

# Learners/Non-learners Statistics (raw)

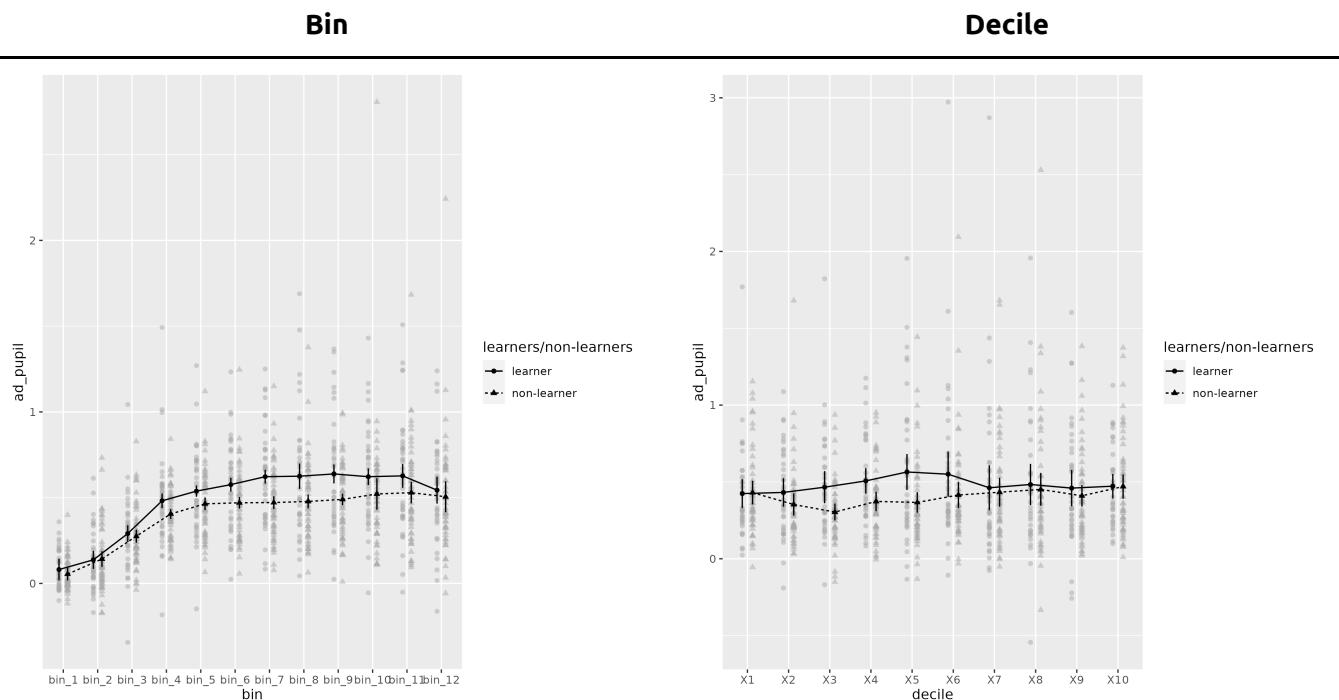
dv='pupil'

between=['learners/non-learners']

within=['decile', 'bin']

## ANOVA Pupil Change Scores

Baseline



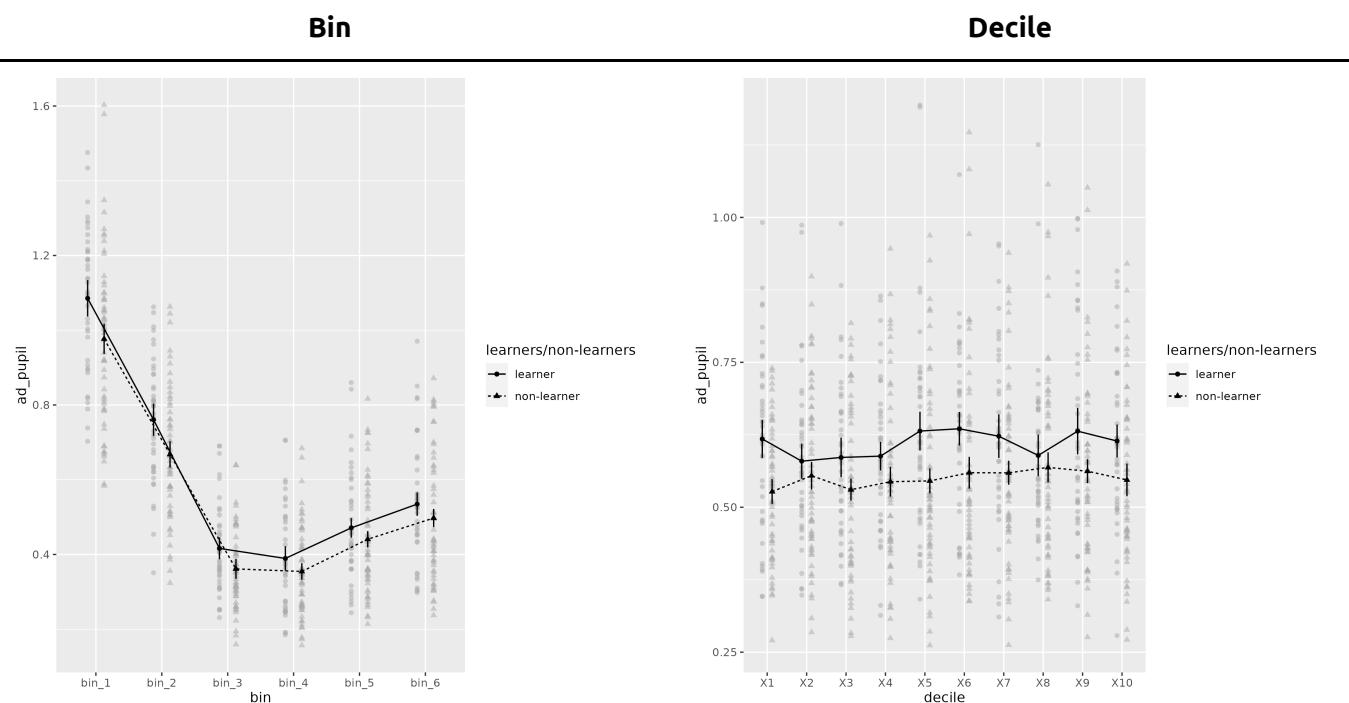
## Significant Effects/Interactions

- learners/non-learners
- bin

Effect	num Df	den Df	MSE	F	ges	P
learners/non-learners	1	89	4.12195	4.27556	0.00782276	0.0415675
decile	6.46118	575.045	1.62327	0.982829	0.00459047	0.43922
learners/non-learners:decile	6.46118	575.045	1.62327	1.16	0.00541352	0.325279
bin	4.21024	374.711	0.858064	85.0496	0.120848	3.79206e-53

Effect	num Df	den Df	MSE	F	ges	P
learners/non-learners:bin	4.21024	374.711	0.858064	1.93404	0.0031161	0.100449
decile:bin	99	8811	0.0696187	1.1129	0.00341985	0.209587
learners/non-learners:decile:bin	99	8811	0.0696187	1.11442	0.00342448	0.206763

## Planning



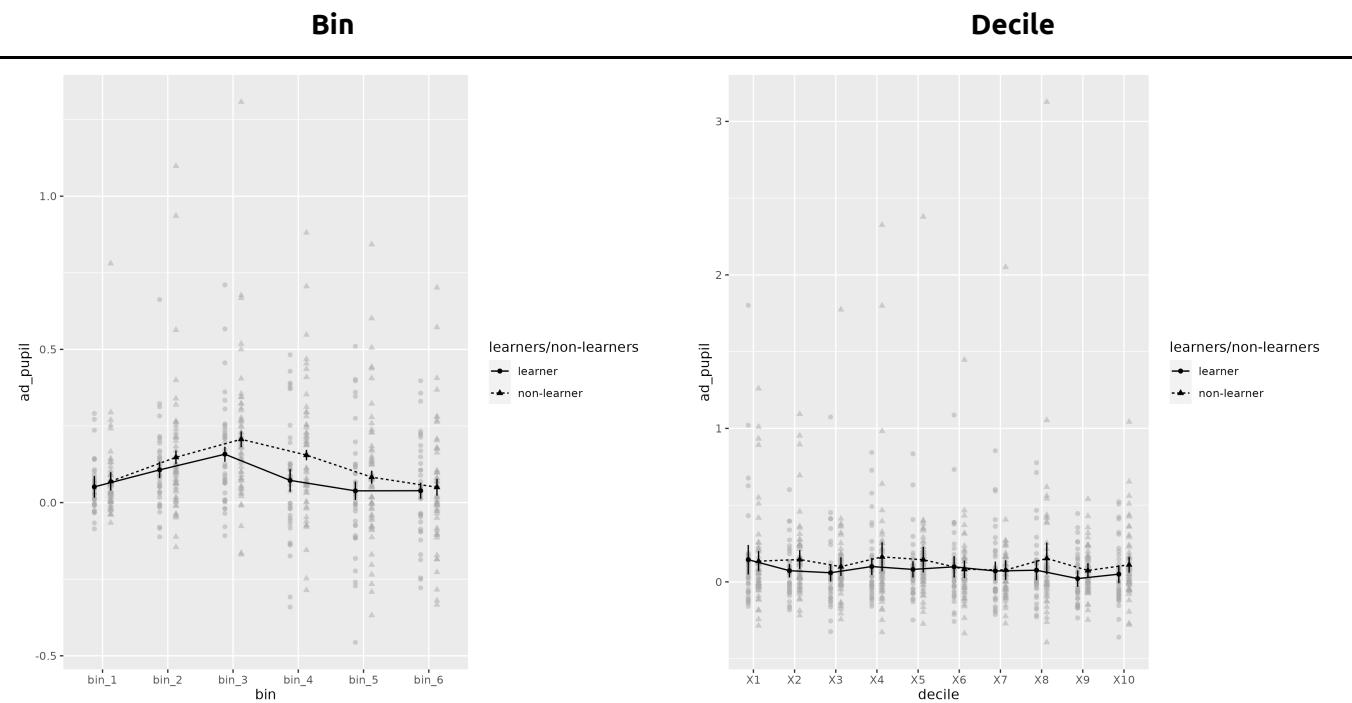
## Significant Effects/Interactions

- learners/non-learners
- bin

Effect	num Df	den Df	MSE	F	ges	P
learners/non-learners	1	94	0.9313	5.3667	0.0206857	0.0226972
decile	7.22956	679.579	0.0666511	1.94792	0.00395114	0.0575116
learners/non-learners:decile	7.22956	679.579	0.0666511	1.47203	0.00298875	0.171656
bin	2.14301	201.443	0.286475	487.844	0.558643	2.60022e-80
learners/non-learners:bin	2.14301	201.443	0.286475	2.07944	0.00536629	0.12409
decile:bin	17.6984	1663.65	0.0276939	0.781464	0.00161613	0.721921

Effect	num Df	den Df	MSE	F	ges	P
learners/non-learners:decile:bin	17.6984	1663.65	0.0276939	1.16992	0.00241755	0.27908

## Feedback



## Significant Effects/Interactions

- bin

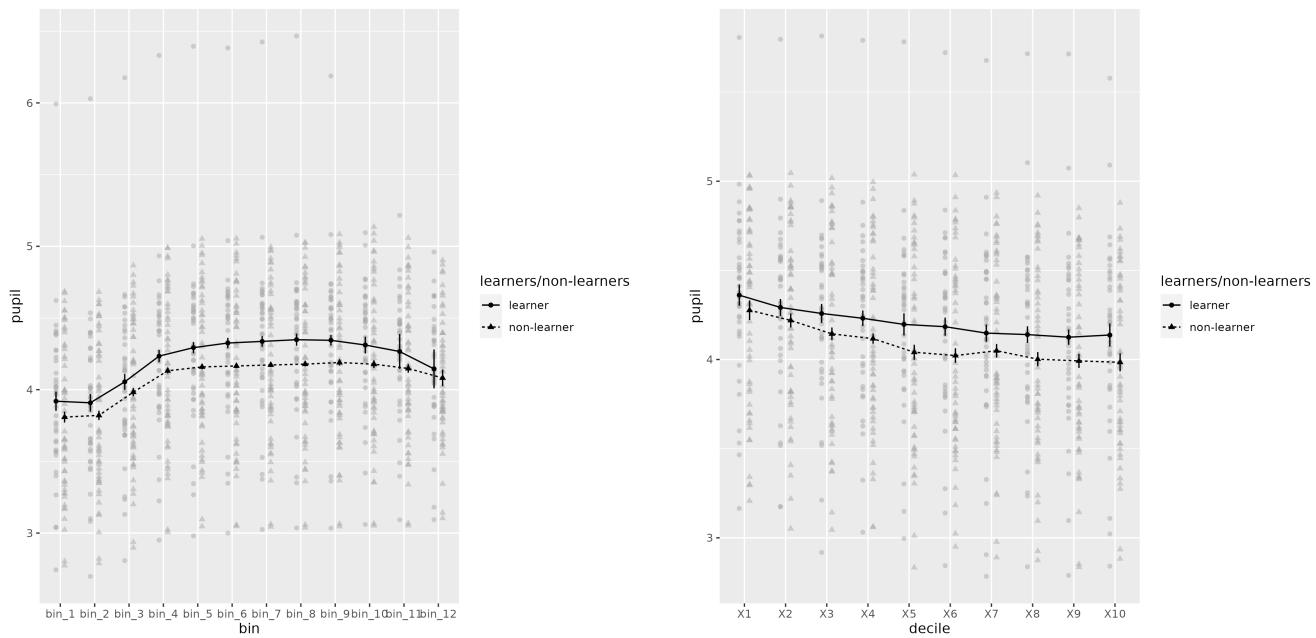
Effect	num Df	den Df	MSE	F	ges	P
learners/non-learners	1	94	1.61853	1.45785	0.00378742	0.230302
decile	4.73534	445.122	0.649911	1.32415	0.00652315	0.254652
learners/non-learners:decile	4.73534	445.122	0.649911	0.494255	0.00244484	0.770804
bin	3.27774	308.108	0.129857	30.4525	0.0204571	1.92764e-18
learners/non-learners:bin	3.27774	308.108	0.129857	1.76239	0.00120719	0.149128
decile:bin	11.408	1072.36	0.129809	1.48021	0.00351939	0.129658
learners/non-learners:decile:bin	11.408	1072.36	0.129809	0.899053	0.00214057	0.54353

## ANOVA Raw Pupil

### Baseline

## Bin Decile

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### Significant Effects/Interactions

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

Effect	num Df	den Df	MSE	F	ges	P
learners/non-learners	1	89	29.0738	1.37449	0.0123883	0.244171
decile	4.3043	383.082	0.59873	29.2607	0.0231228	1.83806e-22
learners/non-learners:decile	4.3043	383.082	0.59873	0.882692	0.000713532	0.480338
bin	1.86265	165.776	1.45614	80.6813	0.0642742	4.38597e-24
learners/non-learners:bin	1.86265	165.776	1.45614	1.19015	0.00101223	0.304574
decile:bin	99	8811	0.0144682	0.975113	0.000438223	0.551276
learners/non-learners:decile:bin	99	8811	0.0144682	1.26786	0.00056971	0.0381385

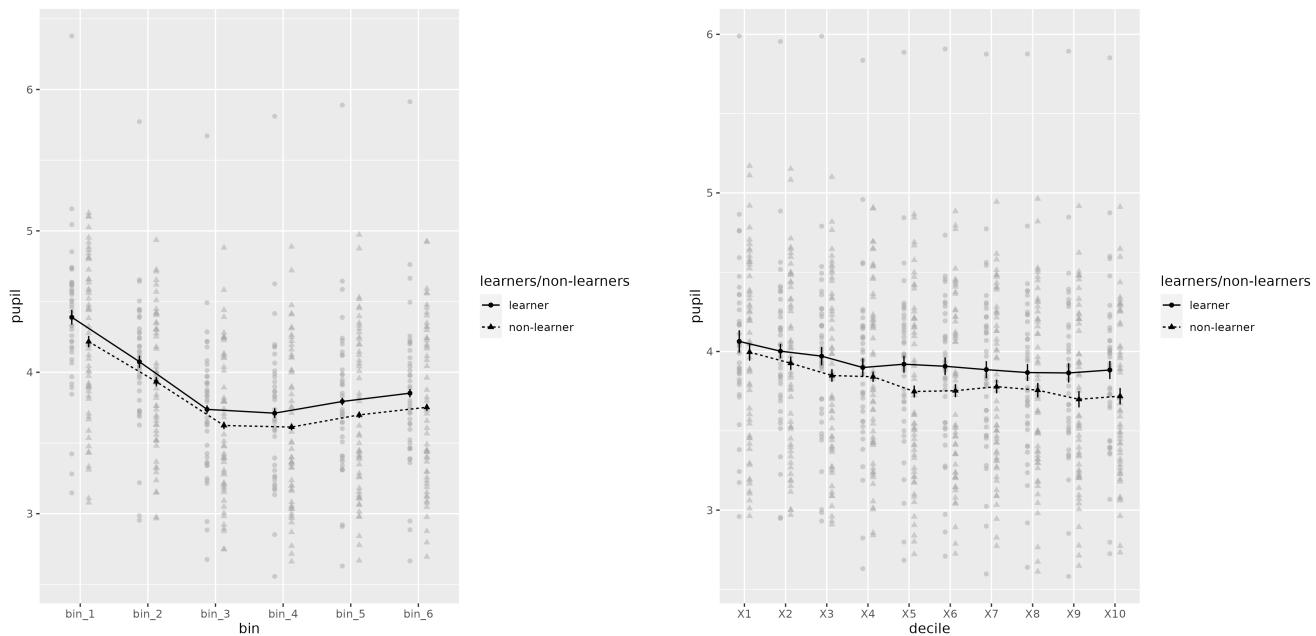
### Planning

## Bin Decile

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## Bin Decile

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### Significant Effects/Interactions

- decile
- bin

Effect	num Df	den Df	MSE	F	ges	P
learners/non- learners	1	94	16.5851	1.21442	0.0109873	0.273272
decile	4.27402	401.758	0.366451	20.0883	0.0170578	7.08702e-16
learners/non- learners:decile	4.27402	401.758	0.366451	1.49663	0.00129123	0.198889
bin	2.07345	194.904	0.297327	461.232	0.135574	8.12049e-76
learners/non- learners:bin	2.07345	194.904	0.297327	1.78682	0.000607217	0.168848
decile:bin	17.2375	1620.32	0.0301401	0.966359	0.000276845	0.494812
learners/non- learners:decile:bin	17.2375	1620.32	0.0301401	1.34139	0.000384244	0.156305

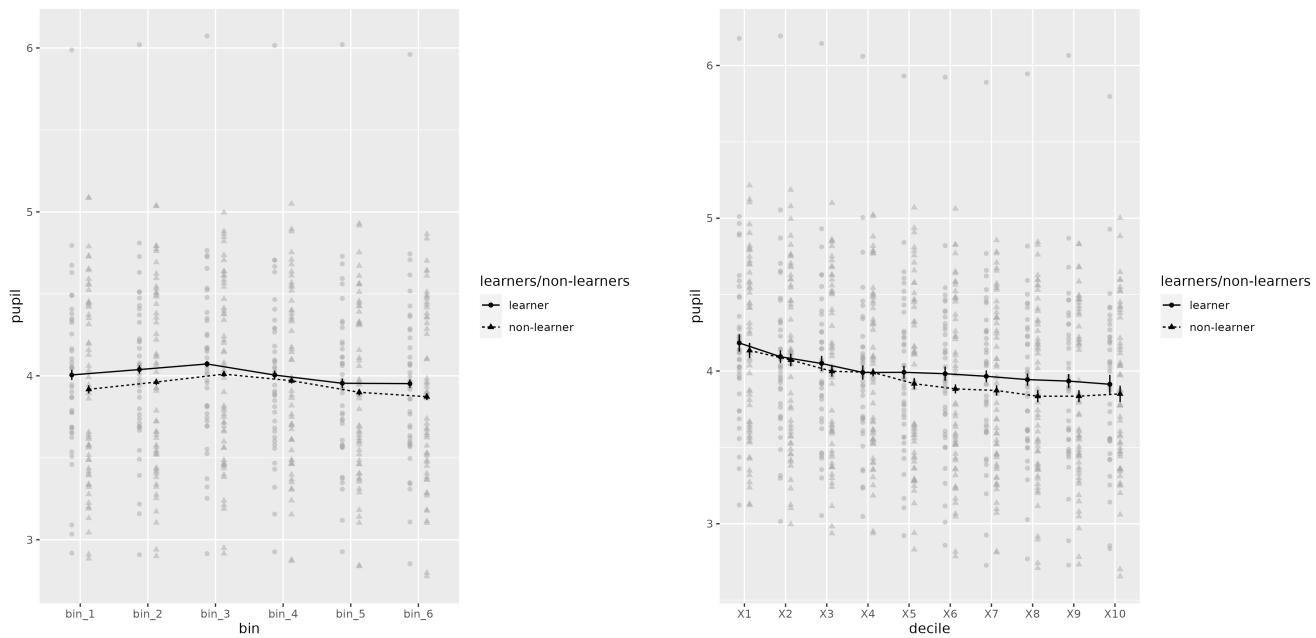
### Feedback

## Bin Decile

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## Bin Decile

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### Significant Effects/Interactions

- decile
- bin

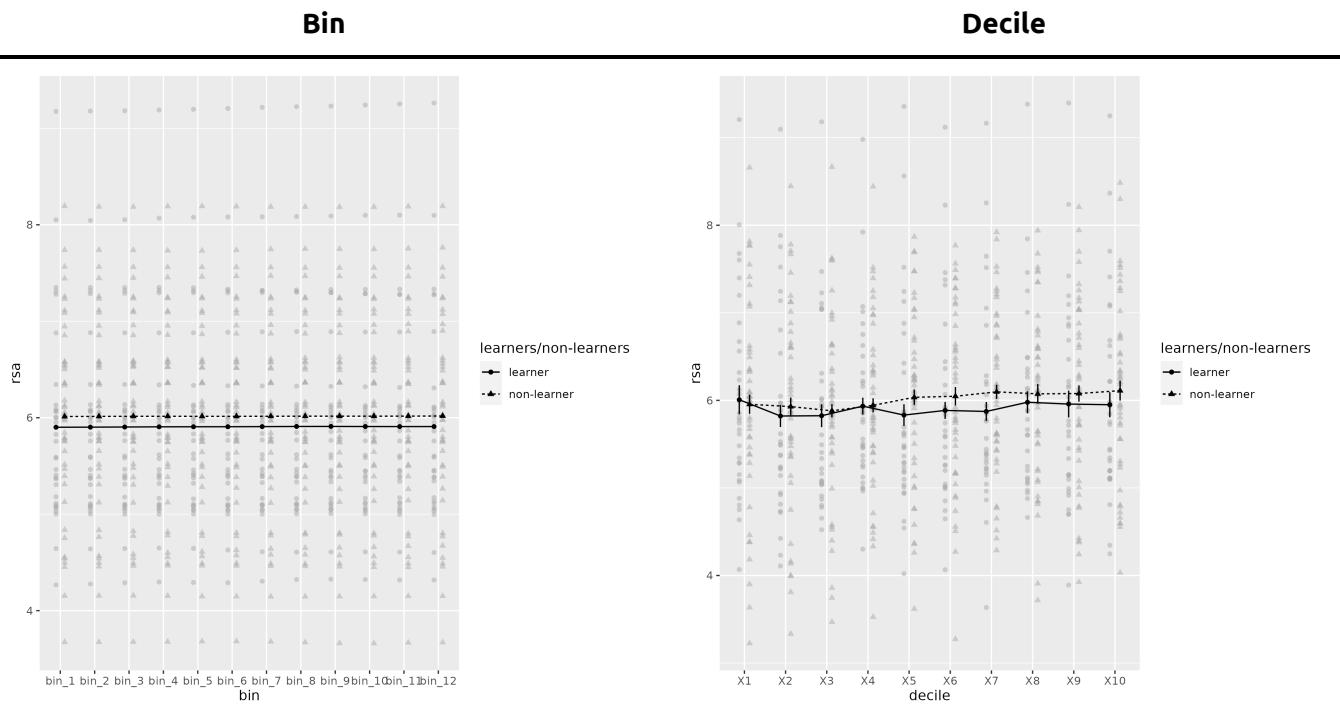
Effect	num Df	den Df	MSE	F	ges	P
learners/non-learners	1	94	17.483	0.347785	0.00333266	0.556785
decile	4.20006	394.805	0.278652	37.1406	0.0233464	2.31654e-27
learners/non-learners:decile	4.20006	394.805	0.278652	1.40317	0.000902298	0.230174
bin	2.03873	191.641	0.143469	36.69	0.00586712	2.08638e-14
learners/non-learners:bin	2.03873	191.641	0.143469	1.51512	0.000243654	0.222107
decile:bin	17.9652	1688.73	0.0221909	1.30174	0.000285313	0.17657
learners/non-learners:decile:bin	17.9652	1688.73	0.0221909	1.41237	0.000309553	0.115692

### ANOVA Respiratory Sinus Arythmia

Baseline

## Bin Decile

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## Significant Effects/Interactions

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

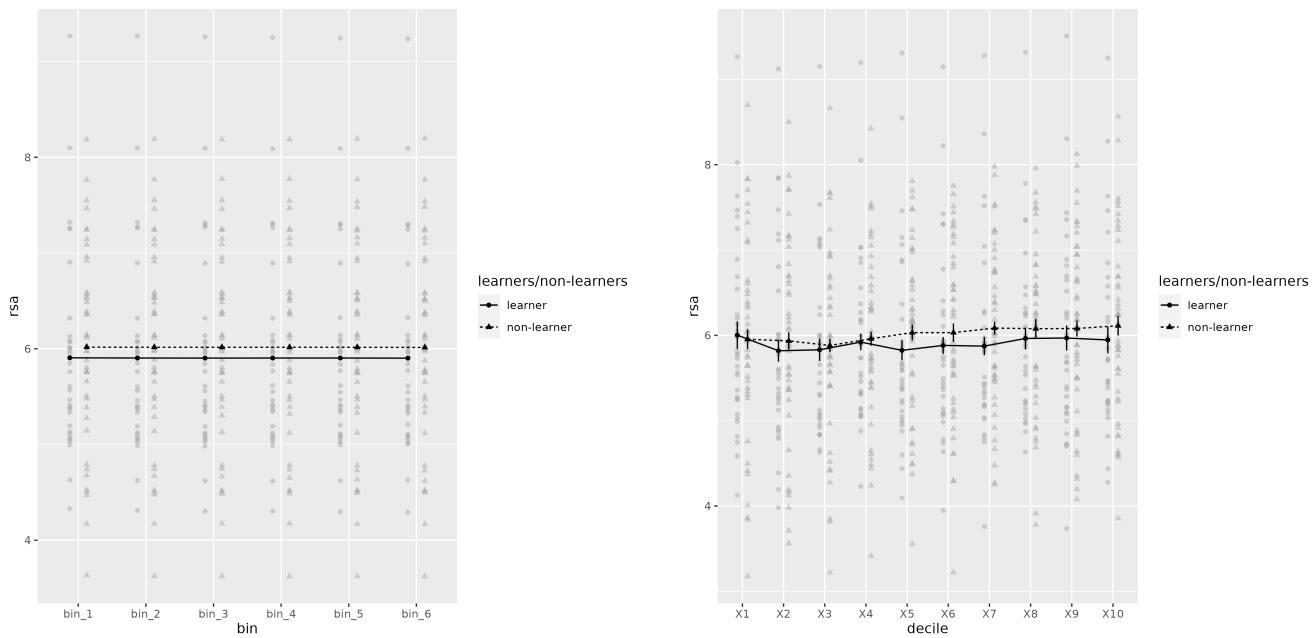
Effect	num Df	den Df	MSE	F	ges	P
learners/non-learners	1	74	126.312	0.207673	0.00255214	0.649932
decile	5.04619	373.418	2.39677	2.48052	0.00291779	0.0310572
learners/non-learners:decile	5.04619	373.418	2.39677	1.22448	0.00144246	0.296716
bin	1.54755	114.518	0.010284	2.1564	3.34754e-06	0.132111
learners/non-learners:bin	1.54755	114.518	0.010284	0.392997	6.1008e-07	0.622583
decile:bin	99	7326	0.00119558	0.731393	8.44405e-06	0.978956
learners/non-learners:decile:bin	99	7326	0.00119558	1.36231	1.57279e-05	0.0101827

## Planning



### Bin Decile

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### Significant Effects/Interactions

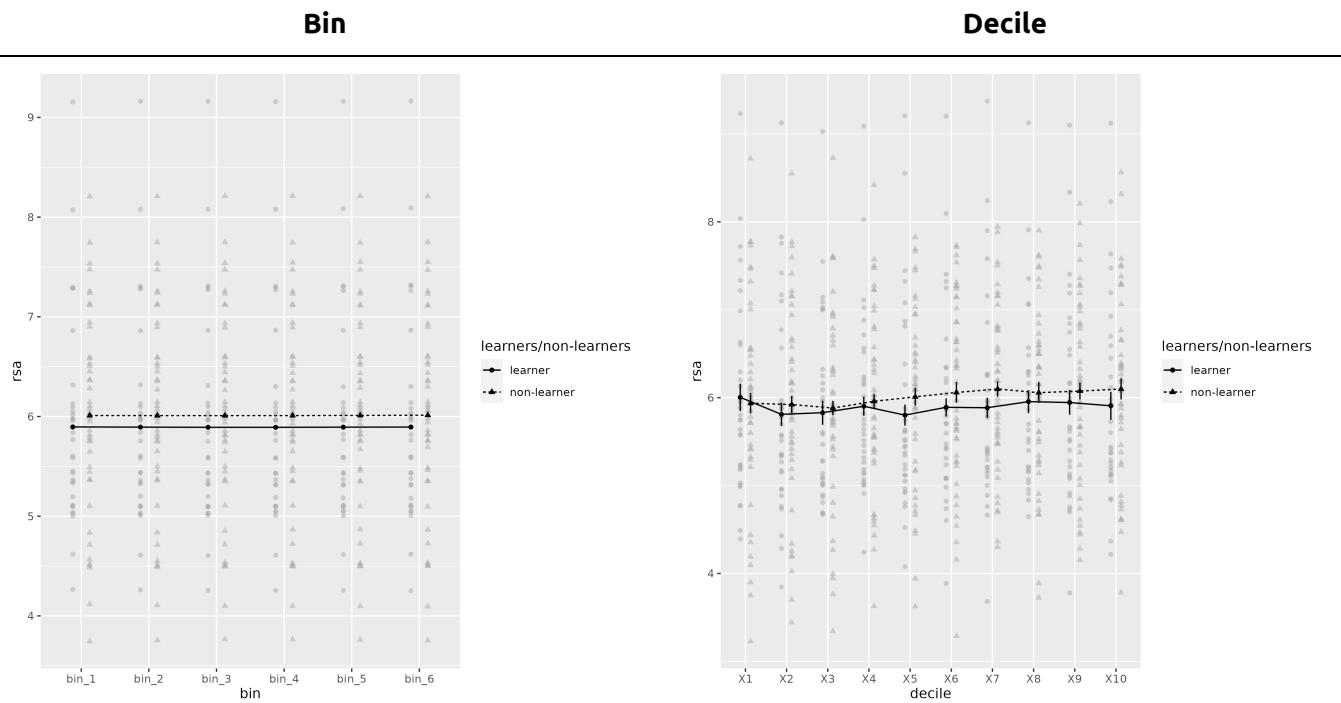
- decile

Effect	num Df	den Df	MSE	F	ges	P
learners/non-learners	1	74	63.5325	0.219543	0.00269547	0.640766
decile	4.99783	369.84	1.23681	2.32991	0.00278294	0.0420786
learners/non-learners:decile	4.99783	369.84	1.23681	1.04347	0.00124828	0.391735
bin	1.55859	115.335	0.00186704	1.29076	7.27818e-07	0.273998
learners/non-learners:bin	1.55859	115.335	0.00186704	0.142894	8.05732e-08	0.814382
decile:bin	10.41	770.34	0.00215834	1.15798	5.04152e-06	0.314773
learners/non-learners:decile:bin	10.41	770.34	0.00215834	1.61853	7.04658e-06	0.0933799

### Feedback

### Bin Decile

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## Significant Effects/Interactions

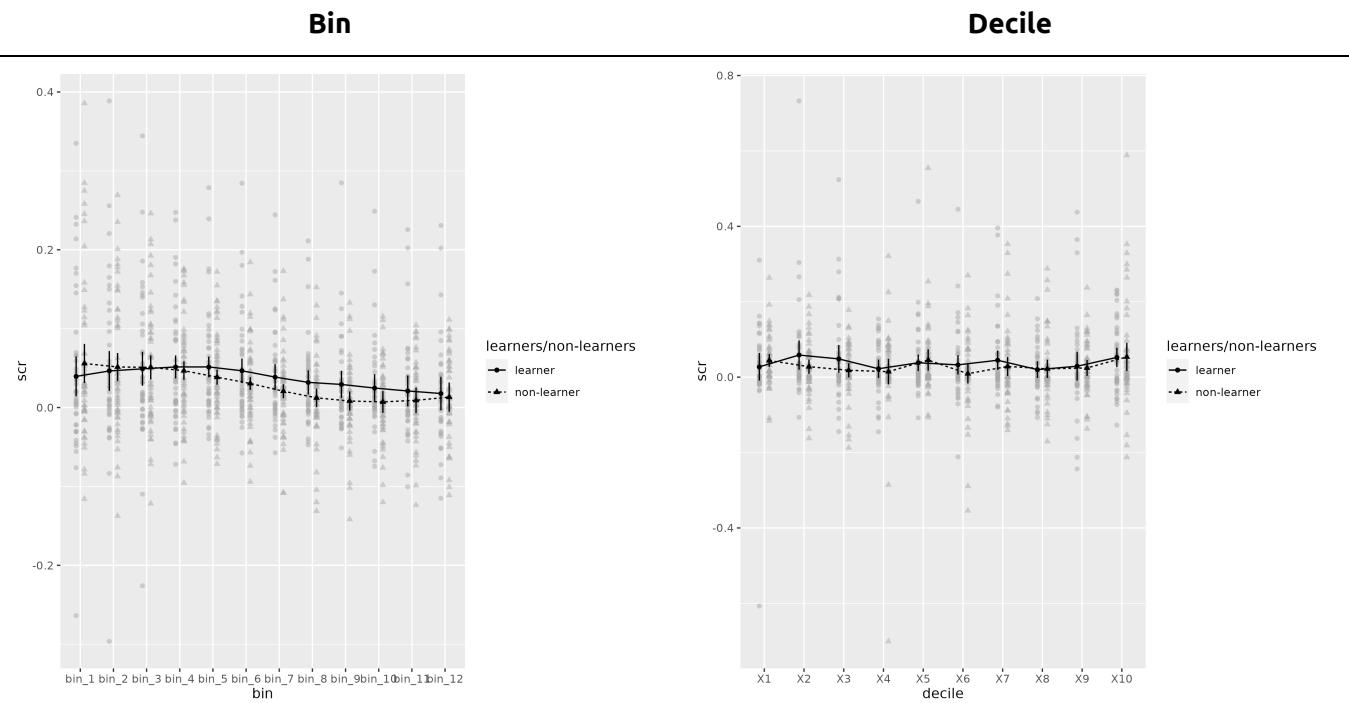
No statistically significant effects present at  $P < 0.05$

Effect	num Df	den Df	MSE	F	ges	P
learners/non- learners	1	74	62.9567	0.240166	0.00293203	0.625536
decile	5.20054	384.84	1.2507	2.09056	0.00263759	0.0631104
learners/non- learners:decile	5.20054	384.84	1.2507	1.15936	0.00146444	0.32848
bin	1.79955	133.167	0.0015996	2.55404	1.42985e-06	0.0873018
learners/non- learners:bin	1.79955	133.167	0.0015996	0.880981	4.93208e-07	0.407021
decile:bin	12.2386	905.656	0.00156841	0.804841	3.00462e-06	0.648143
learners/non- learners:decile:bin	12.2386	905.656	0.00156841	0.551373	2.05838e-06	0.883972

## ANOVA Skin Conductance Response (Phasic)

Baseline





## Significant Effects/Interactions

- bin

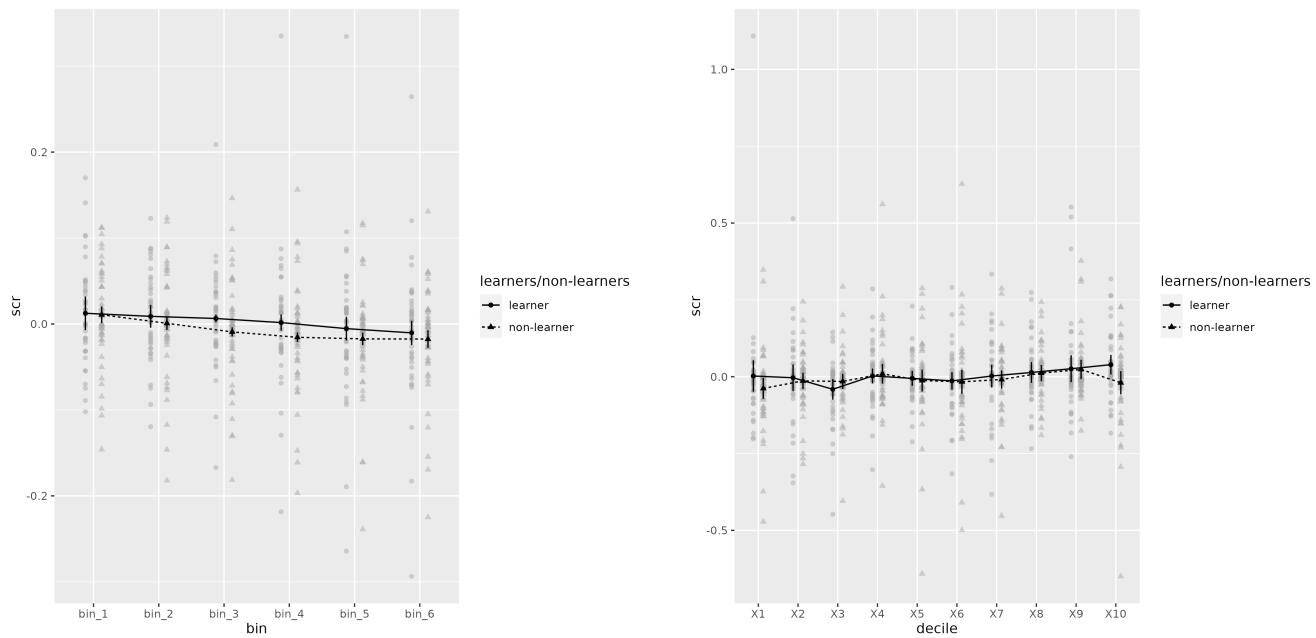
Effect	num Df	den Df	MSE	F	ges	P
learners/non- learners	1	91	0.235838	0.863593	0.000676135	0.355194
decile	7.1307	648.894	0.135089	1.30926	0.00417222	0.242076
learners/non- learners:decile	7.1307	648.894	0.135089	0.678762	0.00216737	0.692979
bin	2.06924	188.301	0.168934	6.43263	0.00741466	0.00175793
learners/non- learners:bin	2.06924	188.301	0.168934	0.973794	0.00112956	0.381927
decile:bin	99	9009	0.0177699	1.07435	0.00623956	0.289763
learners/non- learners:decile:bin	99	9009	0.0177699	1.00269	0.00582579	0.473924

## Planning



## Bin Decile

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### Significant Effects/Interactions

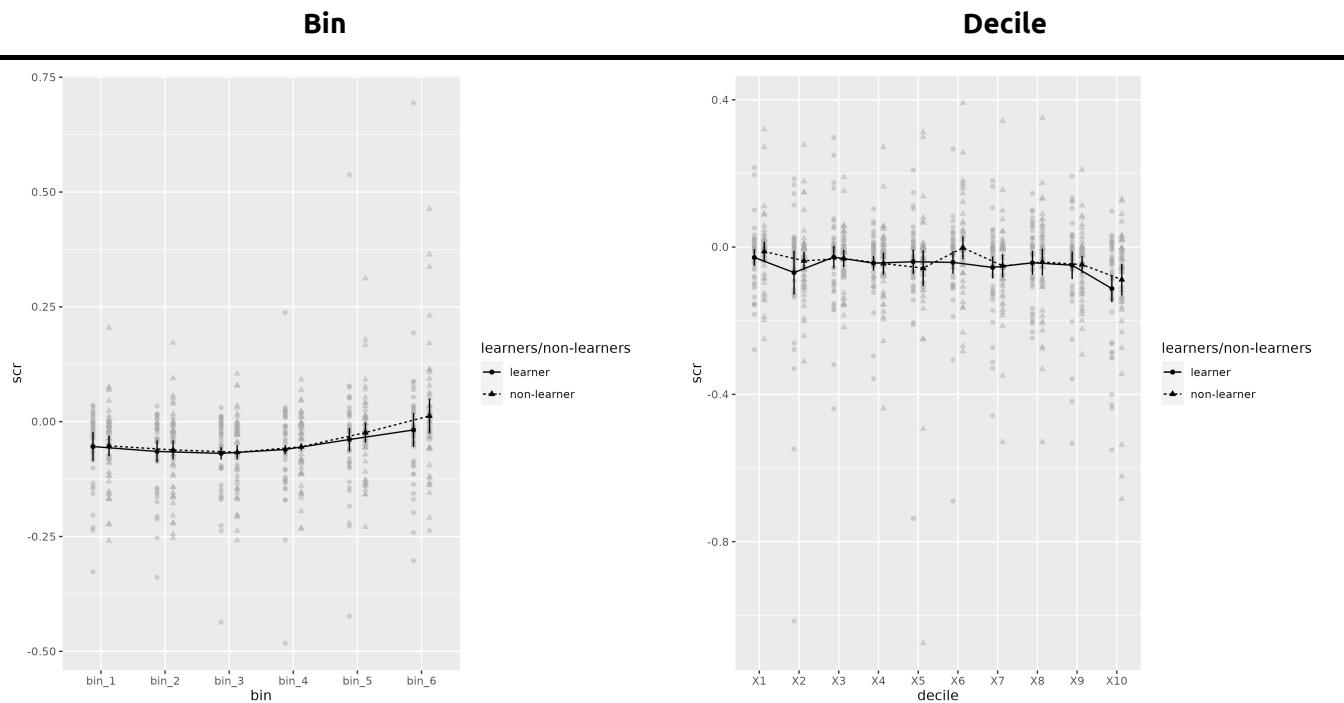
- bin

Effect	num Df	den Df	MSE	F	ges	P
learners/non- learners	1	91	0.184507	0.792084	0.00116977	0.375818
decile	7.40585	673.932	0.0959601	1.81936	0.0102549	0.0763751
learners/non- learners:decile	7.40585	673.932	0.0959601	0.977719	0.00553723	0.448778
bin	1.3375	121.713	0.046371	7.15767	0.00354483	0.00425232
learners/non- learners:bin	1.3375	121.713	0.046371	0.61423	0.000305186	0.479715
decile:bin	6.18167	562.532	0.0669904	0.889608	0.00294347	0.504429
learners/non- learners:decile:bin	6.18167	562.532	0.0669904	0.476285	0.00157806	0.831233

### Feedback

## Bin Decile

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## Significant Effects/Interactions

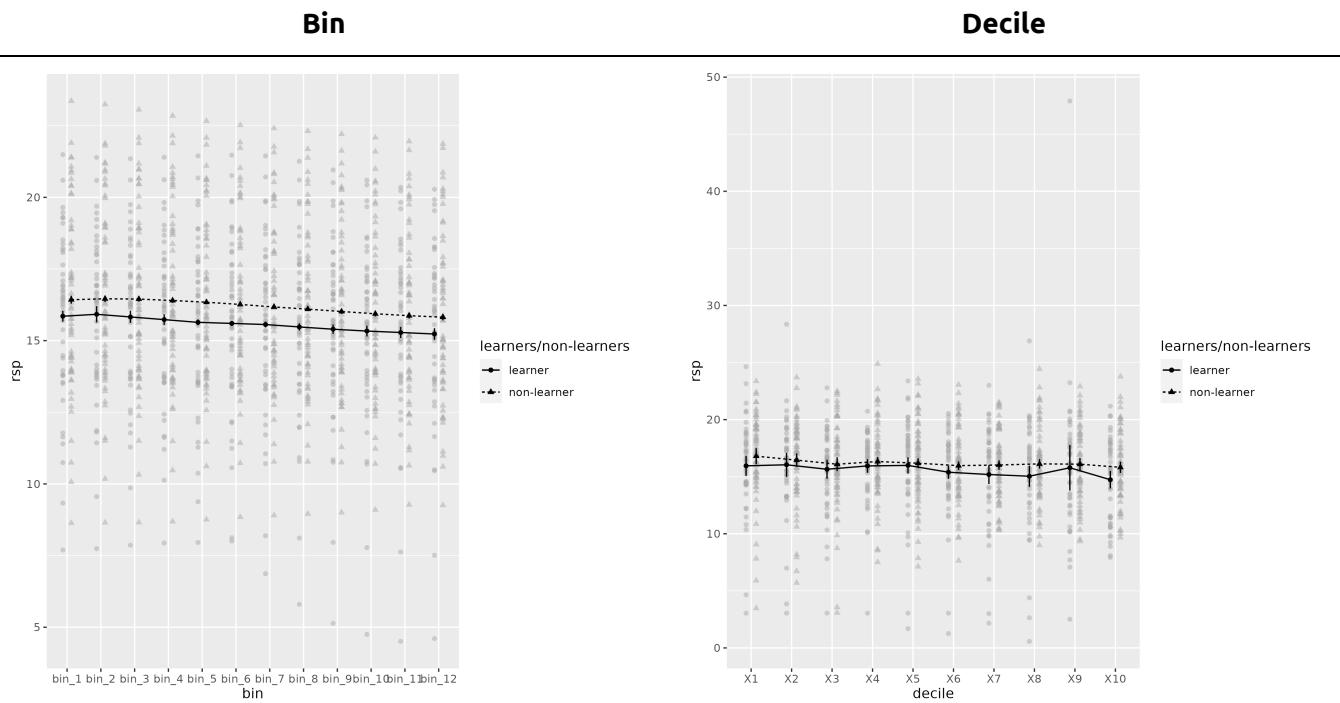
- decile
- bin
- decile:bin

Effect	num Df	den Df	MSE	F	ges	P
learners/non- learners	1	91	0.282787	0.471015	0.00080191	0.494265
decile	7.02444	639.224	0.100247	3.65736	0.0152806	0.000687576
learners/non- learners:decile	7.02444	639.224	0.100247	0.554281	0.00234623	0.793701
bin	1.16177	105.721	0.2827	8.52373	0.0165879	0.00283503
learners/non- learners:bin	1.16177	105.721	0.2827	0.443725	0.000877319	0.535874
decile:bin	6.8594	624.206	0.0741192	7.47591	0.0223886	1.57473e-08
learners/non- learners:decile:bin	6.8594	624.206	0.0741192	1.19792	0.00365623	0.302242

## ANOVA Respiration Rate

Baseline





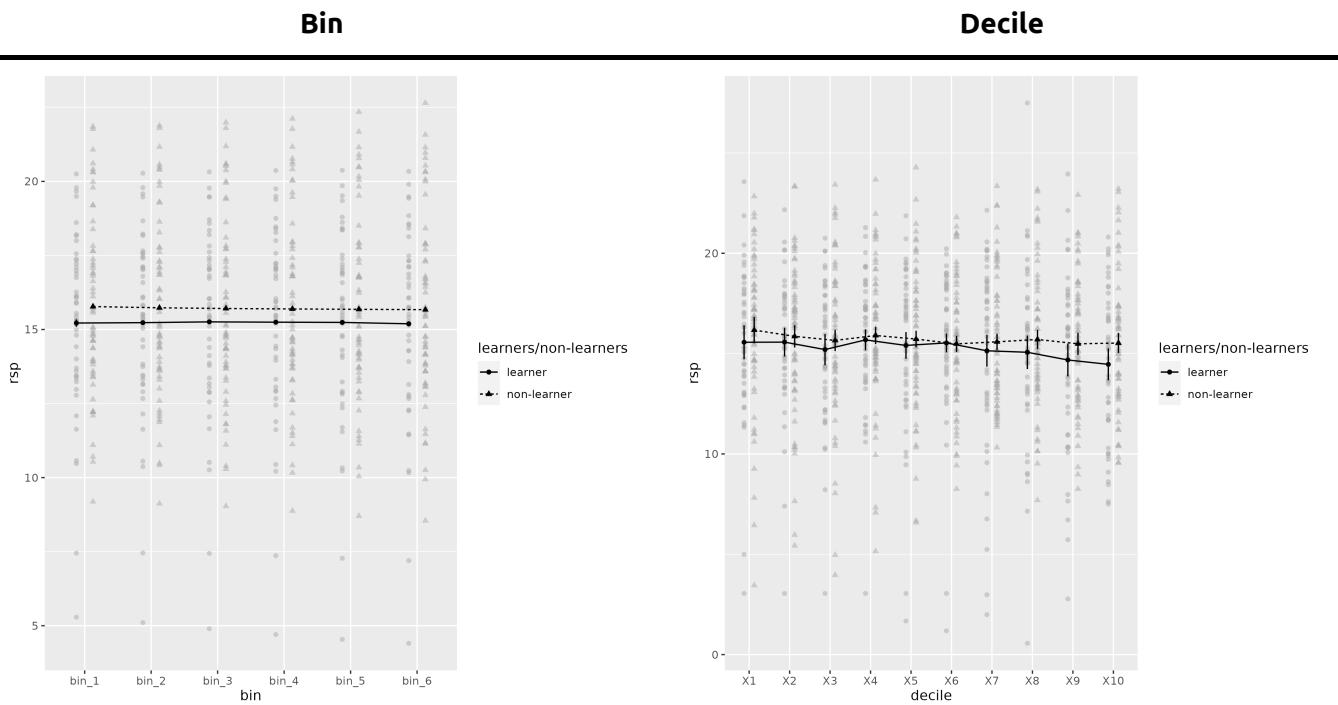
## Significant Effects/Interactions

- bin

Effect	num Df	den Df	MSE	F	ges	P
learners/non-learners	1	104	1046.27	1.13496	0.00562251	0.289187
decile	3.67396	382.091	206.261	1.74272	0.00624901	0.14549
learners/non- learners:decile	3.67396	382.091	206.261	0.385664	0.00138967	0.802922
bin	1.5101	157.05	16.3221	25.1593	0.00294412	1.6965e-08
learners/non- learners:bin	1.5101	157.05	16.3221	0.224095	2.63002e-05	0.735959
decile:bin	2.6415	274.716	72.1699	0.958552	0.00086936	0.404334
learners/non- learners:decile:bin	2.6415	274.716	72.1699	0.72855	0.000660896	0.519298

## Planning





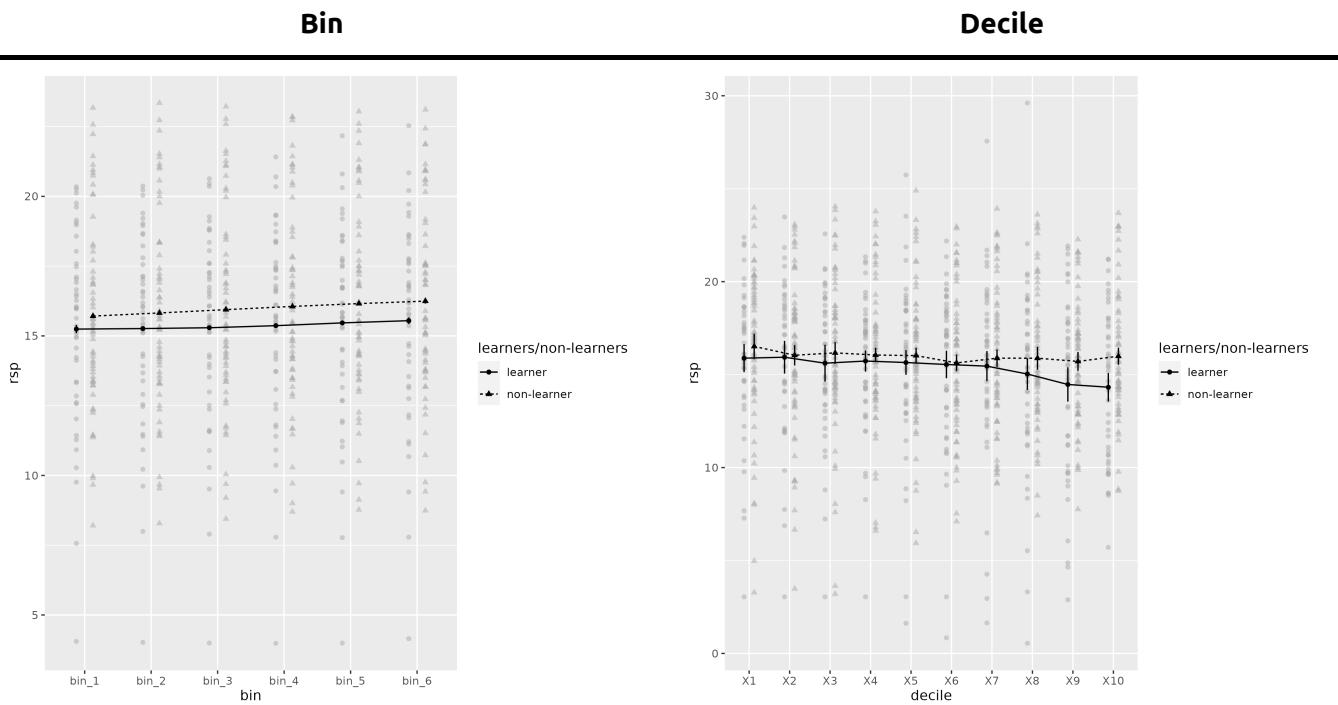
## Significant Effects/Interactions

No statistically significant effects present at P < 0.05

Effect	num Df	den Df	MSE	F	ges	P
learners/non-learners	1	104	580.919	0.616725	0.0039937	0.434052
decile	4.24756	441.746	60.5337	1.76821	0.0050626	0.129967
learners/non-learners:decile	4.24756	441.746	60.5337	0.544144	0.00156343	0.714042
bin	1.36291	141.742	1.79131	1.08998	2.97817e-05	0.318371
learners/non-learners:bin	1.36291	141.742	1.79131	1.02698	2.80604e-05	0.335725
decile:bin	7.92443	824.141	2.35363	1.03404	0.000215801	0.40821
learners/non-learners:decile:bin	7.92443	824.141	2.35363	0.750973	0.000156736	0.645104

## Feedback





## Significant Effects/Interactions

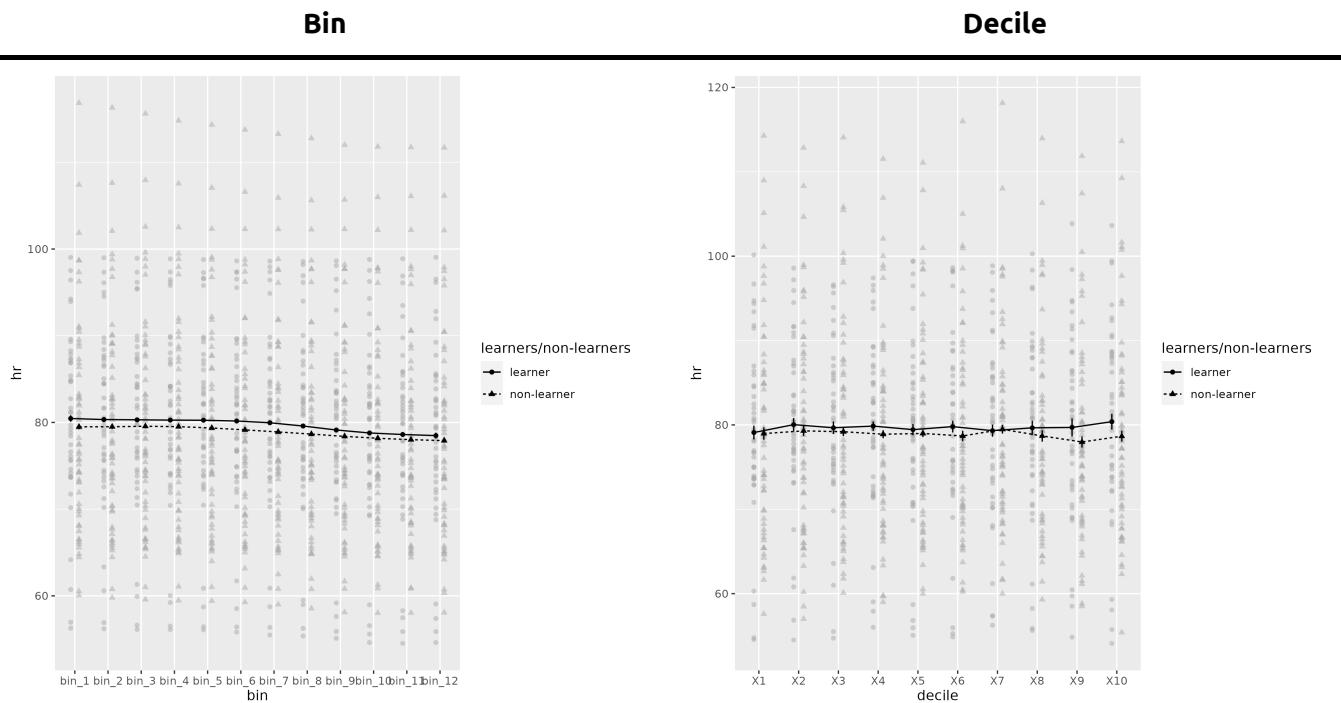
- decile
- bin

Effect	num Df	den Df	MSE	F	ges	P
learners/non-learners	1	104	719.058	0.851924	0.00564839	0.358145
decile	4.11563	428.026	71.7767	2.45904	0.00669098	0.0432551
learners/non- learners:decile	4.11563	428.026	71.7767	1.20285	0.00328415	0.308769
bin	1.50679	156.707	2.55338	34.9186	0.00124424	5.47783e-11
learners/non- learners:bin	1.50679	156.707	2.55338	3.00801	0.000107306	0.0666814
decile:bin	7.04773	732.964	2.64082	0.500871	8.64365e-05	0.835335
learners/non- learners:decile:bin	7.04773	732.964	2.64082	0.686264	0.000118426	0.684829

## ANOVA Heart Rate

Baseline





## Significant Effects/Interactions

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

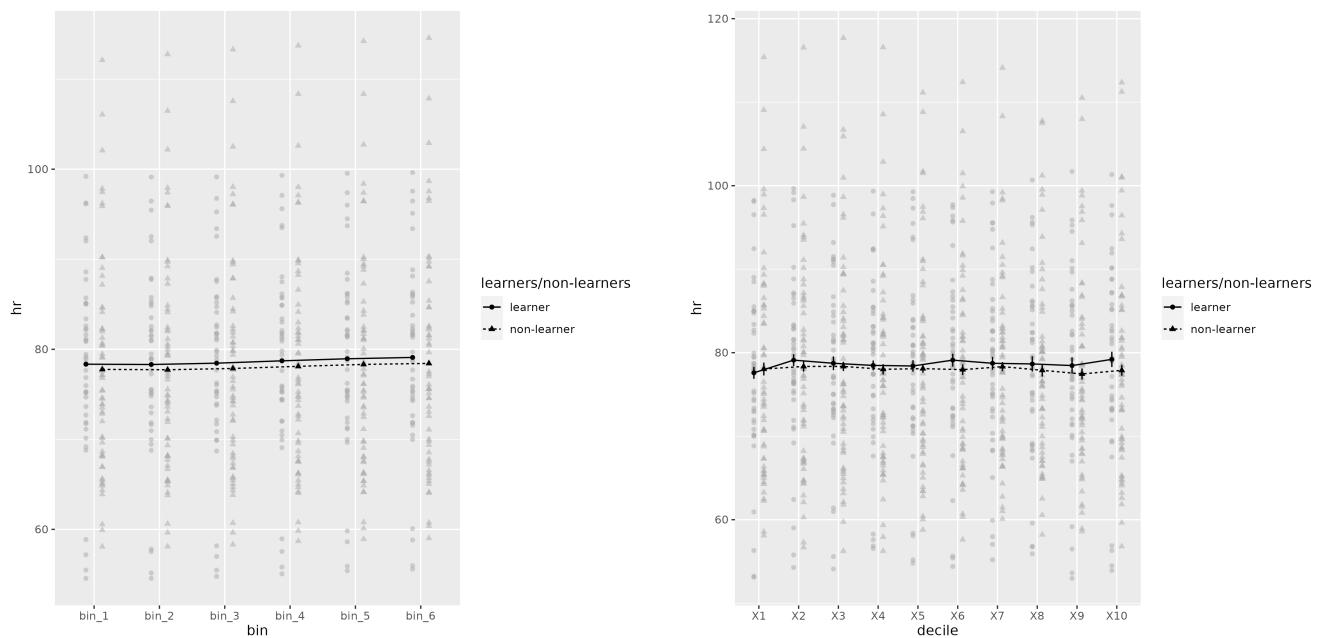
Effect	num Df	den Df	MSE	F	ges	P
learners/non-learners	1	98	15073.8	0.127398	0.00122635	0.721913
decile	4.91201	481.377	125.711	0.987707	0.00038981	0.423821
learners/non-learners:decile	4.91201	481.377	125.711	1.63708	0.000645927	0.149861
bin	2.0099	196.97	32.6812	76.8848	0.00321866	1.72912e-25
learners/non-learners:bin	2.0099	196.97	32.6812	1.10818	4.65399e-05	0.332423
decile:bin	99	9702	2.04252	1.29314	0.000167163	0.0271894
learners/non-learners:decile:bin	99	9702	2.04252	1.32872	0.00017176	0.0165218

## Planning



## Bin Decile

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### Significant Effects/Interactions

- bin

Effect	num Df	den Df	MSE	F	ges	P
learners/non- learners	1	98	7707.24	0.0701247	0.000680858	0.791712
decile	4.93736	483.861	66.7252	1.34736	0.000559251	0.24357
learners/non- learners:decile	4.93736	483.861	66.7252	1.02503	0.00042552	0.40169
bin	1.53599	150.527	6.80527	45.3111	0.000596706	1.49586e-13
learners/non- learners:bin	1.53599	150.527	6.80527	0.127014	1.67365e-06	0.826429
decile:bin	12.3192	1207.29	3.84626	0.906163	5.41239e-05	0.542043
learners/non- learners:decile:bin	12.3192	1207.29	3.84626	0.800405	4.78074e-05	0.653664

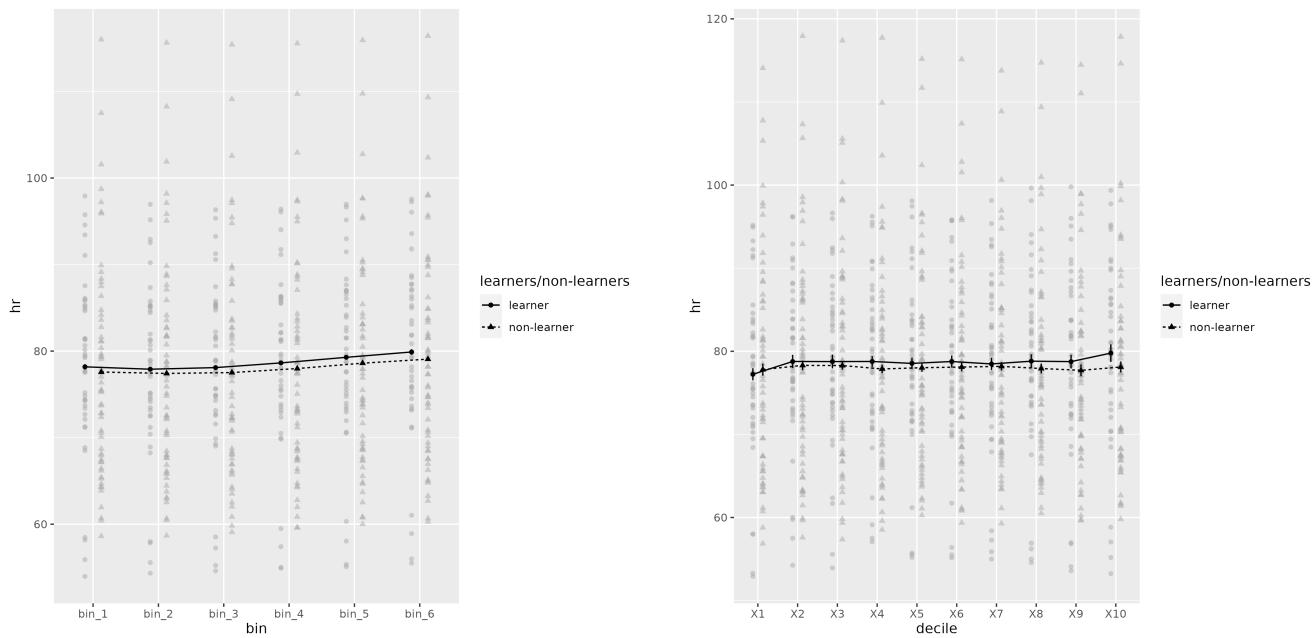
### Feedback

## Bin Decile

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## Bin Decile

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### Significant Effects/Interactions

- decile
- bin

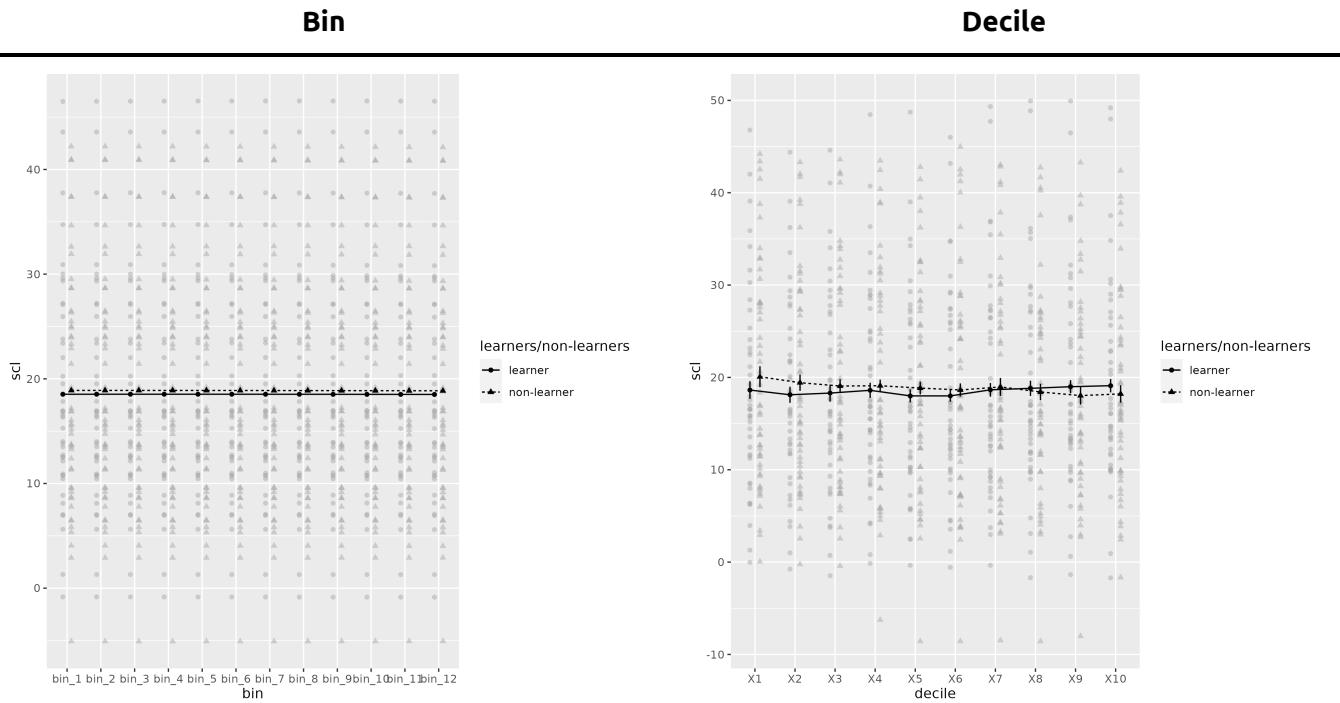
Effect	num Df	den Df	MSE	F	ges	P
learners/non- learners	1	98	7714.92	0.0766564	0.000745023	0.782464
decile	5.13604	503.332	58.8323	2.21456	0.000842906	0.0499656
learners/non- learners:decile	5.13604	503.332	58.8323	1.45091	0.000552404	0.202944
bin	1.70742	167.327	14.0668	106.549	0.00321587	9.5029e-28
learners/non- learners:bin	1.70742	167.327	14.0668	0.666277	2.01741e-05	0.492173
decile:bin	10.5722	1036.07	4.99885	1.47696	9.83951e-05	0.1377
learners/non- learners:decile:bin	10.5722	1036.07	4.99885	1.02367	6.8199e-05	0.42199

### ANOVA Skin Conductance Level (Tonic)

Baseline

## Bin Decile

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## Significant Effects/Interactions

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

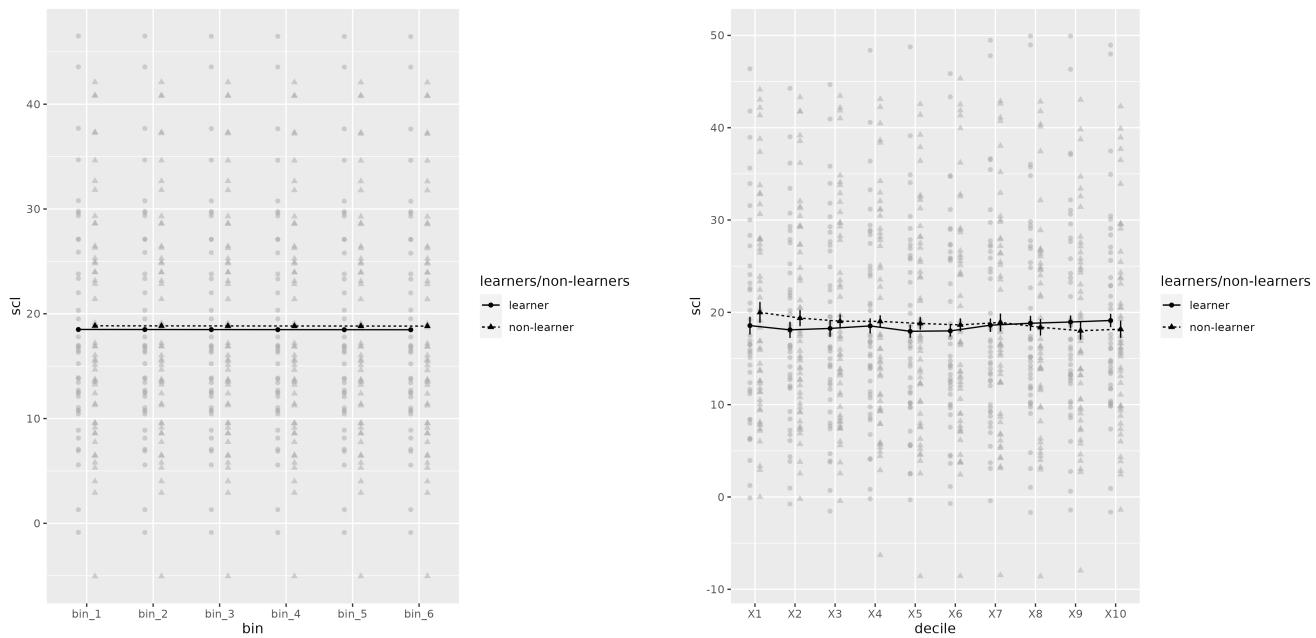
Effect	num Df	den Df	MSE	F	ges	P
learners/non-learners	1	91	14121.4	0.024884	0.000257173	0.875006
decile	3.47665	316.375	255.883	0.90953	0.000591974	0.448004
learners/non-learners:decile	3.47665	316.375	255.883	2.00352	0.00130308	0.103592
bin	11	1001	0.00317192	27.2765	6.96696e-07	3.97918e-50
learners/non-learners:bin	11	1001	0.00317192	2.98344	7.62029e-08	0.000649034
decile:bin	99	9009	0.00286011	2.98992	6.19753e-07	4.80733e-21
learners/non-learners:decile:bin	99	9009	0.00286011	1.14543	2.37425e-07	0.154426

## Planning



## Bin Decile

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### Significant Effects/Interactions

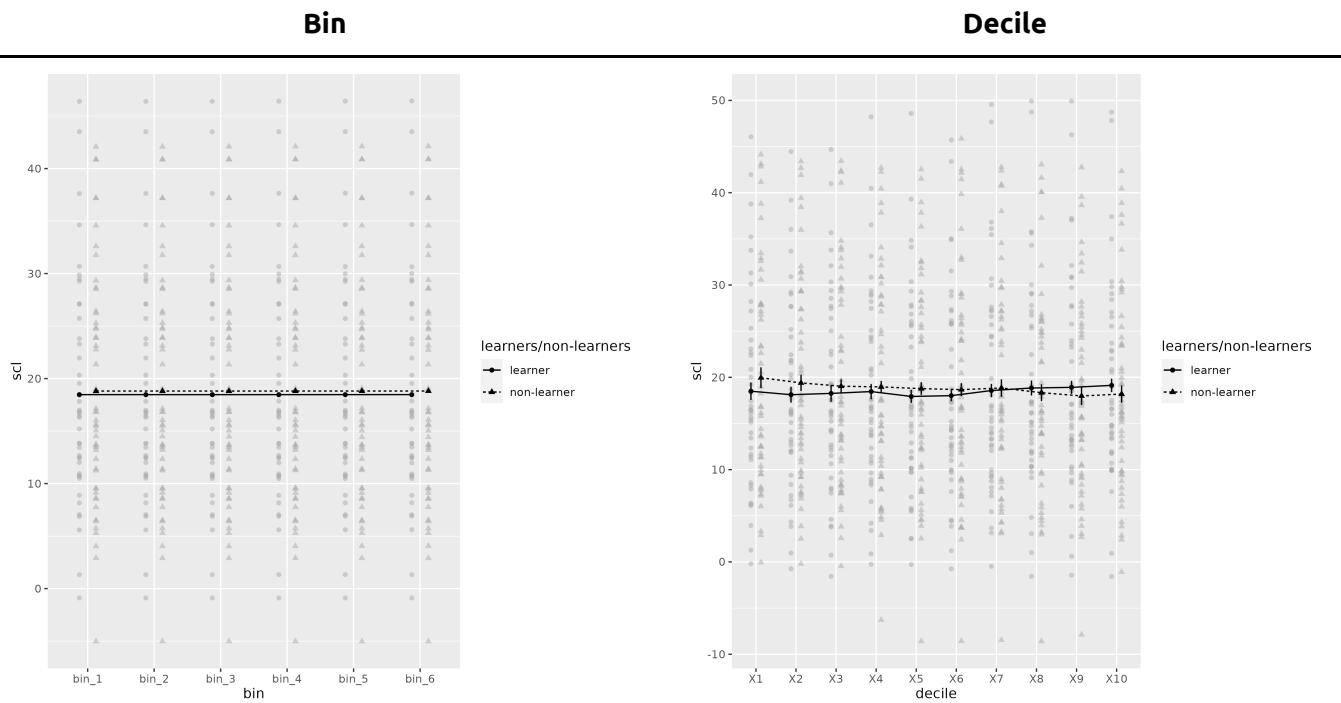
- bin
- decile:bin

Effect	num Df	den Df	MSE	F	ges	P
learners/non-learners	1	91	7035.31	0.0235481	0.000243474	0.87838
decile	3.47745	316.448	126.577	0.81638	0.000527953	0.500923
learners/non-learners:decile	3.47745	316.448	126.577	2.05829	0.00133002	0.0958163
bin	5	455	0.000845474	110.26	6.85179e-07	4.00887e-76
learners/non-learners:bin	5	455	0.000845474	0.0621044	3.85932e-10	0.997422
decile:bin	45	4095	0.000771136	3.40654	1.7377e-07	2.03215e-13
learners/non-learners:decile:bin	45	4095	0.000771136	0.620699	3.16623e-08	0.978073

### Feedback

## Bin Decile

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## Significant Effects/Interactions

- decile:bin

Effect	num Df	den Df	MSE	F	ges	P
learners/non-learners	1	91	7027.06	0.0229771	0.000237634	0.879852
decile	3.48571	317.2	125.559	0.729139	0.000469555	0.55466
learners/non-learners:decile	3.48571	317.2	125.559	2.1123	0.00135908	0.0885415
bin	5	455	0.00146579	0.965476	1.04166e-08	0.438525
learners/non-learners:bin	5	455	0.00146579	0.0171976	1.85546e-10	0.999887
decile:bin	45	4095	0.000744432	4.76421	2.34948e-07	3.67988e-23
learners/non-learners:decile:bin	45	4095	0.000744432	0.750984	3.70349e-08	0.888727