

Learners/Non-learners Statistics (z-scored within subject)

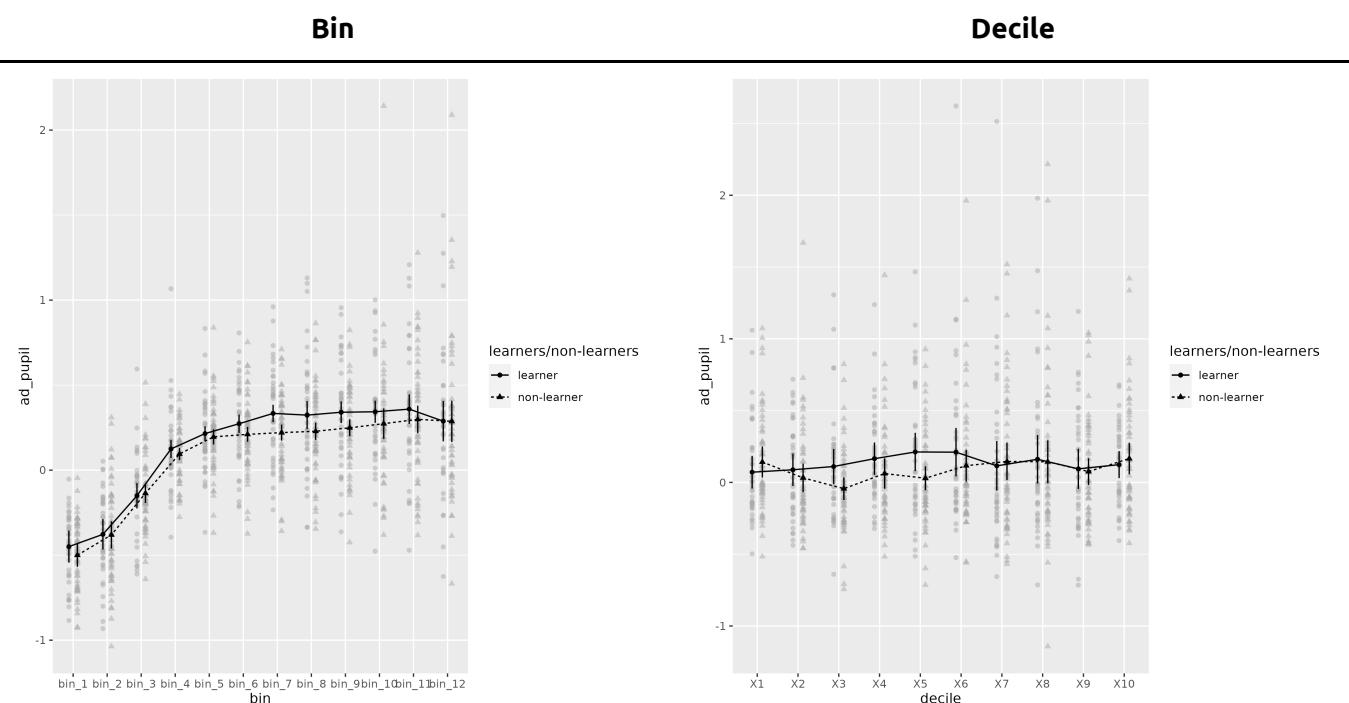
dv='pupil'

between=['learners/non-learners']

within=['decile', 'bin']

ANOVA Pupil Change Scores

Baseline



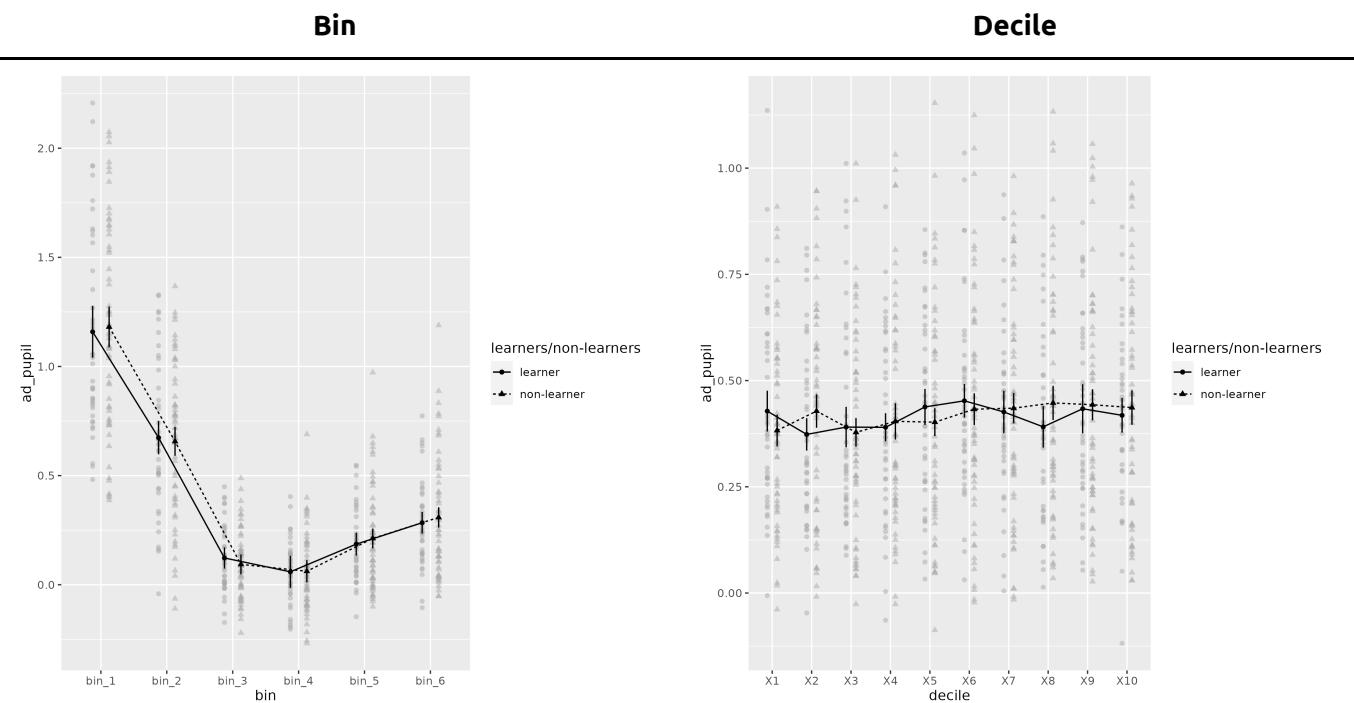
Significant Effects/Interactions

- bin

Effect	num Df	den Df	MSE	F	ges	P
learners/non-learners	1	89	3.87039	1.60767	0.0018106	0.208127
decile	6.89363	613.533	2.54052	0.933637	0.00474398	0.478747
learners/non-learners:decile	6.89363	613.533	2.54052	0.984592	0.00500159	0.440668
bin	3.73411	332.336	1.71216	121.932	0.185172	2.97019e-61
learners/non-learners:bin	3.73411	332.336	1.71216	0.638675	0.00118893	0.624506

Effect	num Df	den Df	MSE	F	ges	P
decile:bin	99	8811	0.10875	1.08275	0.00338673	0.270984
learners/non- learners:decile:bin	99	8811	0.10875	1.08283	0.00338696	0.270827

Planning

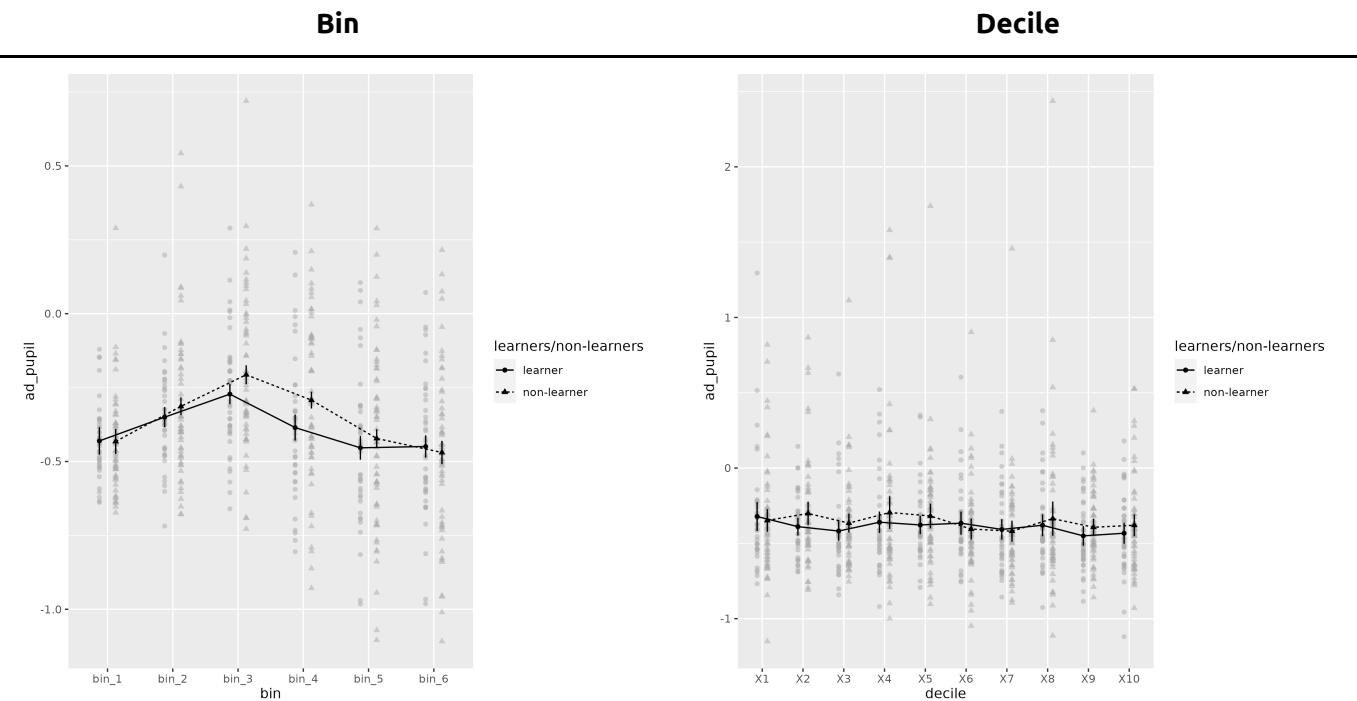


Significant Effects/Interactions

- bin

Effect	num Df	den Df	MSE	F	ges	P
learners/non- learners	1	94	2.54226	0.0129578	4.70176e-05	0.909613
decile	7.54693	709.412	0.142086	1.71131	0.00261243	0.0970631
learners/non- learners:decile	7.54693	709.412	0.142086	1.37644	0.00210229	0.207224
bin	1.50506	141.476	1.72952	327.531	0.548925	2.40538e-47
learners/non- learners:bin	1.50506	141.476	1.72952	0.250287	0.000929068	0.714619
decile:bin	16.3734	1539.1	0.0754625	0.694245	0.00122287	0.805603
learners/non- learners:decile:bin	16.3734	1539.1	0.0754625	1.13384	0.00199564	0.316096

Feedback



Significant Effects/Interactions

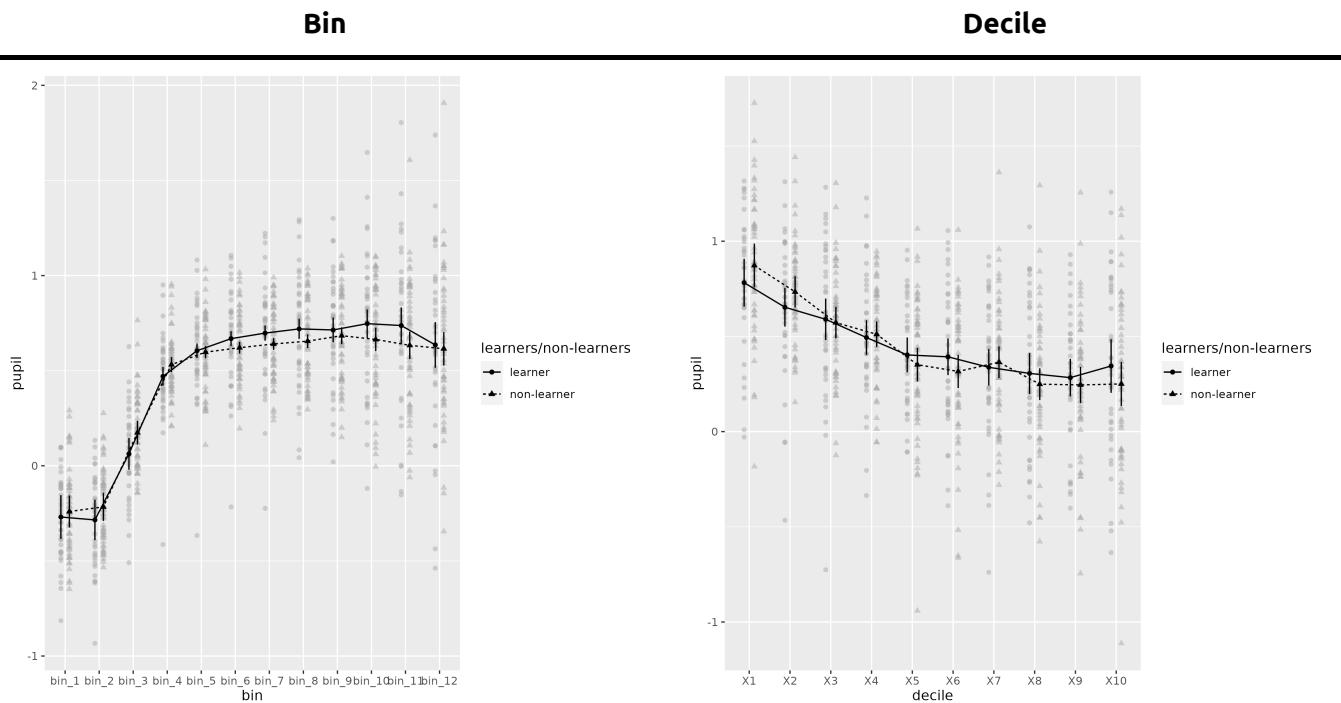
- bin
- decile:bin

Effect	num Df	den Df	MSE	F	ges	P
learners/non-learners	1	94	2.762	0.590798	0.00182497	0.444038
decile	5.79485	544.716	0.683701	1.52503	0.00672423	0.170119
learners/non-learners:decile	5.79485	544.716	0.683701	0.594263	0.00263105	0.729197
bin	2.77782	261.115	0.287061	41.9286	0.036108	5.84077e-21
learners/non-learners:bin	2.77782	261.115	0.287061	2.54718	0.00227059	0.0609643
decile:bin	16.7513	1574.62	0.117808	1.76917	0.00389658	0.0276016
learners/non-learners:decile:bin	16.7513	1574.62	0.117808	0.966186	0.00213179	0.493802

ANOVA Raw Pupil

Baseline





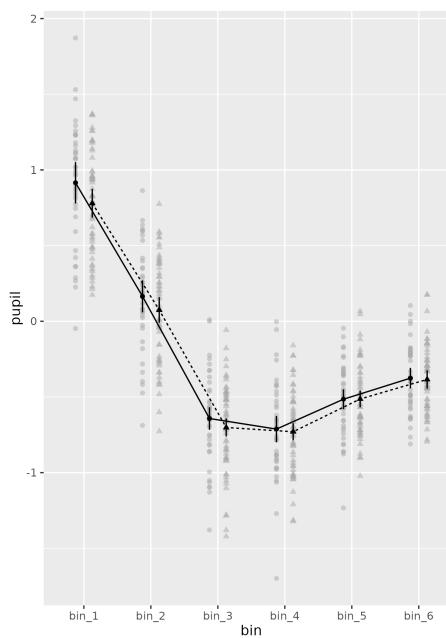
Significant Effects/Interactions

- decile
- bin
- decile:bin

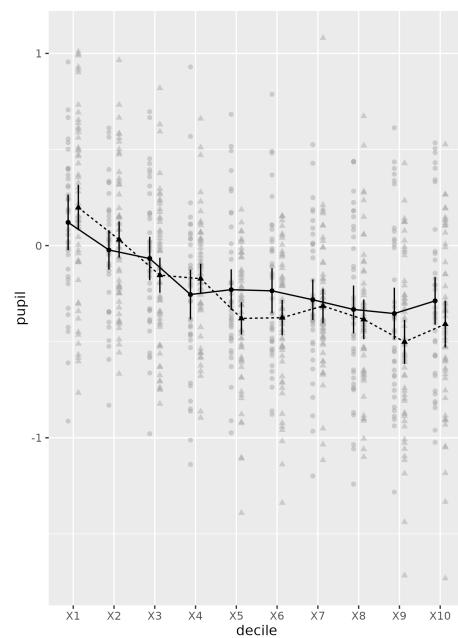
Effect	num Df	den Df	MSE	F	ges	P
learners/non- learners	1	89	3.51392	0.108202	0.000158276	0.742973
decile	3.934	350.126	2.95805	30.446	0.128549	1.73966e- 21
learners/non- learners:decile	3.934	350.126	2.95805	0.836118	0.00403466	0.501297
bin	2.44686	217.77	2.25145	237.505	0.352647	9.98506e- 62
learners/non- learners:bin	2.44686	217.77	2.25145	1.9617	0.00447929	0.132797
decile:bin	99	8811	0.0639107	1.31071	0.00344091	0.0214046
learners/non- learners:decile:bin	99	8811	0.0639107	1.24018	0.00325636	0.0540969

Planning

Bin	Decile
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Bin**Decile**

learners/non-learners
— learner
-·- non-learner



learners/non-learners
— learner
-·- non-learner

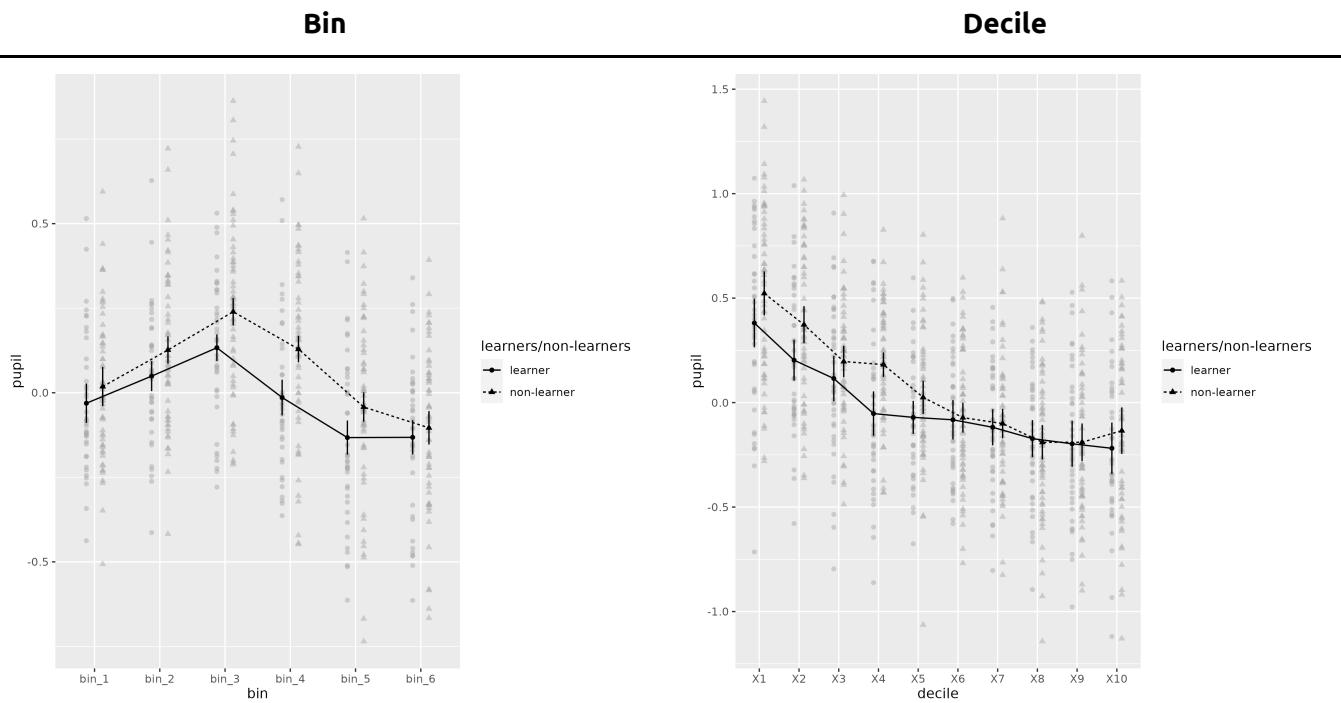
Significant Effects/Interactions

- decile
- bin

Effect	num DF	den DF	MSE	F	ges	P
learners/non-learners	1	94	1.60419	2.31795	0.00252975	0.131246
decile	3.95154	371.445	1.9139	22.5948	0.104384	1.44507e-16
learners/non-learners:decile	3.95154	371.445	1.9139	1.45417	0.00744513	0.21618
bin	1.97361	185.519	1.90971	451.409	0.537128	1.38383e-71
learners/non-learners:bin	1.97361	185.519	1.90971	0.890539	0.00228405	0.410997
decile:bin	18.9151	1778.02	0.140703	1.01404	0.00183734	0.440554
learners/non-learners:decile:bin	18.9151	1778.02	0.140703	1.28179	0.00232135	0.185145

Feedback

Bin**Decile**



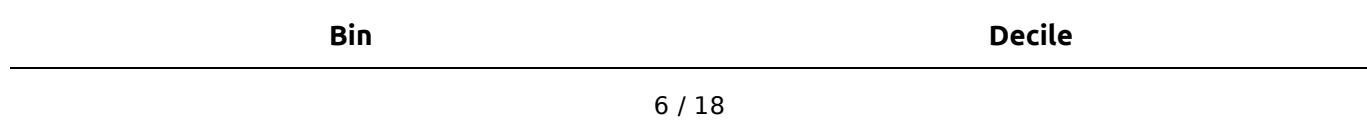
Significant Effects/Interactions

- learners/non-learners
- decile
- bin
- decile:bin

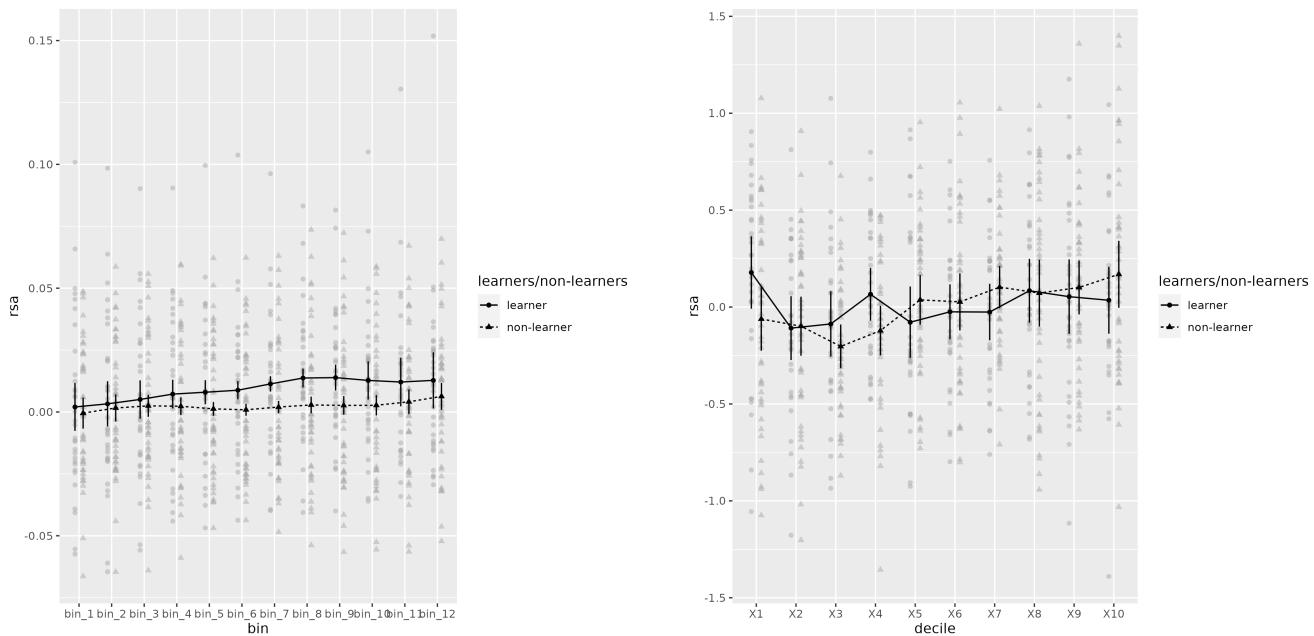
Effect	num Df	den Df	MSE	F	ges	P
learners/non-learners	1	94	1.99796	4.76645	0.00937795	0.0315096
decile	3.93973	370.334	1.37843	44.491	0.193666	3.72294e-30
learners/non-learners:decile	3.93973	370.334	1.37843	1.53132	0.00819893	0.193234
bin	2.37519	223.267	0.566312	45.0001	0.0567554	2.31481e-19
learners/non-learners:bin	2.37519	223.267	0.566312	1.46001	0.00194841	0.232071
decile:bin	21.1399	1987.15	0.0912062	1.84487	0.00352352	0.0108972
learners/non-learners:decile:bin	21.1399	1987.15	0.0912062	1.34901	0.00257891	0.132199

ANOVA Respiratory Sinus Arythmia

Baseline



Bin Decile



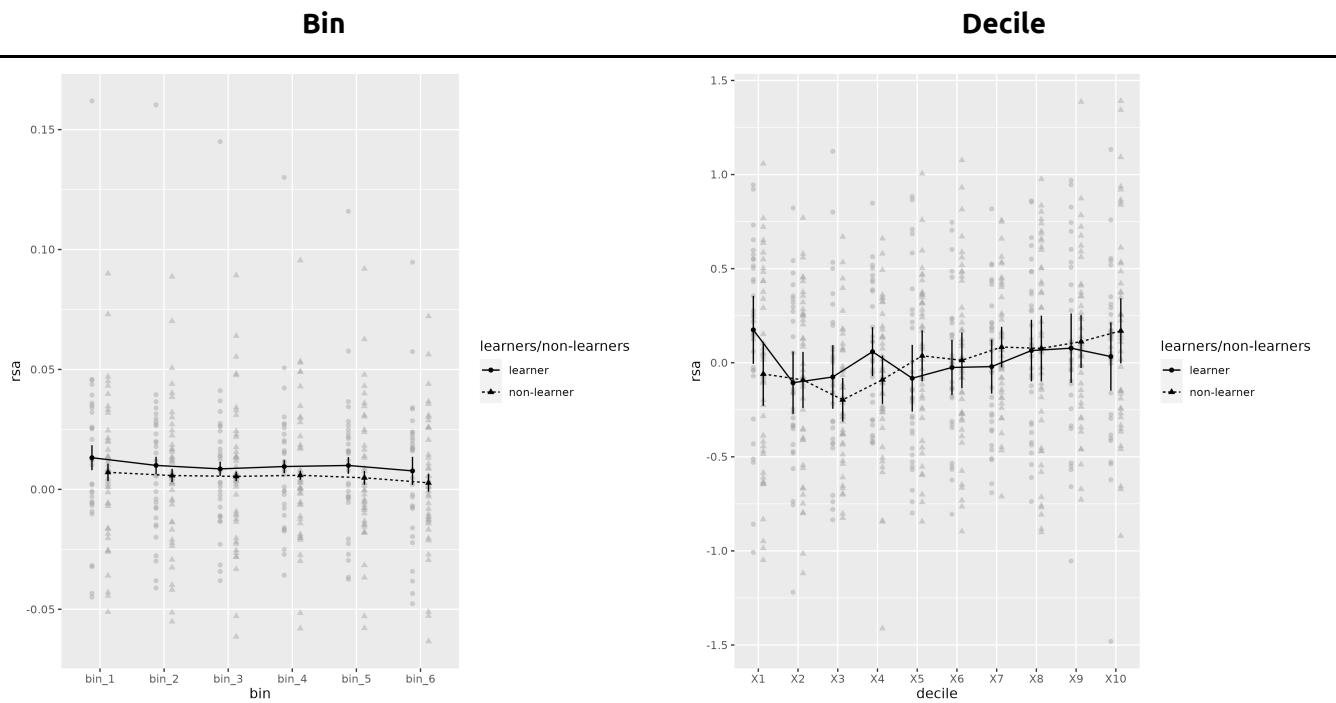
Significant Effects/Interactions

- decile

Effect	num Df	den Df	MSE	F	ges	P
learners/non- learners	1	74	0.0702121	1.48534	5.83956e-05	0.226811
decile	5.64411	417.664	4.21644	2.24424	0.0290389	0.0418272
learners/non- learners:decile	5.64411	417.664	4.21644	1.48061	0.0193493	0.187303
bin	1.54551	114.367	0.0204167	1.87762	3.31755e-05	0.166468
learners/non- learners:bin	1.54551	114.367	0.0204167	0.717155	1.26716e-05	0.456384
decile:bin	99	7326	0.00234954	0.871821	0.000113544	0.813464
learners/non- learners:decile:bin	99	7326	0.00234954	1.18128	0.00015384	0.107065

Planning

Bin Decile



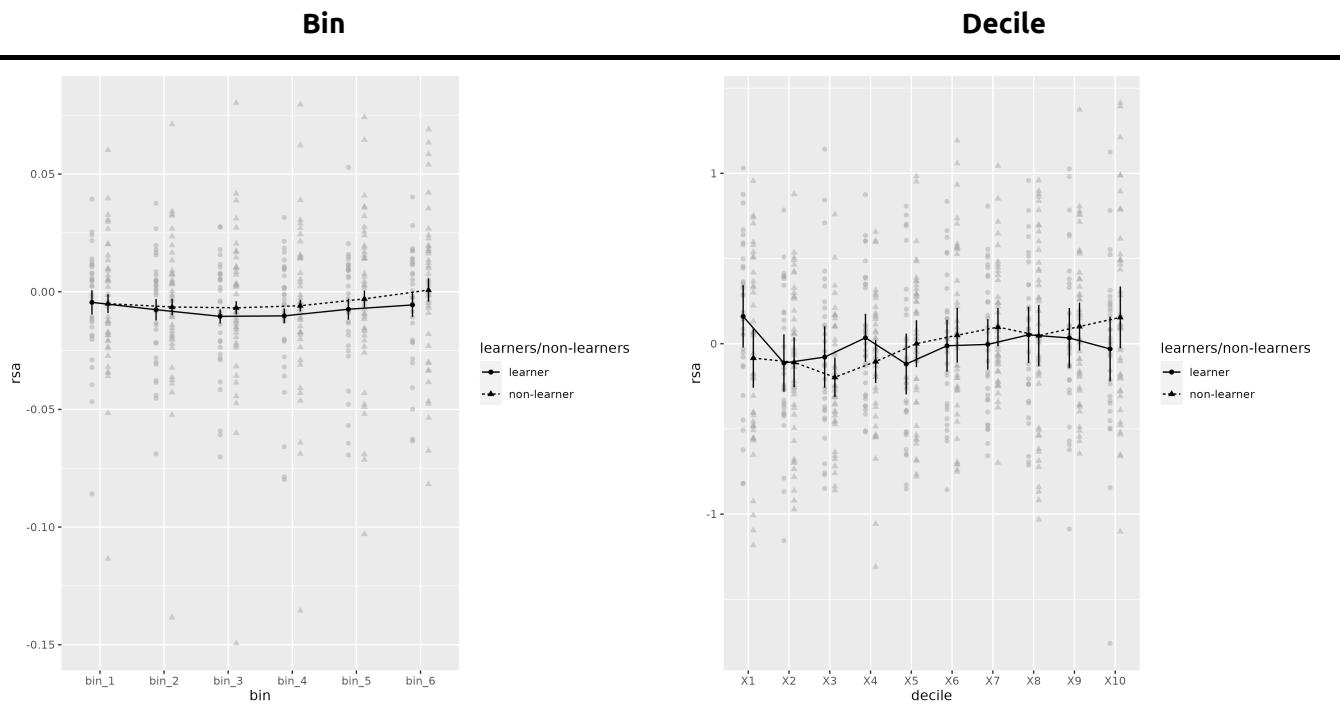
Significant Effects/Interactions

No statistically significant effects present at $P < 0.05$

Effect	num Df	den Df	MSE	F	ges	P
learners/non-learners	1	74	0.0498046	0.459197	2.56391e-05	0.500113
decile	5.57752	412.737	2.14319	2.12215	0.0276532	0.0545793
learners/non-learners:decile	5.57752	412.737	2.14319	1.28714	0.0169568	0.264657
bin	1.67795	124.169	0.00319365	1.75178	1.05241e-05	0.182827
learners/non-learners:bin	1.67795	124.169	0.00319365	0.202655	1.2175e-06	0.77808
decile:bin	12.4339	920.109	0.00361108	1.25992	6.34171e-05	0.2348
learners/non-learners:decile:bin	12.4339	920.109	0.00361108	1.735	8.73278e-05	0.0523937

Feedback





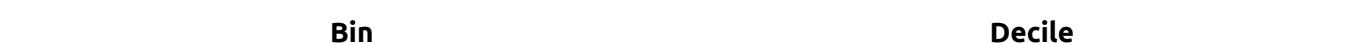
Significant Effects/Interactions

No statistically significant effects present at $P < 0.05$

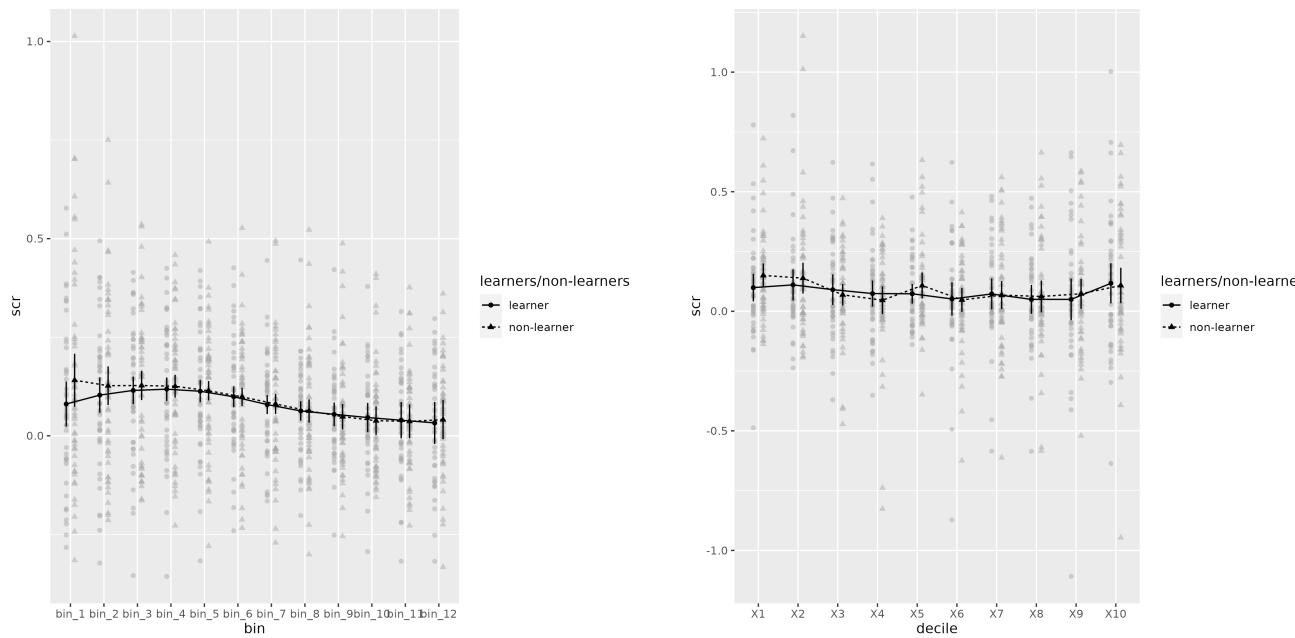
Effect	num Df	den Df	MSE	F	ges	P
learners/non-learners	1	74	0.04638	0.246902	1.22232e-05	0.620738
decile	5.69933	421.75	2.20427	1.78964	0.0234363	0.103688
learners/non-learners:decile	5.69933	421.75	2.20427	1.42106	0.0186998	0.208036
bin	1.7636	130.506	0.00404482	2.82178	2.14856e-05	0.0698232
learners/non-learners:bin	1.7636	130.506	0.00404482	0.803202	6.11583e-06	0.436184
decile:bin	12.2465	906.241	0.00356266	0.732121	3.40949e-05	0.723581
learners/non-learners:decile:bin	12.2465	906.241	0.00356266	0.539431	2.51215e-05	0.892506

ANOVA Skin Conductance Response (Phasic)

Baseline



Bin Decile



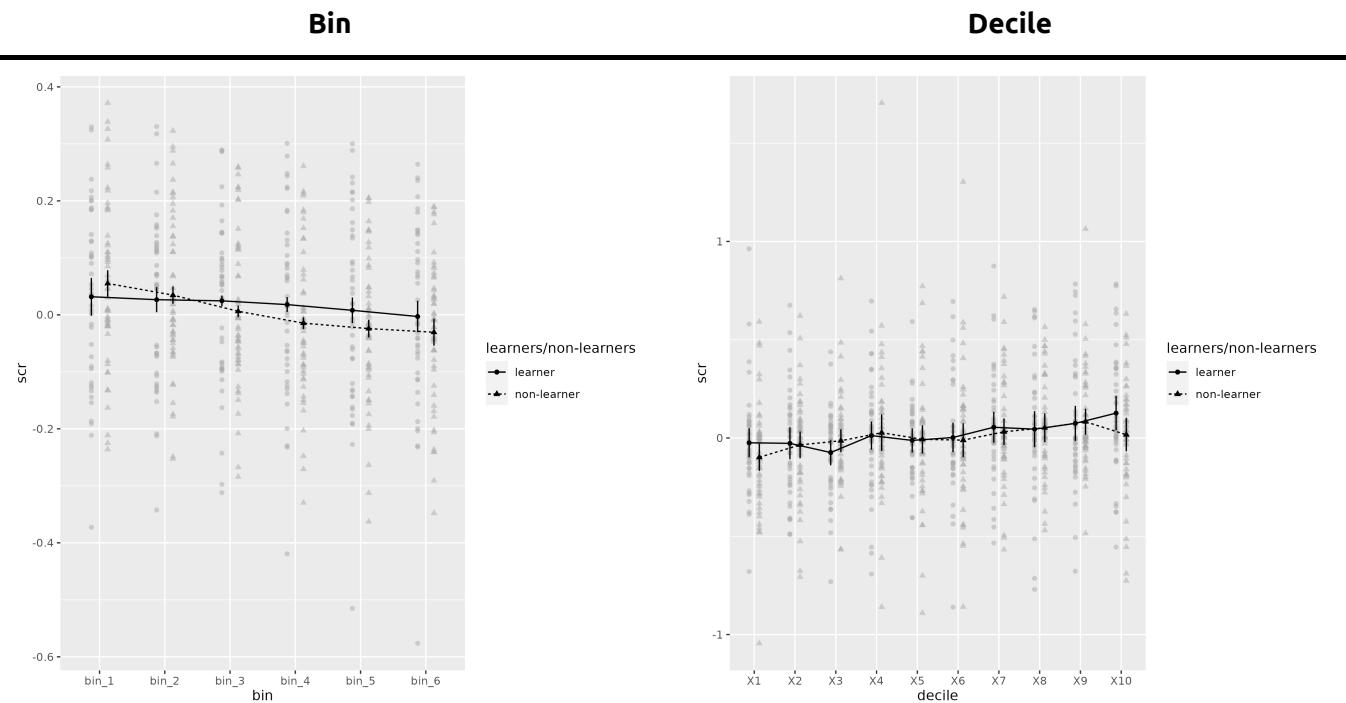
Significant Effects/Interactions

- bin
- decile:bin

Effect	num Df	den Df	MSE	F	ges	P
learners/non-learners	1	91	1.34645	0.136713	0.000127675	0.71243
decile	7.54954	687.008	0.636214	1.69963	0.00563104	0.0998303
learners/non-learners:decile	7.54954	687.008	0.636214	0.344152	0.00114535	0.94226
bin	1.88855	171.858	1.00618	6.39162	0.00835473	0.00254821
learners/non-learners:bin	1.88855	171.858	1.00618	0.461239	0.000607613	0.620142
decile:bin	99	9009	0.0787043	1.70365	0.00912421	1.85495e-05
learners/non-learners:decile:bin	99	9009	0.0787043	0.712462	0.00383608	0.986094

Planning

Bin Decile



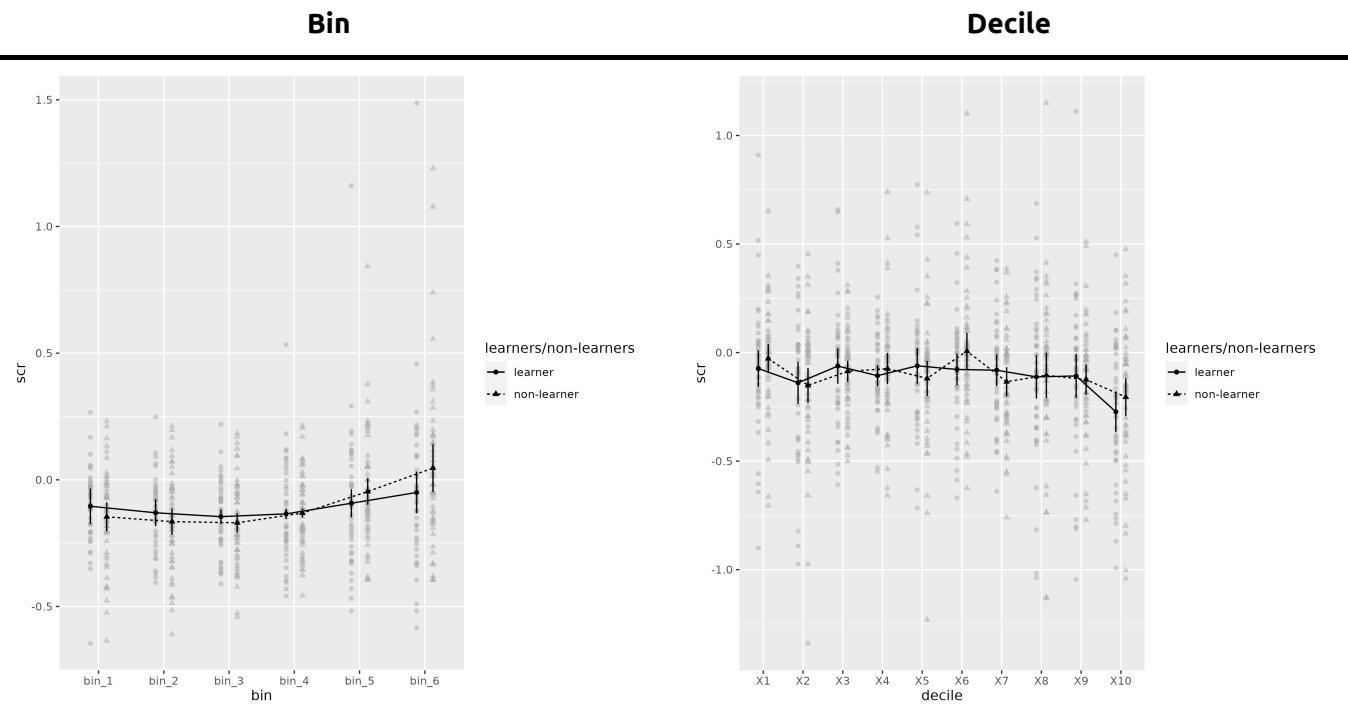
Significant Effects/Interactions

- decile
- bin

Effect	num Df	den Df	MSE	F	ges	P
learners/non-learners	1	91	1.03625	0.232702	0.000405001	0.630686
decile	8.0138	729.256	0.450598	3.27882	0.0195055	0.0010946
learners/non-learners:decile	8.0138	729.256	0.450598	0.785618	0.00474395	0.615693
bin	1.35636	123.429	0.163766	11.0846	0.00411994	0.000324611
learners/non-learners:bin	1.35636	123.429	0.163766	2.85125	0.00106301	0.0812438
decile:bin	10.4558	951.477	0.159801	1.06384	0.00297771	0.387675
learners/non-learners:decile:bin	10.4558	951.477	0.159801	0.529937	0.00148553	0.876445

Feedback





Significant Effects/Interactions

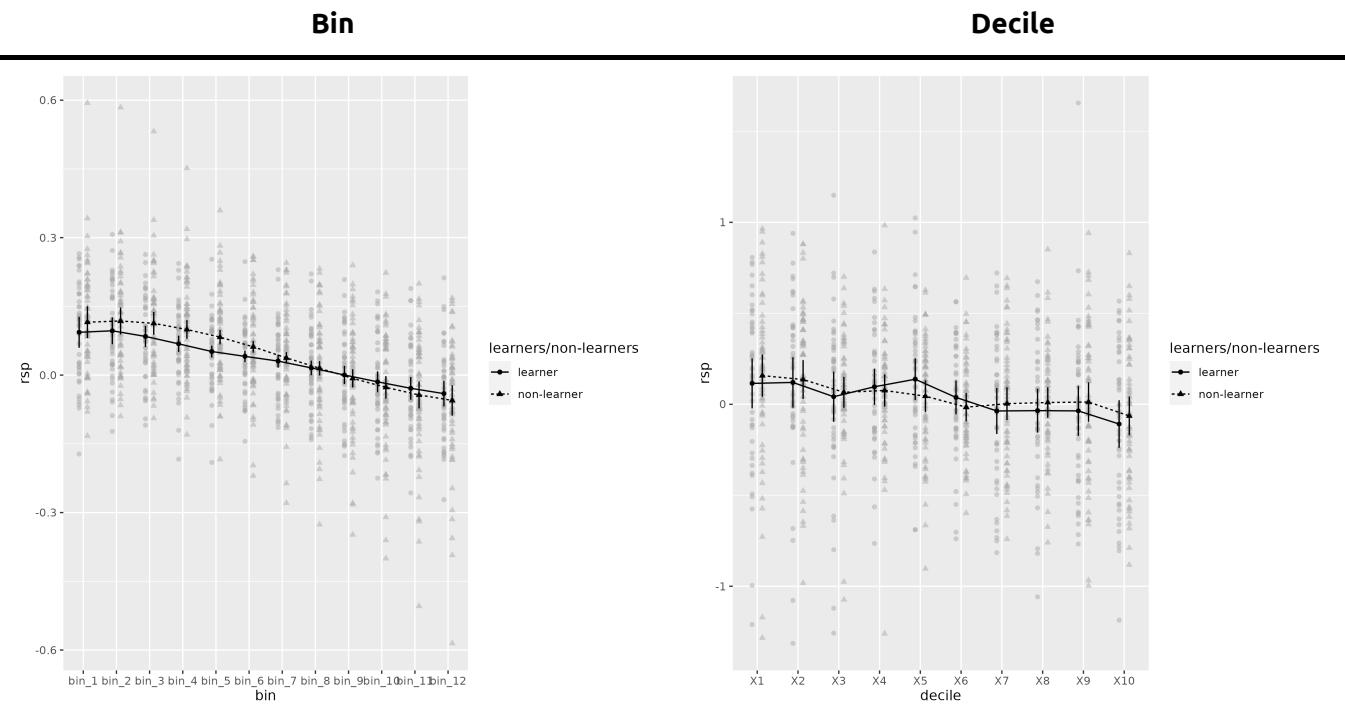
- decile
- bin
- decile:bin

Effect	num DF	den DF	MSE	F	ges	P
learners/non- learners	1	91	1.07859	0.0705612	8.82031e-05	0.791122
decile	7.6863	699.454	0.525624	3.95142	0.018167	0.000176249
learners/non- learners:decile	7.6863	699.454	0.525624	0.739138	0.00344919	0.651475
bin	1.1318	102.994	1.61559	8.90169	0.0185164	0.00249544
learners/non- learners:bin	1.1318	102.994	1.61559	1.84009	0.00388463	0.177324
decile:bin	7.73591	703.968	0.327548	10.2586	0.0292472	2.84486e-13
learners/non- learners:decile:bin	7.73591	703.968	0.327548	1.36403	0.00399001	0.211166

ANOVA Respiration Rate

Baseline





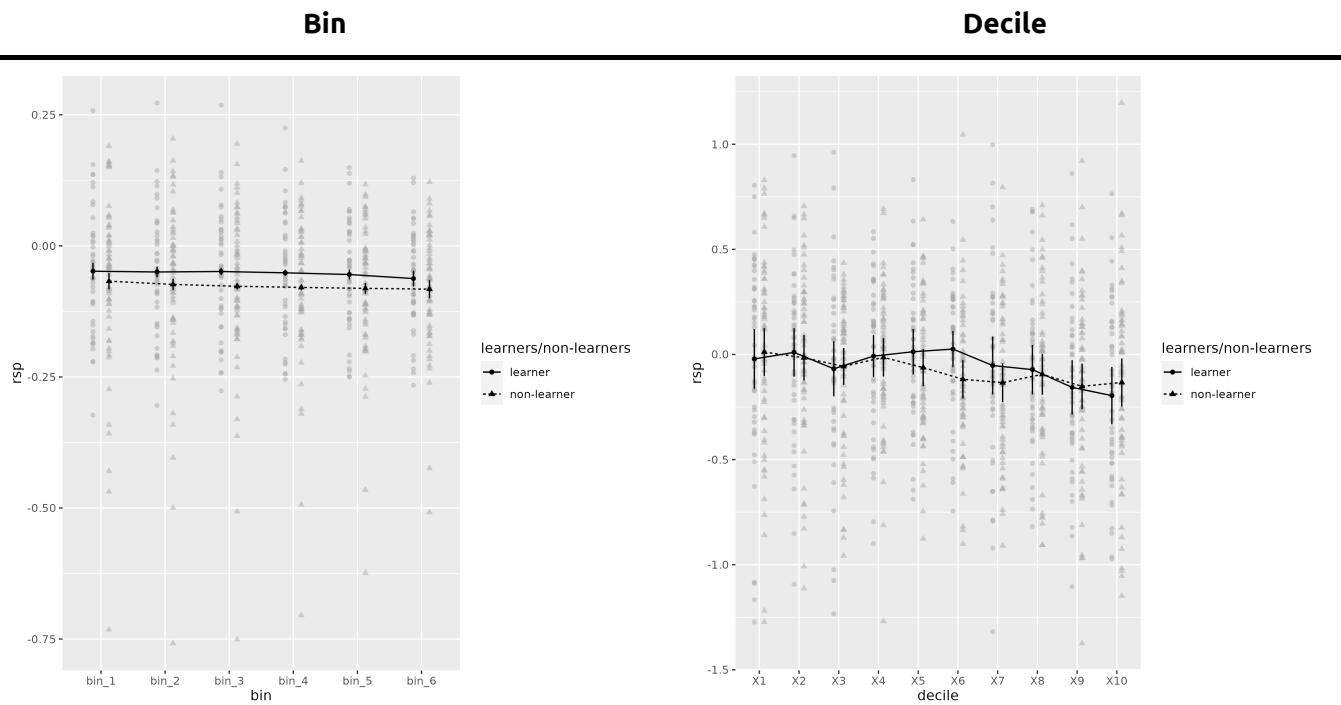
Significant Effects/Interactions

- decile
- bin

Effect	num Df	den Df	MSE	F	ges	P
learners/non- learners	1	104	0.577022	0.477741	0.000124042	0.490987
decile	5.06694	526.962	3.28584	3.55291	0.0259301	0.00345117
learners/non- learners:decile	5.06694	526.962	3.28584	0.406904	0.00303949	0.846397
bin	1.48426	154.363	0.542454	44.7469	0.0159547	3.60484e- 13
learners/non- learners:bin	1.48426	154.363	0.542454	1.22212	0.000442619	0.288337
decile:bin	13.2345	1376.39	0.251988	1.22764	0.00183906	0.251735
learners/non- learners:decile:bin	13.2345	1376.39	0.251988	0.885284	0.00132688	0.569992

Planning





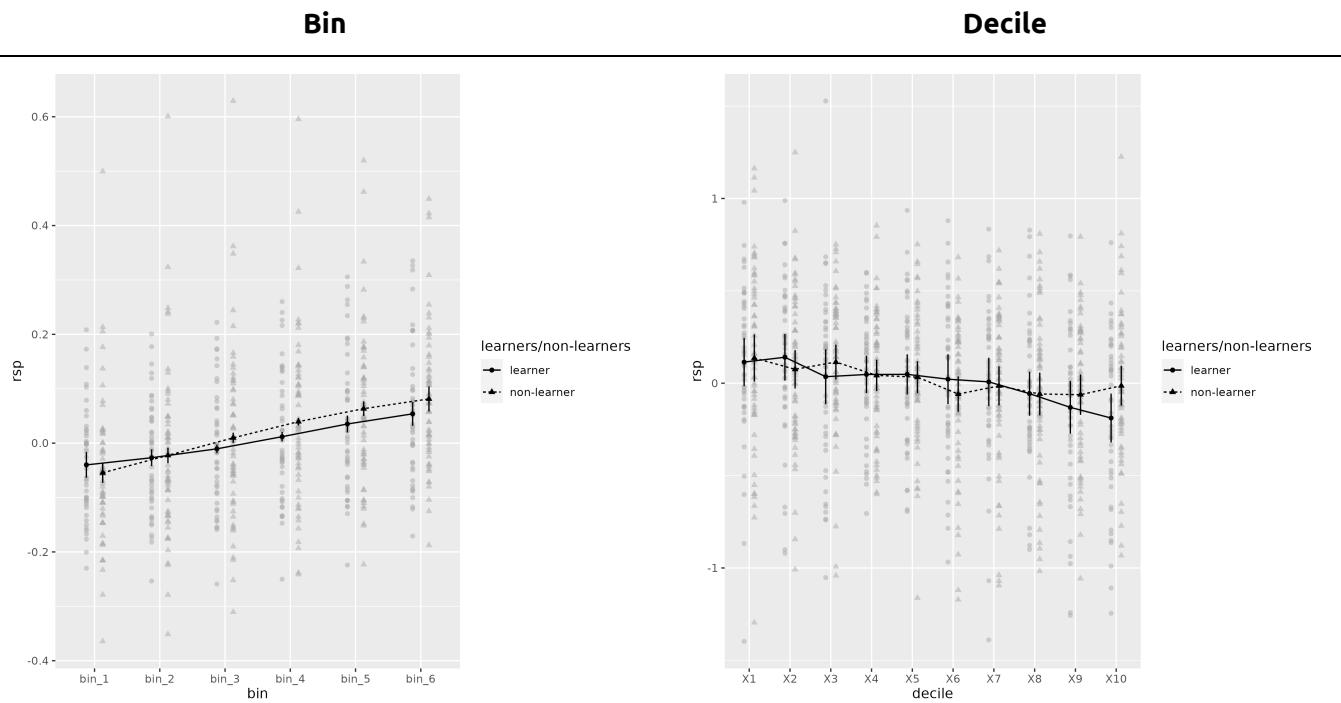
Significant Effects/Interactions

- decile

Effect	num Df	den Df	MSE	F	ges	P
learners/non-learners	1	104	0.946853	0.968723	0.000871714	0.327283
decile	5.54505	576.685	1.53032	2.30834	0.0182911	0.0370594
learners/non-learners:decile	5.54505	576.685	1.53032	0.615226	0.00494129	0.705268
bin	1.34327	139.7	0.066041	1.51419	0.000127753	0.224913
learners/non-learners:bin	1.34327	139.7	0.066041	0.228191	1.92547e-05	0.705053
decile:bin	10.4231	1084	0.0563629	1.80573	0.00100803	0.0524343
learners/non-learners:decile:bin	10.4231	1084	0.0563629	0.66002	0.000368687	0.768699

Feedback





Significant Effects/Interactions

- decile
- bin

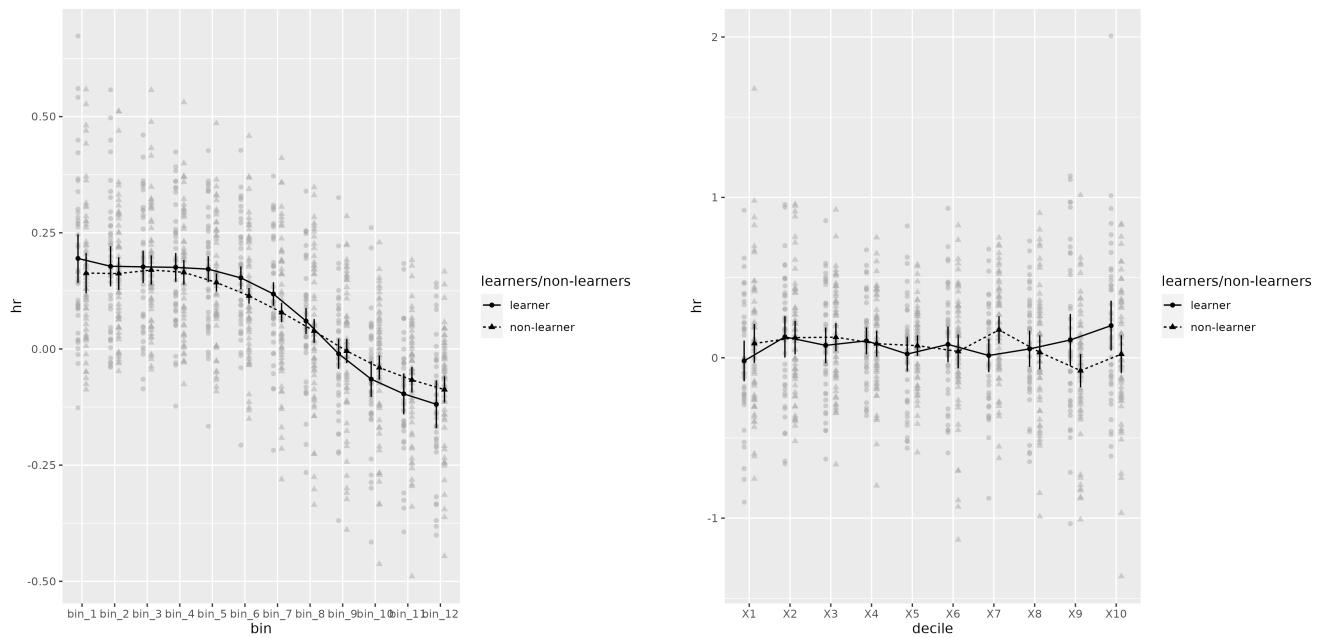
Effect	num Df	den Df	MSE	F	ges	P
learners/non-learners	1	104	0.86765	0.434551	0.000329604	0.511221
decile	5.28904	550.061	1.75755	3.92781	0.030941	0.00131157
learners/non-learners:decile	5.28904	550.061	1.75755	0.858624	0.00693132	0.513792
bin	1.31124	136.369	0.125916	61.0211	0.0087334	5.05227e-15
learners/non-learners:bin	1.31124	136.369	0.125916	2.35875	0.000340444	0.118276
decile:bin	10.0657	1046.83	0.066271	0.688199	0.000401288	0.737196
learners/non-learners:decile:bin	10.0657	1046.83	0.066271	0.547369	0.000319197	0.857892

ANOVA Heart Rate

Baseline



Bin Decile



Significant Effects/Interactions

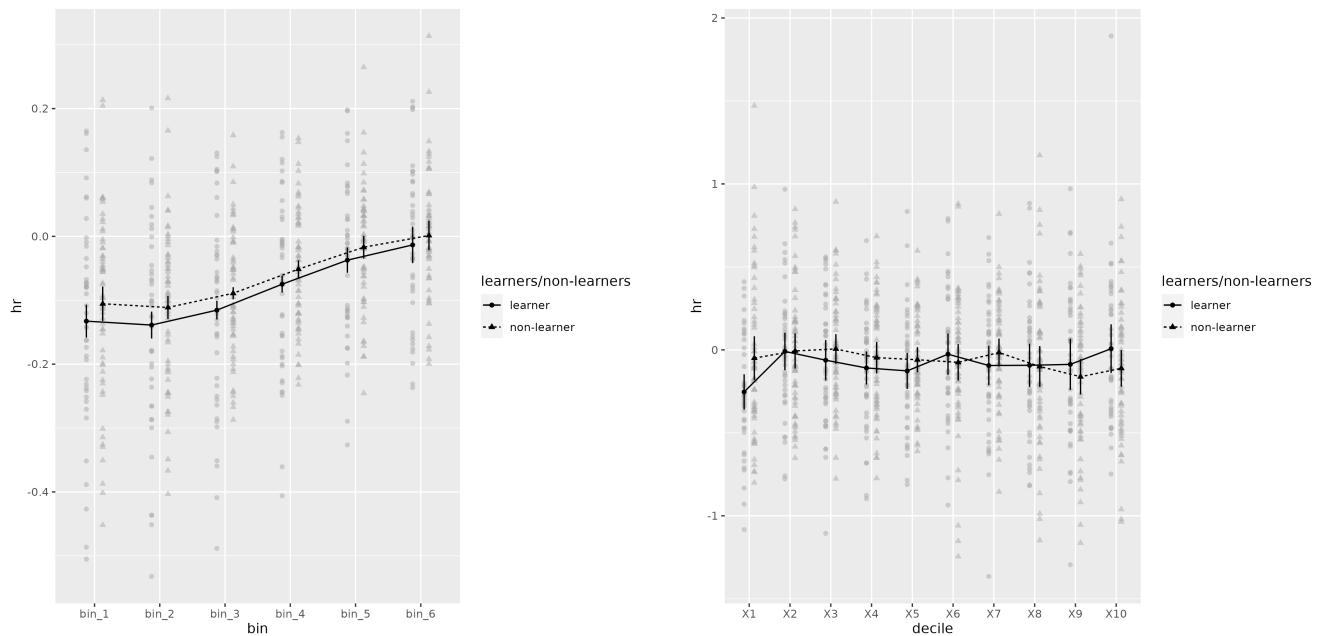
- bin
- decile:bin

Effect	num Df	den Df	MSE	F	ges	P
learners/non-learners	1	98	0.926307	0.222768	9.3565e-05	0.637988
decile	4.83937	474.258	3.28584	0.929761	0.00665963	0.45912
learners/non-learners:decile	4.83937	474.258	3.28584	2.0754	0.0147445	0.0695192
bin	2.11539	207.308	0.656353	90.7565	0.054053	4.01579e-30
learners/non-learners:bin	2.11539	207.308	0.656353	1.30879	0.000823355	0.272876
decile:bin	99	9702	0.043295	1.42916	0.0027701	0.00347695
learners/non-learners:decile:bin	99	9702	0.043295	1.24164	0.00240752	0.0530237

Planning

Bin Decile

Bin Decile



Significant Effects/Interactions

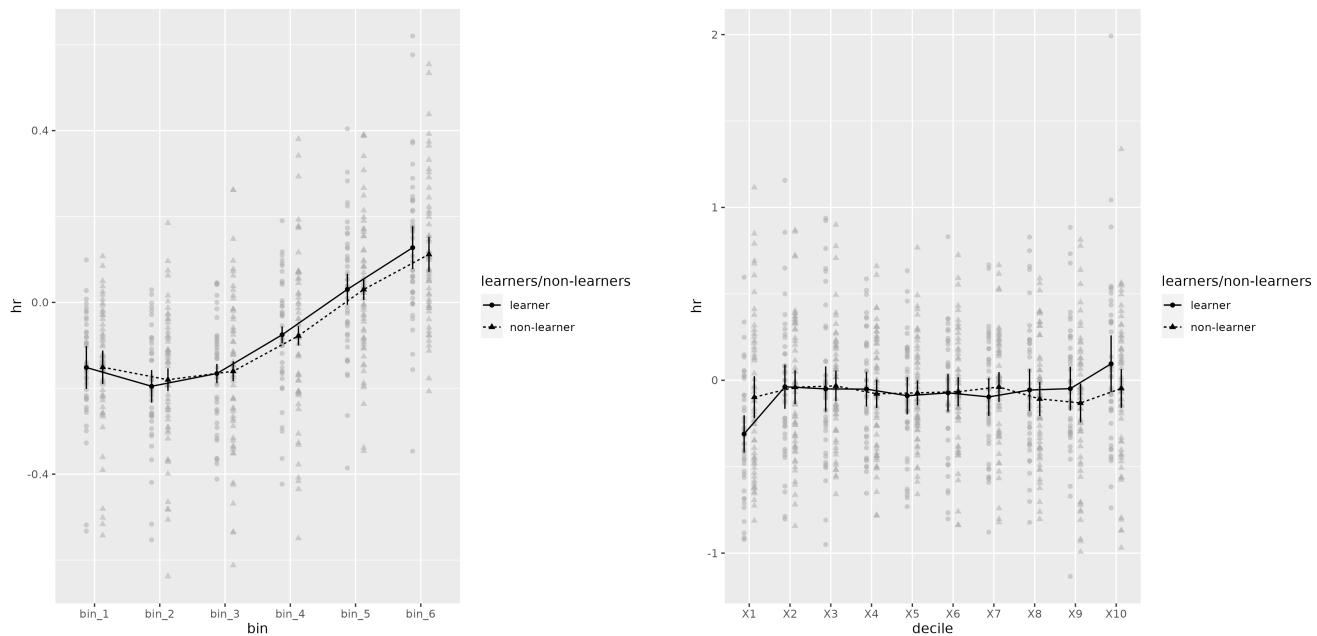
- bin

Effect	num Df	den Df	MSE	F	ges	P
learners/non-learners	1	98	0.690071	1.1485	0.000771206	0.286496
decile	5.17792	507.437	1.6421	1.19052	0.00976144	0.312133
learners/non-learners:decile	5.17792	507.437	1.6421	1.32776	0.0108745	0.249453
bin	1.50295	147.289	0.166086	48.3329	0.0116126	5.51897e-14
learners/non-learners:bin	1.50295	147.289	0.166086	0.121732	2.95905e-05	0.826877
decile:bin	14.1898	1390.6	0.0730072	0.889233	0.000896291	0.571572
learners/non-learners:decile:bin	14.1898	1390.6	0.0730072	0.726842	0.000732731	0.750711

Feedback

Bin Decile

Bin Decile



Significant Effects/Interactions

- decile
- bin
- decile:bin

Effect	num Df	den Df	MSE	F	ges	P
learners/non-learners	1	98	0.844703	0.000316219	2.64459e-07	0.985848
decile	5.11174	500.95	1.50098	2.2325	0.0166762	0.0485665
learners/non-learners:decile	5.11174	500.95	1.50098	1.5171	0.0113933	0.181346
bin	1.64193	160.909	0.422603	105.57	0.067622	1.28169e-26
learners/non-learners:bin	1.64193	160.909	0.422603	0.177573	0.000121977	0.79449
decile:bin	14.1431	1386.03	0.0774379	1.7944	0.00194197	0.0339254
learners/non-learners:decile:bin	14.1431	1386.03	0.0774379	0.996892	0.0010798	0.453966