	OK	0.23866348	0.19920319	1	1
REVIEW	OK	17.662338	8.490566	0	0
OK	OK	2.75	0.53763441	1	1
ACCEPTED_QC15	OK	12.5	2.2988506	0	1
OK	OK	0.23041475	0.43956044	1	1
OK	OK	1.061008	0.23980815	1	1
OK	OK	0	0.22321429	1	1
REVIEW	OK	20.496894	1.7326733	0	0
REVIEW	REVIEW	18.705036	4.0650407	0	0
OK	OK	0.92592593	0.39525692	1	1
OK	OK	0	0.23364486	1	1
OK	OK	1.4028056	0.36832413	1	1
OK	OK	3.5714286	6.043956	1	1

15 PRV 1: participant-level data and QC (31 participants)

Source analysis: 44 Rj | Continued

Baseline_s	Task_s	Coverage_B	Coverage_T	Kept_B	Kept_T	Adjacent_B	Adjacent_T
300	300	0.99065679	0.99597156	370	452	367	451
300	300	0.97660575	0.99299254	303	387	297	385
300	300	0.99061566	0.98297075	392	417	389	410
300	300	0.98569752	0.99684109	411	466	408	465
300	300	0.99475549	0.98997879	321	482	319	478
300	300	0.99648684	0.98643398	293	346	292	342
300	300	0.96427634	0.87470461	365	345	355	312
300	300	0.98566994	0.99783462	329	371	325	370
300	300	0.99763029	0.99541138	381	402	380	400
300	300	0.99781652	0.99471198	493	552	492	550
300	300	0.95343896	0.59571645	370	285	358	198
300	300	0.9961643	0.99626872	340	410	339	409
300	300	0.99508681	0.99276835	428	505	427	502
300	300	0.99822057	0.99814228	406	605	405	604
296.16944	300	0.97828502	0.92678277	342	431	337	413
300	300	0.87166584	0.94071613	392	459	357	438
300	300	0.9947046	0.99527877	472	510	470	508
300	300	0.96137006	0.73521116	409	353	396	300
300	300	0.99958887	0.99880578	418	501	417	500
300	300	0.80908814	0.9080842	317	388	279	364
300	300	0.89374246	0.99343295	389	555	380	552
300	300	0.85215124	0.96869763	343	425	314	417
300	300	0.99468371	0.9961719	433	453	431	451
300	300	0.98018108	0.99641132	373	416	370	415
300	300	0.99822117	0.99811672	394	447	393	446
300	300	0.77077721	0.98023892	256	397	216	393
300	300	0.64112271	0.8452225	226	354	189	339
300	300	0.986632	0.99446127	428	504	424	502
300	300	0.99615588	0.99678238	378	427	377	426
300	300	0.98416195	0.99621132	492	541	487	539
300	300	0.96400991	0.93853554	432	513	416	490

16 PRV 2: paired phase changes and effect sizes (primary n=26)

Source analysis: 46 Rj

One independent record per participant. Parametric estimates are computed from the OMV; resampling outputs are archived with input checks.

Measure	n	Baseline_mean	Baseline_SD	Task_mean	Task_SD	Change	CI_low	CI_high
RMSSD	26	46.132992	19.189781	37.316248	16.681854	-8.8167444	-14.106294	-3.5271947
SDNN	26	62.19634	18.593519	43.217448	15.471193	-18.978892	-25.177009	-12.780775

Measure	t	df	p	Holm_p	dz	dz_CI_low	dz_CI_high	Wilcoxon_W	Wilcoxon_p
RMSSD	-3.4328867	25	0.0020883384	0.0020883384	-0.67324447	-1.1729741	-0.32848927	57	0.0017795563
SDNN	-6.3063928	25	1.3395065e-06	2.6790131e-06	-1.2367854	-1.8347192	-0.87107162	13	2.6226044e-06

Holm adjustment: two paired PRV tests. dz intervals: 20,000 percentile-bootstrap resamples.

17 PRV 3: distribution diagnostics and lnRMSSD sensitivity

Source analysis: 48 Rj

One independent record per participant. Parametric estimates are computed from the OMV; resampling outputs are archived with input checks.

Metric	Phase	n	mean	sd	median	q1	q3	min	max	skew	shapiro_W	shapiro_p
RMSSD	baseline	26	46.132992	19.189781	43.860553	33.841296	54.72864	13.88687	92.769937	0.91983735	0.93430601	0.098171487
RMSSD	task	26	37.316248	16.681854	35.799738	26.345783	43.881983	11.825452	77.50729	0.89970308	0.9315661	0.084445285
RMSSD	delta	26	-8.8167444	13.095903	-11.015358	-14.087183	-1.3107363	-44.381817	13.853364	-0.55015749	0.94647181	0.19150994
SDNN	baseline	26	62.19634	18.593519	60.366027	52.584572	75.26253	21.712147	101.51957	-0.103189	0.99179851	0.99852032
SDNN	task	26	43.217448	15.471193	39.703576	32.869497	51.004163	20.527358	82.997128	1.1980789	0.90163555	0.017033081
SDNN	delta	26	-18.978892	15.34534	-19.029922	-25.804964	-5.8174739	-49.717869	6.9914332	-0.20696349	0.96943054	0.60860645
lnRMSSD	baseline	26	3.7477595	0.4278962	3.7810006	3.5214959	4.0022937	2.6309438	4.5301226	-0.41993409	0.97208219	0.67782868
lnRMSSD	task	26	3.5198258	0.47104838	3.5762829	3.2712312	3.781347	2.4702542	4.350372	-0.49124354	0.9601034	0.39357265
lnRMSSD	delta	26	-0.22793368	0.3585834	-0.19531811	-0.39649797	-0.0362323	-1.3309018	0.52863356	-0.71964295	0.94360963	0.16376678

lnRMSSD paired sensitivity

n	Log_change	CI_low	CI_high	t	df	p	Geometric_ratio	Ratio_low	Ratio_high
26	-0.22793368	-0.37276865	-0.083098714	-3.2411938	25	0.0033585318	0.79617706	0.68882457	0.9202603

18 PRV 4: RT slopes and late-minus-early temporal outcomes

Source analysis: 50 Rj

One independent record per participant. Parametric estimates are computed from the OMV; resampling outputs are archived with input checks.

Primary participant RT slope: two-test Holm family

Predictor	Outcome	n	r	CI_low	CI_high	Permutation_p	Holm_p	Spearman_rho
RMSSD change	RT_slope_ms_per_progress	26	-0.059735829	-0.43697666	0.33537631	0.76461	0.9741	-0.22735043
SDNN change	RT_slope_ms_per_progress	26	-0.14340178	-0.50282341	0.25829782	0.48705	0.9741	-0.24444444

20-bin RT slope: separate two-test sensitivity

Predictor	Outcome	n	r	CI_low	CI_high	Permutation_p	Holm_p	Spearman_rho
RMSSD change	RT_20bin_slope_ms_per_progress	26	0.022326402	-0.36820988	0.40616575	0.91229	1	-0.011282051
SDNN change	RT_20bin_slope_ms_per_progress	26	0.017742497	-0.37216719	0.40232939	0.93281	1	-0.091965812

Late-minus-early outcomes: eight-test Holm family

Predictor	Outcome	n	r	CI_low	CI_high	Permutation_p	Holm_p	Spearman_rho
RMSSD change	RT_late_minus_early_median_ms	26	0.048260919	-0.34555073	0.42761897	0.80844	1	-0.078974359
RMSSD change	RT_late_minus_early_MAD_ms	26	0.20735721	-0.19571457	0.5504934	0.31106	1	0.15555556
RMSSD change	Position_failure_late_minus_early_proportion	26	0.32730284	-0.068767548	0.63424439	0.10163	0.81304	0.15566203
RMSSD change	Position_omission_late_minus_early_proportion	26	0.25426623	-0.14762541	0.58409077	0.21167	1	0.085811966
SDNN change	RT_late_minus_early_median_ms	26	0.040708922	-0.35219669	0.42141569	0.84463	1	-0.073504274
SDNN change	RT_late_minus_early_MAD_ms	26	-0.025051147	-0.40843975	0.36585087	0.90433	1	-0.012649573
SDNN change	Position_failure_late_minus_early_proportion	26	0.23828067	-0.1642294	0.57276708	0.24292	1	0.21040032
SDNN change	Position_omission_late_minus_early_proportion	26	0.32862022	-0.067298217	0.63512592	0.10224	0.81304	0.30735043

19 PRV 5: aggregate response quality and throughput (primary n=26)

Source analysis: 52 Rj

One independent record per participant. Parametric estimates are computed from the OMV; resampling outputs are archived with input checks.

Separate eight-test Holm family: two PRV changes by four existing aggregate outcomes.

Predictor	Outcome	n	r	CI_low	CI_high	Permutation_p	Holm_p	Spearman_rho
RMSSD change	Report_accuracy_proportion	26	-0.56033144	-0.77867541	-0.22093173	0.00359	0.02872	-0.55145299
RMSSD change	Report_omission_proportion	26	0.47215255	0.10378105	0.72661453	0.01407	0.09849	0.54529915
RMSSD change	Stimulus_position_count	26	0.16424849	-0.23826216	0.51860571	0.4253	1	0.098136435
RMSSD change	Report_correct_count	26	-0.027905194	-0.41081656	0.36337451	0.89499	1	-0.078987862
SDNN change	Report_accuracy_proportion	26	-0.42339849	-0.69651846	-0.043118107	0.03045	0.1827	-0.36068376
SDNN change	Report_omission_proportion	26	0.3143639	-0.083108067	0.62554371	0.1178	0.589	0.24307692
SDNN change	Stimulus_position_count	26	0.12368473	-0.27693503	0.48767251	0.54556	1	0.09676868
SDNN change	Report_correct_count	26	0.0055288802	-0.38264253	0.39204121	0.9786	1	0.05129082

20 PRV 6: strict-QC sensitivity (n=22)

Source analysis: 54 Rj

One independent record per participant. Parametric estimates are computed from the OMV; resampling outputs are archived with input checks.

Paired sensitivity p values are unadjusted; correlation Holm families remain separate.

Measure	n	Baseline_mean	Baseline_SD	Task_mean	Task_SD	Change	CI_low	CI_high
RMSSD	22	44.060218	20.100673	34.377979	15.14357	-9.6822391	-15.625049	-3.7394295
SDNN	22	58.698072	17.351293	40.203464	13.861731	-18.494607	-24.822024	-12.167191

Measure	t	df	p	Holm_p	dz	dz_CI_low	dz_CI_high	Wilcoxon_W	Wilcoxon_p
RMSSD	-3.3881816	21	0.0027739369	NA	-0.72236275	-1.2946158	-0.34962632	36	0.0021948814
SDNN	-6.0785694	21	4.948997e-06	NA	-1.2959553	-1.9866998	-0.91280148	6	6.6757202e-06

RT slope: two-test Holm family

Predictor	Outcome	n	r	CI_low	CI_high	Permutation_p	Holm_p	Spearman_rho
RMSSD change	RT_slope_ms_per_progress	22	-0.0093795204	-0.42929035	0.41386555	0.96709	0.96709	-0.21964992
SDNN change	RT_slope_ms_per_progress	22	-0.16676648	-0.54972376	0.27411504	0.46217	0.92434	-0.24901186

Aggregate performance: eight-test Holm family

Predictor	Outcome	n	r	CI_low	CI_high	Permutation_p	Holm_p	Spearman_rho
RMSSD change	Report_accuracy_proportion	22	-0.49841065	-0.76026208	-0.097234484	0.01825	0.146	-0.5053642
RMSSD change	Report_omission_proportion	22	0.46105858	0.048969041	0.73901309	0.03092	0.21644	0.52343309
RMSSD change	Stimulus_position_count	22	0.14125458	-0.2981074	0.53122631	0.53636	1	0.095453266
RMSSD change	Report_correct_count	22	-0.053201154	-0.46439323	0.37686029	0.81464	1	-0.063805759
SDNN change	Report_accuracy_proportion	22	-0.25750368	-0.6126043	0.18409071	0.24759	1	-0.22868436
SDNN change	Report_omission_proportion	22	0.21178917	-0.23039141	0.58147637	0.34465	1	0.14850367
SDNN change	Stimulus_position_count	22	0.10177064	-0.33417643	0.50184619	0.65177	1	0.048009039
SDNN change	Report_correct_count	22	0.0095937322	-0.413688	0.42946508	0.96653	1	0.042348955

21 PRV 7: Borderline sensitivity (n=27)

Source analysis: 56 Rj

One independent record per participant. Parametric estimates are computed from the OMV; resampling outputs are archived with input checks.

Paired sensitivity p values are unadjusted; correlation Holm families remain separate.

Measure	n	Baseline_mean	Baseline_SD	Task_mean	Task_SD	Change	CI_low	CI_high
RMSSD	27	47.037813	19.395599	38.1656	16.942809	-8.8722128	-13.953456	-3.7909698
SDNN	27	63.041588	18.753987	43.93494	15.622139	-19.106647	-25.064968	-13.148326

Measure	t	df	p	Holm_p	dz	dz_CI_low	dz_CI_high	Wilcoxon_W	Wilcoxon_p
RMSSD	-3.589101	26	0.0013517002	NA	-0.69072282	-1.1927755	-0.35314426	60	0.0012526363
SDNN	-6.5915007	26	5.4493876e-07	NA	-1.2685349	-1.8819295	-0.90693714	13	1.3113022e-06

RT slope: two-test Holm family

Predictor	Outcome	n	r	CI_low	CI_high	Permutation_p	Holm_p	Spearman_rho
RMSSD change	RT_slope_ms_per_progress	27	-0.061750393	-0.43163559	0.32591141	0.75254	0.93378	-0.22222222
SDNN change	RT_slope_ms_per_progress	27	-0.14710478	-0.49921187	0.24670018	0.46689	0.93378	-0.23992674

Aggregate performance: eight-test Holm family

Predictor	Outcome	n	r	CI_low	CI_high	Permutation_p	Holm_p	Spearman_rho
RMSSD change	Report_accuracy_proportion	27	-0.55764253	-0.77370018	-0.22539177	0.00383	0.03064	-0.53357753
RMSSD change	Report_omission_proportion	27	0.46894277	0.10821285	0.72055107	0.01329	0.09303	0.52930403
RMSSD change	Stimulus_position_count	27	0.16280978	-0.23152887	0.51119605	0.42155	1	0.10349565
RMSSD change	Report_correct_count	27	-0.028235158	-0.40391521	0.35559425	0.88892	1	-0.078461305
SDNN change	Report_accuracy_proportion	27	-0.41934403	-0.68948415	-0.046785664	0.02926	0.17556	-0.36019536
SDNN change	Report_omission_proportion	27	0.30977685	-0.079608603	0.61714124	0.11552	0.5776	0.23992674
SDNN change	Stimulus_position_count	27	0.12109191	-0.27141149	0.47906111	0.5507	1	0.089146696
SDNN change	Report_correct_count	27	0.0048546708	-0.37585268	0.38415992	0.98171	1	0.044268051

22 PRV 8: HC3 covariate sensitivities and HR-PRV coupling

Source analysis: 58 Rj

One independent record per participant. Parametric estimates are computed from the OMV; resampling outputs are archived with input checks.

Model	Predictor	beta	CI_low	CI_high	p
RMSSD_accuracy_baseline_adjusted	PRV_RMSSD_delta_primary_ms	-0.70766356	-1.303738	-0.11158908	0.022028162
RMSSD_accuracy_baseline_adjusted	PRV_RMSSD_baseline_primary_ms	-0.28321578	-0.83346658	0.26703501	0.29804242
RMSSD_accuracy_HR_adjusted	PRV_RMSSD_delta_primary_ms	-0.46152133	-0.8019096	-0.12113306	0.010057887
RMSSD_accuracy_HR_adjusted	HR_change_bpm	0.17977008	-0.20522153	0.56476169	0.34411684
SDNN_accuracy_baseline_adjusted	PRV_SDNN_delta_primary_ms	-0.55752386	-1.3467422	0.23169446	0.15744739
SDNN_accuracy_baseline_adjusted	PRV_SDNN_baseline_primary_ms	-0.22390066	-0.90745564	0.45965432	0.50478787

Descriptive HR-PRV coupling

Predictor	Outcome	n	r	CI_low	CI_high	Permutation_p	Holm_p	Spearman_rho
RMSSD change	HR_change_bpm	26	-0.54964717	-0.77252352	-0.20619572	0.00479	0.00958	-0.5582906
SDNN change	HR_change_bpm	26	-0.43223217	-0.70204375	-0.053905394	0.02708	0.02708	-0.31965812