Appendix II: Regression Analyses

Regression Analyses from Research Question 1a

dependent variable	independent variables
identical repetition in the German SRT	*Step 1:* demographic variables (age, age of onset, IQ, sex), German receptive language, visuo-verbal n-back working memory, non-verbal short-term memory forward
	Step 2: number of omissions in the German SRT
	Step 3: only medial omissions (categorical, yes/no)

Step 1
Residuals:

minimum	1Q	median	3Q	maximum
-10.4655	-3.5134	0.0984	2.6799	10.0137

Coefficients:

	estimate	std. error	t-value	Pr(>|t|)
(intercept)	-40.8852	31.51316	-1.297	0.2011
AoO	-0.14827	0.05035	-2.945	0.0051 **
sex	0.90143	1.67845	0.537	0.5939
IQ	0.15574	0.10013	1.555	0.1269
age	0.26347	0.4187	0.629	0.5324
German receptive language	0.43497	0.10083	4.314	0.0000866 ***
visuo-verbal n-back WM	0.51857	0.45195	1.147	0.2573
visual forward STM	-0.02597	0.22559	-0.115	0.9088

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

Residual standard error: 5.059 on 45 degrees of freedom
Multiple R-squared: 0.5857,   Adjusted R-squared: 0.5213
F-statistic: 9.088 on 7 and 45 df,   p-value: 6.043E-07

Step 2
Residuals:

minimum	1Q	median	3Q	maximum
-8.9718	-3.0885	0.3515	2.5416	9.7176

Coefficients:

	estimate	std. error	t-value	Pr(>|t|)
(intercept)	-13.6081	29.95471	-0.454	0.65185
AoO	-0.12082	0.04667	-2.589	0.013 *
sex	0.61129	1.53197	0.399	0.69181
IQ	0.10833	0.09243	1.172	0.24749
age	0.1114	0.38444	0.29	0.77335
German receptive language	0.27592	0.10449	2.641	0.01141 *
visuo-verbal n-back WM	-0.04343	0.44778	-0.097	0.92318

(Continued)

Coefficients: *(Continued.)*

	estimate	std. error	t-value	Pr(>|t|)
visual forward STM	-0.07126	0.20603	-0.346	0.73107
sum of omissions German	**-0.1596**	0.04996	**-3.195**	**0.00259 ****

Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 4.609 on 44 degrees of freedom
Multiple R-squared: 0.6637,   Adjusted R-squared: 0.6026
F-statistic: 10.86 on 8 and 44 df,   p-value: 2.78E-08

Compare Step 1 & Step 2: Analysis of Variance Table

	res. df	RSS	df	sum of sq	F	Pr(>F)
1	45	1151.74				
2	44	934.86	1	216.88	**10.208**	**0.002587 ****

Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

$\Delta R^2 = 0.6637 - 0.5857 = \mathbf{0.078}$

Step 3
Residuals:

minimum	1Q	median	3Q	maximum
-8.41	-2.584	-0.5223	2.7187	8.604

Coefficients:

	estimate	std. error	t-value	Pr(>|t|)
(intercept)	-8.61384	28.18354	-0.306	0.76136
AoO	**-0.12378**	0.04382	-2.825	0.00715 **
sex	0.32403	1.44225	0.225	0.8233
IQ	0.07517	0.08768	0.857	0.39603
age	0.05153	0.3616	0.142	0.88735
German receptive language	**0.27816**	0.09809	2.836	0.00694 **
visuo-verbal n-back WM	0.04949	0.42183	0.117	0.90714
visual forward STM	-0.06364	0.19343	-0.329	0.74374
sum of omissions German	-0.12263	0.04895	-2.505	0.01611 *
only medial omissions (cat.)	**4.116**	1.5635	**2.633**	**0.01172 ***

Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 4.327 on 43 degrees of freedom
Multiple R-squared: 0.7104,   Adjusted R-squared: 0.6498
F-statistic: 11.72 on 9 and 43 df,   p-value: 4.84E-09

Compare Step 2 & Step 3: Analysis of Variance Table

	res. df	RSS	df	sum of sq	F	Pr(>F)
1	44	934.86				
2	43	805.1	1	129.76	**6.9303**	**0.01172 ***

Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

$\Delta R^2 = 0.7104 - 0.6637 = \mathbf{0.0467}$

Regression Analyses from Research Question 1b

dependent variable	independent variables
identical repetition in the Russian SRT	*Step 1:* demographic variables (age, IQ, sex), Russian receptive language, visuo-verbal n-back working memory, non-verbal short-term memory forward
	Step 2: number of omissions in the Russian SRT
	Step 3: only medial omissions (categorical, yes/no)

Step 1
Residuals:

minimum	1Q	median	3Q	maximum
-11.0956	-5.0425	0.7551	3.8437	12.0124

Coefficients:

	estimate	std. error	t-value	Pr(>|t|)
(intercept)	-17.887	36.2705	-0.493	0.624
sex	1.8503	2.1225	0.872	0.388
IQ	-0.0983	0.1181	-0.833	0.409
age	0.1548	0.4797	0.323	0.748
Russian receptive language	0.8941	0.1923	4.649	0.0000283 ***
visuo-verbal n-back WM	0.7021	0.5072	1.384	0.173
visual forward STM	-0.1462	0.2666	-0.549	0.586

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

Residual standard error: 5.992 on 46 degrees of freedom
Multiple R-squared: 0.4336,   Adjusted R-squared: 0.3597
F-statistic: 5.868 on 6 and 46 df,   p-value 1.32E-04

Step 2
Residuals:

minimum	1Q	median	3Q	maximum
-11.7935	-2.587	-0.5086	2.8585	9.4576

Coefficients:

	estimate	std. error	t-value	Pr(>|t|)
(intercept)	28.67166	30.80181	0.931	0.357
sex	-1.0457	1.81307	-0.577	0.567
IQ	0.01879	0.09841	0.191	0.849
age	-0.36155	0.40182	-0.9	0.373
Russian receptive language	0.30213	0.19541	1.546	0.129
visuo-verbal n-back WM	0.52102	0.41225	1.264	0.213
visual forward STM	-0.11167	0.21597	-0.517	0.608
sum of omissions Russian	**-0.6632**	0.13223	**-5.016**	**0.00000873 ***

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

Residual standard error: 4.852 on 45 degrees of freedom
Multiple R-squared: 0.6367,   Adjusted R-squared: 0.5802
F-statistic: 11.27 on 7 and 45 df,   p-value: 3.825E-08

Compare Step 1 & Step 2: Analysis of Variance Table

	res. df	RSS	df	sum of sq	F	Pr(>F)
1	46	1651.7				
2	45	1059.5	1	592.27	**25.156**	**0.00000873 *****

Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

$\Delta R^2 = 0.6367 - 0.4336 = \mathbf{0.2031}$

Step 3
Residuals:

minimum	1Q	median	3Q	maximum
-11.995	-2.801	-0.063	2.392	9.188

Coefficients:

	estimate	std. error	t-value	Pr(>|t|)
(intercept)	26.64305	30.95705	0.861	0.394
sex	-1.22778	1.82874	-0.671	0.505
IQ	0.02599	0.09897	0.263	0.794
age	-0.32526	0.40481	-0.803	0.426
Russian receptive language	0.28219	0.19714	1.431	0.159
visuo-verbal n-back WM	0.51837	0.41322	1.254	0.216
visual forward STM	-0.08606	0.21837	-0.394	0.695
sum of omissions Russian	-0.69488	0.13723	-5.064	0.00000781 ***
only medial omissions (cat.)	**-1.50457**	1.6901	**-0.89**	**0.378**

Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 4.863 on 44 degrees of freedom
Multiple R-squared: 0.6431,   Adjusted R-squared: 0.5782
F-statistic: 9.911 on 8 and 44 df,   p-value: 9.422E-08

Compare Step 2 & Step 3: Analysis of Variance Table

	res. df	RSS	df	sum of sq	F	Pr(>F)
1	45	1059.5				
2	44	1040.7	1	18.745	**0.7925**	**0.3782**

Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

$\Delta R^2 = 0.6431 - 0.6367 = \mathbf{0.0064}$

Regression Analyses from Research Question 2

a. German SRT: omissions in initial position (n = 51)

dependent variable	independent variables
number of omissions in the *initial* position in the German SRT	*Step 1:* demographic variables (age, age of onset, IQ, sex) *Step 2:* German receptive language *Step 3:* visuo-verbal n-back working memory *Step 4:* non-verbal short-term memory forward

Step 1
Residuals:

minimum	1Q	median	3Q	maximum
-4.458	-2.616	-1.363	1.086	27.552

Coefficients:

	estimate	std. error	t-value	Pr(>|t|)
(intercept)	41.27609	30.23495	1.365	0.1788
AoO	**0.0959**	0.04771	2.01	**0.0503 .**
sex	-2.95505	1.54939	-1.907	0.0627 .
IQ	-0.08939	0.10109	-0.884	0.3812
age	-0.47457	0.41484	-1.144	0.2585

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

Residual standard error: 5.173 on 46 degrees of freedom
Multiple R-squared: **0.1421**, Adjusted R-squared: 0.06751
F-statistic: **1.905 on 4 and 46 df**, p-value: **0.1257**

Step 2
Residuals:

minimum	1Q	median	3Q	maximum
-4.222	-2.719	-1.302	1.423	26.663

Coefficients:

	estimate	std. error	t-value	Pr(>|t|)
(intercept)	56.21608	31.65238	1.776	0.0825 .
AoO	0.06739	0.05118	1.317	0.1946
sex	-2.43275	1.57445	-1.545	0.1293
IQ	-0.09305	0.09998	-0.931	0.357
age	-0.60252	0.41971	-1.436	0.158
German receptive language	-0.15076	0.10503	-1.435	0.1581

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

Residual standard error: 5.114 on 45 degrees of freedom
Multiple R-squared: 0.1797, Adjusted R-squared: 0.08853
F-statistic: 1.971 on 5 and 45 df, p-value: 0.1013

Compare Step 1 & Step 2: Analysis of Variance Table

	res. df	RSS	df	sum of sq	F	Pr(>F)
1	46	1230.8				
2	45	1177	1	53.893	**2.0606**	**0.1581**

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

ΔR^2 = 0.1797 - 0.1421 = **0.376**

Step 3
Residuals:

minimum	1Q	median	3Q	maximum
-4.889	-2.652	-1.314	1.101	26.37

Coefficients:

	estimate	std. error	t-value	Pr(>|t|)
(intercept)	53.18363	31.70965	1.677	0.101
AoO	0.05952	0.05159	1.154	0.255
sex	-1.99415	1.622	-1.229	0.225

(Continued)

Coefficients: *(Continued.)*

	estimate	std. error	t-value	Pr(>|t|)
IQ	-0.07356	0.10136	-0.726	0.472
age	-0.54109	0.42263	-1.28	0.207
German receptive language	-0.13398	0.10594	-1.265	0.213
visuo-verbal n-back WM	-0.52634	0.48331	-1.089	0.282

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

Residual standard error: 5.104 on 44 degrees of freedom
Multiple R-squared: 0.2012,   Adjusted R-squared: 0.09228
F-statistic: 1.847 on 6 and 44 df,   p-value: 0.1118

Compare Step 2 & Step 3: Analysis of Variance Table

	res. df	RSS	df	sum of sq	F	Pr(>F)
1	45	1177				
2	44	1146.1	1	30.892	**1.186**	**0.2821**

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

ΔR^2 = 0.2012 - 0.1797 = **0.0215**

Step 4
Residuals:

minimum	1Q	median	3Q	maximum
-4.788	-2.577	-1.343	1.098	26.165

Coefficients:

	estimate	std. error	t-value	Pr(>|t|)
(intercept)	54.87546	32.1934	1.705	0.0955 .
AoO	0.05992	0.05205	1.151	0.256
sex	-1.74178	1.72158	-1.012	0.3173
IQ	-0.07635	0.10244	-0.745	0.4601
age	-0.55017	0.42685	-1.289	0.2043
German receptive language	-0.12374	0.10906	-1.135	0.2628
visuo-verbal n-back WM	-0.5194	0.48785	-1.065	0.293
visual forward STM	-0.1251	0.26493	-0.472	0.6392

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

Residual standard error: 5.149 on 43 degrees of freedom
Multiple R-squared: **0.2053**,   Adjusted R-squared: 0.07596
F-statistic: **1.587 on 7 and 43 df**,   p-value: **0.1652**

Compare Step 3 & Step 4: Analysis of Variance Table

	res. df	RSS	df	sum of sq	F	Pr(>F)
1	44	1146.1				
2	43	1140.2	1	5.9121	0.223	0.6392

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

ΔR^2 = 0.2053 - 0.2012 = 0.0041

b. German SRT: omissions in final position (n = 53)

dependent variable	independent variables
number of omissions in the *final* position in the German SRT	*Step 1:* demographic variables (age, age of onset, IQ, sex) *Step 2:* German receptive language *Step 3:* visuo-verbal n-back working memory *Step 4:* non-verbal short-term memory forward

Step 1
Residuals:

minimum	1Q	median	3Q	maximum
-2.0404	-1.4553	-0.8707	0.4959	8.9118

Coefficients:

	estimate	std. error	t-value	Pr(>|t|)
(intercept)	-0.89043	13.94869	-0.064	0.949
AoO	0.01023	0.02151	0.476	0.636
sex	0.10441	0.70421	0.148	0.883
IQ	-0.04553	0.04581	-0.994	0.325
age	0.1056	0.19152	0.551	0.584

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

Residual standard error: 2.399 on 48 degrees of freedom
Multiple R-squared: 0.03837,   Adjusted R-squared: -0.04176
F-statistic: 0.4789 on 4 and 48 df,   p-value: 0.7511

Step 2
Residuals:

minimum	1Q	median	3Q	maximum
-3.3414	-1.2412	-0.4124	0.2623	7.7076

Coefficients:

	estimate	std. error	t-value	Pr(>|t|)
(intercept)	12.28211	13.38779	0.917	0.36361
AoO	-0.01777	0.02149	-0.827	0.41245
sex	0.64064	0.66483	0.964	0.34017
IQ	-0.03969	0.04191	-0.947	0.34855
age	-0.0191	0.17929	-0.107	0.91562
German receptive language	**-0.13746**	0.04255	-3.23	**0.00226 ****

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

Residual standard error: 2.193 on 47 degrees of freedom
Multiple R-squared: 0.2131,   Adjusted R-squared: 0.1294
F-statistic: 2.545 on 5 and 47 df,   p-value: 0.04053

Compare Step 1 & Step 2: Analysis of Variance Table

	res. df	RSS	df	sum of sq	F	Pr(>F)
1	48	276.19				
2	47	226.01	1	50.178	**10.435**	**0.00226 ****

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

ΔR^2 = 0.2131 - 0.03837 = **0.17473**

Step 3

Residuals:

minimum	1Q	median	3Q	maximum
-2.8839	-1.1308	-0.424	0.3535	7.233

Coefficients:

	estimate	std. error	t-value	Pr(>|t|)
(intercept)	9.47907	13.33277	0.711	0.4807
AoO	-0.02332	0.0215	-1.084	0.2838
sex	0.92708	0.68226	1.359	0.18082
IQ	-0.02473	0.0425	-0.582	0.56343
age	0.02221	0.17891	0.124	0.90173
German receptive language	-0.12271	0.04308	-2.849	0.00655 **
visuo-verbal n-back WM	-0.29297	0.19267	-1.521	0.13521

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

Residual standard error: 2.163 on 46 degrees of freedom
Multiple R-squared: 0.2507,   Adjusted R-squared: 0.153
F-statistic: 2.566 on 6 and 46 df,   p-value: 0.03154

Compare Step 2 & Step 3: Analysis of Variance Table

	res. df	RSS	df	sum of sq	F	Pr(>F)
1	47	226.01				
2	46	215.19	1	10.817	2.3122	0.1352

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

ΔR^2 = 0.2507 - 0.2131 = **0.0376**

Step 4

Residuals:

minimum	1Q	median	3Q	maximum
-2.8913	-1.1144	-0.4465	0.3203	7.3064

Coefficients:

	estimate	std. error	t-value	Pr(>|t|)
(intercept)	8.55385	13.58776	0.63	0.53219
AoO	-0.02288	0.02171	-1.054	0.2974
sex	0.82085	0.72371	1.134	0.26271
IQ	-0.02227	0.04317	-0.516	0.60855
age	0.02491	0.18053	0.138	0.89088
German receptive language	-0.12347	0.04348	-2.84	0.00675 **
visuo-verbal n-back WM	-0.286	0.19487	-1.468	0.14915
visual forward STM	0.04607	0.09727	0.474	0.63803

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

Residual standard error: 2.181 on 45 degrees of freedom
Multiple R-squared: 0.2545,   Adjusted R-squared: 0.1385
F-statistic: 2.194 on 7 and 45 df,   p-value: 0.05264

Compare Step 3 & Step 4: Analysis of Variance Table

	res. df	RSS	df	sum of sq	F	Pr(>F)
1	46	215.19				
2	45	214.12	1	1.0675	0.2244	0.638

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

$\Delta R^2 = 0.2545 - 0.2507 = 0.0038$

c. German SRT: omissions in medial position (n = 52)

dependent variable	independent variables
number of omissions in the *medial* position in the German SRT	*Step 1:* demographic variables (age, age of onset, IQ, sex) *Step 2:* German receptive language *Step 3:* visuo-verbal n-back working memory *Step 4:* non-verbal short-term memory forward

Step 1
Residuals:

minimum	1Q	median	3Q	maximum
-15.315	-6.215	-1.317	5.546	24.464

Coefficients:

	estimate	std. error	t-value	Pr(>|t|)
(intercept)	17.7828	55.7444	0.319	0.75114
AoO	**0.2697**	0.0863	3.125	**0.00304 ****
sex	-4.7067	2.8238	-1.667	0.10221
IQ	-0.1867	0.1869	-0.999	0.32295
age	0.1324	0.7657	0.173	0.86347

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

Residual standard error: 9.581 on 47 degrees of freedom
Multiple R-squared: **0.2218**, Adjusted R-squared: 0.1556
F-statistic: **3.349 on 4 and 47 df**, p-value: **0.01713**

Step 2
Residuals:

minimum	1Q	median	3Q	maximum
-14.869	-4.823	-0.7654	4.207	24.5352

Coefficients:

	estimate	std. error	t-value	Pr(>|t|)
(intercept)	92.9735	49.37022	1.883	0.066 .
AoO	0.12645	0.07855	1.61	0.114
sex	-2.08347	2.42816	-0.858	0.395
IQ	-0.20517	0.15626	-1.313	0.196
age	-0.51172	0.65512	-0.781	0.439
German receptive language	**-0.75834**	0.16447	-4.611	**0.000032 *****

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

Residual standard error: 8.009 on 46 degrees of freedom
Multiple R-squared: 0.4678, Adjusted R-squared: 0.4099
F-statistic: 8.086 on 5 and 46 df, p-value: 1.545E-05

Compare Step 1 & Step 2: Analysis of Variance Table

	res. df	RSS	df	sum of sq	F	Pr(>F)
1	47	4314.2				
2	46	2950.6	1	1363.6	**21.258**	**0.000032 *****

Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

ΔR^2 = 0.4678 - 0.2218 = **0.246**

Step 3
Residuals:

minimum	1Q	median	3Q	maximum
-14.9517	-5.1581	-0.3087	4.9056	20.4709

Coefficients:

	estimate	std. error	t-value	Pr(>|t|)
(intercept)	81.26244	47.47385	1.712	0.0938.
AoO	0.09368	0.07643	1.226	0.2267
sex	-0.50268	2.4205	-0.208	0.8364
IQ	-0.13982	0.15205	-0.92	0.3627
age	-0.29383	0.63342	-0.464	0.645
German receptive language	**-0.70673**	0.15883	-4.45	**0.000056 *****
visuo-verbal n-back WM	**-1.62373**	0.70374	-2.307	**0.0257 ***

Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 7.657 on 45 degrees of freedom
Multiple R-squared: 0.5241,   Adjusted R-squared: 0.4606
F-statistic: 8.259 on 6 and 45 df,   p-value: 4.742E-06

Compare Step 2 & Step 3: Analysis of Variance Table

	res. df	RSS	df	sum of sq	F	Pr(>F)
1	46	2950.6				
2	45	2638.4	1	312.14	**5.3236**	**0.02569 ***

Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

ΔR^2 = 0.5241 - 0.4678 = **0.0563**

Step 4
Residuals:

minimum	1Q	median	3Q	maximum
-13.7552	-5.201	-0.4344	5.0684	19.6693

Coefficients:

	estimate	std. error	t-value	Pr(>|t|)
(intercept)	87.17119	47.52332	1.834	0.07338.
AoO	0.09382	0.07609	1.233	0.224114
sex	0.45955	2.54266	0.181	0.857405
IQ	-0.14987	0.15161	-0.989	0.32831
age	-0.32416	0.63111	-0.514	0.610076
German receptive language	-0.66952	0.16121	-4.153	0.000148 ***
visuo-verbal n-back WM	-1.57829	0.70163	-2.249	0.029538 *
visual forward STM	-0.46285	0.39039	-1.186	0.242136

Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 7.623 on 44 degrees of freedom
Multiple R-squared: 0.5388,   Adjusted R-squared: 0.4654
F-statistic: 7.344 on 7 and 44 df,   p-value: 7.791E-06

Compare Step 3 & Step 4: Analysis of Variance Table

	res. df	RSS	df	sum of sq	F	Pr(>F)
1	45	2638.4				
2	44	2556.8	1	81.682	**1.4057**	**0.2421**

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

$\Delta R^2 = 0.5388 - 0.5241 = \textbf{0.0147}$

Research Question 3

a. Russian SRT: omissions in initial position (n = 52)

dependent variable	independent variables
number of omissions in the *inital* position in the Russian SRT	*Step 1:* demographic variables (age, IQ, sex) *Step 2:* Russian receptive language *Step 3:* visuo-verbal n-back working memory *Step 4:* non-verbal short-term memory forward

Step 1
Residuals:

minimum	1Q	median	3Q	maximum
-1.4684	-0.85	-0.4195	0.2453	5.6879

Coefficients:

	estimate	std. error	t-value	Pr(>|t|)
(intercept)	-4.08552	8.89532	-0.459	0.6481
sex	**-1.0492**	0.444	-2.363	**0.0222 ***
IQ	0.059	0.02926	2.016	0.0494 *
age	-0.01034	0.12137	-0.085	0.9325

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

Residual standard error: 1.51 on 48 degrees of freedom
Multiple R-squared: **0.1464**,   Adjusted R-squared: 0.0931
F-statistic: **2.745 on 3 and 48 df**,   p-value: **0.05315**

Step 2
Residuals:

minimum	1Q	median	3Q	maximum
-1.8619	-0.8406	-0.3733	0.3213	5.1133

Coefficients:

	estimate	std. error	t-value	Pr(>|t|)
(intercept)	-2.13666	8.980448	-0.238	0.813
sex	**-0.79319**	0.486698	-1.63	**0.1098**
IQ	0.061036	0.029136	2.095	0.0416 *
age	-0.00862	0.120673	-0.071	0.9434
Russian receptive language	-0.07021	0.056211	-1.249	0.2178

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

Residual standard error: 1.502 on 47 degrees of freedom
Multiple R-squared: 0.1739,   Adjusted R-squared: 0.1036
F-statistic: 2.473 on 4 and 47 df,   p-value: 0.05715

Compare Step 1 & Step 2: Analysis of Variance Table

	res. df	RSS	df	sum of sq	F	Pr(>F)
1	48	109.52				
2	47	106	1	3.5186	1.5601	0.2178

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

ΔR^2 = 0.1739 - 0.1464 = **0.0275**

Step 3
Residuals:

minimum	1Q	median	3Q	maximum
-1.8517	-0.7533	-0.3383	0.2423	5.2018

Coefficients:

	estimate	std. error	t-value	Pr(>|t|)
(intercept)	-2.38987	8.846129	-0.27	0.7882
sex	-0.53242	0.507417	-1.049	0.2995
IQ	0.071051	0.029399	2.417	0.0197 *
age	0.005502	0.119189	0.046	0.9634
Russian receptive language	-0.08402	0.056058	-1.499	0.1408
visuo-verbal n-back WM	-0.1961	0.125175	-1.567	0.1241

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

Residual standard error: 1.479 on 46 degrees of freedom
Multiple R-squared: 0.2157,   Adjusted R-squared: 0.1305
F-statistic: 2.53 on 5 and 46 df,   p-value: 0.04183

Compare Step 2 & Step 3: Analysis of Variance Table

	res. df	RSS	df	sum of sq	F	Pr(>F)
1	47	106				
2	46	100.63	1	5.369	2.4543	0.1241

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

ΔR^2 = 0.2157 -0.1739 = 0.0418

Step 4
Residuals:

minimum	1Q	median	3Q	maximum
-1.8997	-0.7703	-0.3453	0.2538	5.1751

Coefficients:

	estimate	std. error	t-value	Pr(>|t|)
(intercept)	-1.92746	9.04285	-0.213	0.8322
sex	-0.47971	0.536839	-0.894	0.3763
IQ	0.070087	0.029832	2.349	0.0233 *
age	0.004411	0.120407	0.037	0.9709
Russian receptive language	-0.08538	0.056761	-1.504	0.1395

(Continued)

Coefficients: *(Continued.)*

	estimate	std. error	t-value	Pr(>|t|)
visuo-verbal n-back WM	-0.19865	0.126642	-1.569	0.1238
visual forward STM	-0.02215	0.06728	-0.329	0.7435

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

Residual standard error: 1.494 on 45 degrees of freedom
Multiple R-squared: 0.2176,   Adjusted R-squared: 0.1133
F-statistic: 2.086 on 6 and 45 df,   p-value: 0.07367

Compare Step 3 & Step 4: Analysis of Variance Table

	res. df	RSS	df	sum of sq	F	Pr(>F)
1	46	100.63				
2	45	100.39	1	0.24184	0.1084	0.7435

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

ΔR^2 = 0.2176 - 0.2157 = 0.0019

b. Russian SRT: omissions in final position (n = 49)

dependent variable	independent variables	
number of omissions in the *final* position in the Russian SRT	*Step 1:* demographic variables (age, IQ, sex)	
	Step 2: Russian receptive language	
	Step 3: visuo-verbal n-back working memory	
	Step 4: non-verbal short-term memory forward	

Step 1
Residuals:

minimum	1Q	median	3Q	maximum
-3.073	-0.6049	-0.2994	0.2516	5.6529

Coefficients:

	estimate	std. error	t-value	Pr(>|t|)
(intercept)	17.57602	12.00233	1.464	0.15004
sex	**-2.11364**	0.61062	-3.461	**0.00119 ** **
IQ	-0.03294	0.03938	-0.836	0.40731
age	-0.18969	0.16499	-1.15	0.25633

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

Residual standard error: 1.988 on 45 degrees of freedom
Multiple R-squared: **0.2374**,   Adjusted R-squared: 0.1866
F-statistic: **4.669 on 3 and 45 df**,   p-value: **0.006343**

Step 2
Residuals:

minimum	1Q	median	3Q	maximum
-2.9071	-1.1465	-0.1972	0.6206	4.7688

Coefficients:

	estimate	std. error	t-value	Pr(>|t|)
(intercept)	26.8868	11.33617	2.372	0.02214 *
sex	**-1.37561**	0.60369	-2.279	**0.02759 ***
IQ	-0.02553	0.03601	-0.709	0.48203
age	-0.2271	0.15098	-1.504	0.13968
Russian receptive language	**-0.2357**	0.07429	-3.173	**0.00275 ****

Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.814 on 44 degrees of freedom
Multiple R-squared: 0.3794,   Adjusted R-squared: 0.323
F-statistic: 6.725 on 4 and 44 df,   p-value: 2.586E-04

Compare Step 1 & Step 2: Analysis of Variance Table

	res. df	RSS	df	sum of sq	F	Pr(>F)
1	45	177.89				
2	44	144.77	1	33.122	**10.067**	**0.002752 ****

Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

ΔR^2 = 0.3794 - 0.2374 = **0.142**

Step 3
Residuals:

minimum	1Q	median	3Q	maximum
-2.7487	-0.9491	-0.3316	0.8583	4.296

Coefficients:

	estimate	std. error	t-value	Pr(>|t|)
(intercept)	25.35424	10.63447	2.384	0.021602 *
sex	**-0.88359**	0.5947	-1.486	**0.144636**
IQ	-0.01053	0.03419	-0.308	0.759702
age	-0.18004	0.14252	-1.263	0.21329
Russian receptive language	-0.2494	0.06977	-3.574	0.000882 ***
visuo-verbal n-back WM	**-0.40759**	0.1525	-2.673	**0.010586 ***

Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.699 on 43 degrees of freedom
Multiple R-squared: 0.4678,   Adjusted R-squared: 0.4059
F-statistic: 7.56 on 5 and 43 df,   p-value: 3.629E-05

Compare Step 2 & Step 3: Analysis of Variance Table

	res. df	RSS	df	sum of sq	F	Pr(>F)
1	44	144.77				
2	43	124.14	1	20.625	**7.1439**	**0.01059 ***

Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

ΔR^2 = 0.4678 - 0.3794 = **0.0884**

Step 4
Residuals:

minimum	1Q	median	3Q	maximum
-3.1843	-0.9899	0.0741	0.7767	3.9993

Coefficients:

	estimate	std. error	t-value	Pr(>|t|)
(intercept)	22.94726	10.37745	2.211	0.032515 *
sex	-1.28145	0.611253	-2.096	0.042108 *
IQ	-0.00849	0.033145	-0.256	0.79911
age	-0.17159	0.138156	-1.242	0.221136
Russian receptive language	-0.24692	0.067617	-3.652	0.000716 ***
visuo-verbal n-back WM	**-0.42755**	0.148108	-2.887	**0.006124 ****
visual forward STM	**0.167105**	0.085676	1.95	**0.057821 .**

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

Residual standard error: 1.646 on 42 degrees of freedom
Multiple R-squared: 0.512,   Adjusted R-squared: 0.4423
F-statistic: 7.344 on 6 and 42 df,   p-value: 2.07E-05

Compare Step 3 & Step 4: Analysis of Variance Table

	res. df	RSS	df	sum of sq	F	Pr(>F)
1	43	124.14				
2	42	113.83	1	10.31	**3.8041**	**0.05782 .**

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

ΔR^2 = 0.512 - 0.4678 = **0.0442**

c. Russian SRT: omissions in medial position (n = 53)

dependent variable	independent variables

number of omissions in the *medial* position in the Russian SRT	*Step 1:* demographic variables (age, IQ, sex)
	     Step 2: Russian receptive language
	         Step 3: visuo-verbal n-back working memory
	            Step 4: non-verbal short-term memory forward

Step 1
Residuals:

minimum	1Q	median	3Q	maximum
-4.3152	-2.0553	-0.5172	1.3429	11.2442

Coefficients:

	estimate	std. error	t-value	Pr(>|t|)
(intercept)	-4.92462	19.26066	-0.256	0.79927
sex	**-2.75788**	0.96625	-2.854	**0.00631 ****
IQ	0.09984	0.06329	1.577	0.12113
age	-0.02005	0.26407	-0.076	0.93978

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

Residual standard error: 3.317 on 49 degrees of freedom
Multiple R-squared: 0.1636,   Adjusted R-squared: 0.1124
F-statistic: 3.195 on 3 and 49 df,   p-value: 0.03147

Step 2
Residuals:

minimum	1Q	median	3Q	maximum
-7.6117	-1.2838	-0.4568	0.9904	7.7097

Coefficients:

	estimate	std. error	t-value	Pr(>|t|)
(intercept)	11.95795	17.12173	0.698	0.488292
sex	-1.11389	0.92218	-1.208	0.233011
IQ	0.08952	0.05474	1.635	0.108546
age	-0.08035	0.22863	-0.351	0.726789
Russian receptive language	**-0.38166**	0.0909	-4.198	**0.000116 *****

Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 2.866 on 48 degrees of freedom
Multiple R-squared: 0.3883,   Adjusted R-squared: 0.3373
F-statistic: 7.616 on 4 and 48 df,   p-value: 7.783E-05

Compare Step 1 & Step 2: Analysis of Variance Table

	res. df	RSS	df	sum of sq	F	Pr(>F)
1	49	539.2				
2	48	394.37	1	144.83	**17.627**	**0.000116 *****

Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

ΔR^2 = 0.3883 - 0.1636 = **0.2247**

Step 3
Residuals:

minimum	1Q	median	3Q	maximum
-7.7163	-1.2714	-0.4956	1.0074	7.695

Coefficients:

	estimate	std. error	t-value	Pr(>|t|)
(intercept)	12.03755	17.28956	0.696	0.489712
sex	-1.20673	0.98439	-1.226	0.226354
IQ	0.08604	0.05656	1.521	0.134914
age	-0.08505	0.23141	-0.368	0.714868
Russian receptive language	-0.37751	0.09289	-4.064	0.000182 ***
visuo-verbal n-back WM	0.07109	0.24461	0.291	0.772619

Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 2.894 on 47 degrees of freedom
Multiple R-squared: 0.3894,   Adjusted R-squared: 0.3244
F-statistic: 5.994 on 5 and 47 df,   p-value: 2.286E-04

Compare Step 2 & Step 3: Analysis of Variance Table

	res. df	RSS	df	sum of sq	F	Pr(>F)
1	48	394.37				
2	47	393.67	1	0.70743	0.0845	0.7726

Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

ΔR^2 = 0.3894 - 0.3883 = 0.0011

Step 4
Residuals:

minimum	1Q	median	3Q	maximum
-7.3998	-1.5228	-0.5063	1.1041	7.6052

Coefficients:

	estimate	std. error	t-value	Pr(>|t|)
(intercept)	13.58127	17.65046	0.769	0.44556
sex	-1.05003	1.03288	-1.017	0.31466
IQ	0.08207	0.05745	1.428	0.15994
age	-0.09102	0.23342	-0.39	0.69839
Russian receptive language	-0.37684	0.0936	-4.026	0.00021 ***
visuo-verbal n-back WM	0.06407	0.2468	0.26	0.79633
visual forward STM	-0.07053	0.12973	-0.544	0.58928

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

Residual standard error: 2.916 on 46 degrees of freedom
Multiple R-squared: 0.3933,   Adjusted R-squared: 0.3141
F-statistic: 4.969 on 6 and 46 df,   p-value: 5.384E-04

Compare Step 3 & Step 4: Analysis of Variance Table

	res. df	RSS	df	sum of sq	F	Pr(>F)
1	47	393.67				
2	46	391.15	1	2.5136	0.2956	0.5893

*Significance codes: '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

ΔR^2 = 0.3933 - 0.3894 = 0.0039