General Linear Model

Notes

Output Created		24-MAR-2024 00:48:17
Comments		
Input	Active Dataset	DataSet0
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	16
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax		GLM Neuro_Gaze Eye_Gaze_Hands VR_Controllers /WSFACTOR=SelectionMethod 3 Polynomial /METHOD=SSTYPE(3) /EMMEANS=TABLES (OVERALL) /EMMEANS=TABLES (SelectionMethod) COMPARE ADJ (BONFERRONI) /PRINT=DESCRIPTIVE HOMOGENEITY /PLOT=RESIDUALS /CRITERIA=ALPHA(.05) /WSDESIGN=SelectionMethod.
Resources	Processor Time	00:00:01.66
	Elapsed Time	00:00:19.59

[DataSet0]

Warnings

The HOMOGENEITY specification in the PRINT subcommand will be ignored because there are no between-subjects factors.

Within-Subjects Factors

Measure: MEASURE_1

SelectionMethod	Dependent Variable
1	Neuro_Gaze
2	Eye_Gaze_Hands
3	VR_Controllers

Descriptive Statistics

	Mean	Std. Deviation	N
Neuro_Gaze	32.9925	9.87826	16
Eye_Gaze_Hands	15.0896	1.75789	16
VR_Controllers	8.8632	2.21230	16

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.
SelectionMethod	Pillai's Trace	.941	111.683[b]	2.000	14.000	<.001
	Wilks' Lambda	.059	111.683[b]	2.000	14.000	<.001
	Hotelling's Trace	15.955	111.683[b]	2.000	14.000	<.001
	Roy's Largest Root	15.955	111.683[b]	2.000	14.000	<.001

a. Design: Intercept
Within Subjects Design: SelectionMethod

b. Exact statistic

Mauchly's Test of Sphericity[a]

Measure: MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser
SelectionMethod	.175	24.417	2	<.001	.548

Mauchly's Test of Sphericity[a]

Measure: MEASURE_1

	Epsilon[b]	
Within Subjects Effect	Huynh-Feldt	Lower-bound
SelectionMethod	.559	.500

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept
Within Subjects Design: SelectionMethod

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F
SelectionMethod	Sphericity Assumed	5021.385	2	2510.693	72.501
	Greenhouse-Geisser	5021.385	1.096	4582.496	72.501
	Huynh-Feldt	5021.385	1.117	4495.021	72.501
	Lower-bound	5021.385	1.000	5021.385	72.501
Error(SelectionMethod)	Sphericity Assumed	1038.892	30	34.630	
	Greenhouse-Geisser	1038.892	16.437	63.206	
	Huynh-Feldt	1038.892	16.756	61.999	
	Lower-bound	1038.892	15.000	69.259	

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Sig.
SelectionMethod	Sphericity Assumed	<.001
	Greenhouse-Geisser	<.001
	Huynh-Feldt	<.001
	Lower-bound	<.001
Error(SelectionMethod)	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	SelectionMethod	Type III Sum of Squares	df	Mean Square	F
SelectionMethod	Linear	4657.814	1	4657.814	102.228
	Quadratic	363.571	1	363.571	15.343
Error(SelectionMethod)	Linear	683.447	15	45.563	
	Quadratic	355.445	15	23.696	

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	SelectionMethod	Sig.
SelectionMethod	Linear	<.001
	Quadratic	.001
Error(SelectionMethod)	Linear	
	Quadratic	

Tests of Between-Subjects Effects

Measure: MEASURE_1

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	17294.794	1	17294.794	476.375	<.001
Error	544.575	15	36.305		

Estimated Marginal Means

1. Grand Mean

Measure: MEASURE_1

Mean	Std. Error	95% Confidence Interval	
		Lower Bound	Upper Bound
18.982	.870	17.128	20.835

2. SelectionMethod

Estimates

Measure: MEASURE_1

SelectionMethod	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	32.993	2.470	27.729	38.256
2	15.090	.439	14.153	16.026
3	8.863	.553	7.684	10.042

Pairwise Comparisons

Measure: MEASURE_1

(I) SelectionMethod	(J) SelectionMethod	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for [b]... Lower Bound
1	2	17.903*	2.615	<.001	10.859
	3	24.129*	2.387	<.001	17.701
2	1	-17.903*	2.615	<.001	-24.947
	3	6.226*	.673	<.001	4.415
3	1	-24.129*	2.387	<.001	-30.558
	2	-6.226*	.673	<.001	-8.038

Pairwise Comparisons

Measure: MEASURE_1

(I) SelectionMethod	(J) SelectionMethod	95% Confidence Interval for [b]... Upper Bound
1	2	24.947
	3	30.558
2	1	-10.859
	3	8.038
3	1	-17.701
	2	-4.415

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Bonferroni.

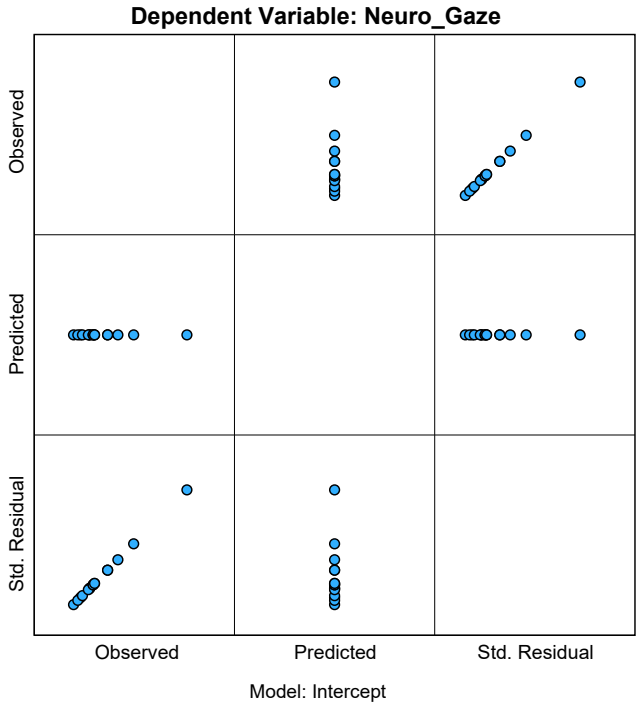
Multivariate Tests

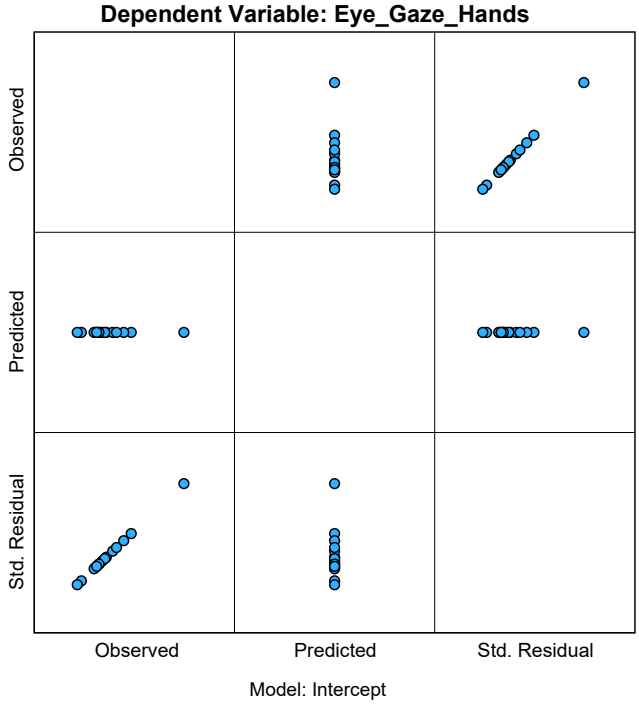
	Value	F	Hypothesis df	Error df	Sig.
Pillai's trace	.941	111.683[a]	2.000	14.000	<.001
Wilks' lambda	.059	111.683[a]	2.000	14.000	<.001
Hotelling's trace	15.955	111.683[a]	2.000	14.000	<.001
Roy's largest root	15.955	111.683[a]	2.000	14.000	<.001

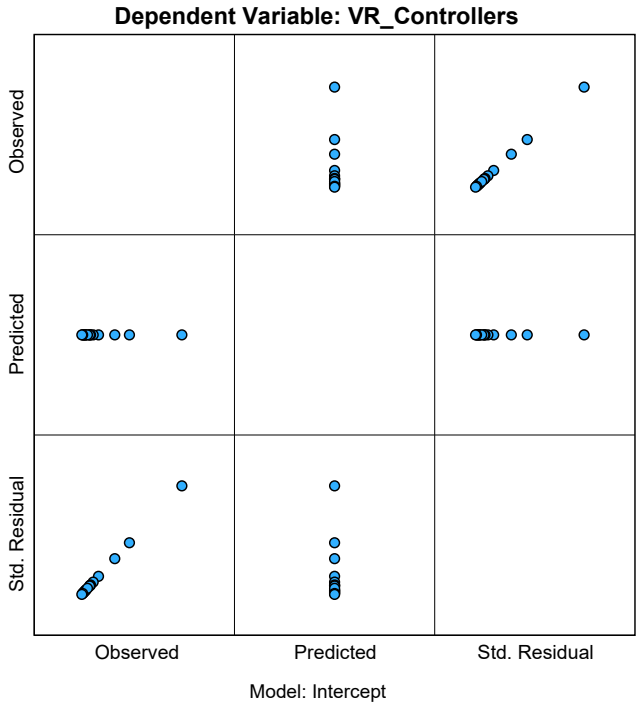
Each F tests the multivariate effect of SelectionMethod. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

a. Exact statistic

Observed * Predicted * Std. Residual Plots


Dependent Variable: Neuro_Gaze
Observed
Predicted
Std. Residual
Observed
Predicted
Std. Residual
Model: Intercept


Dependent Variable: Eye_Gaze_Hands
Observed
Predicted
Std. Residual
Observed
Predicted
Std. Residual
Model: Intercept



T-Test

Notes

Output Created		24-MAR-2024 00:51:22
Comments		
Input	Active Dataset	DataSet0
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	16
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on the cases with no missing or out-of-range data for any variable in the analysis.

Notes

Syntax		T-TEST PAIRS=Neuro_Gaze Neuro_Gaze Eye_Gaze_Hands WITH Eye_Gaze_Hands VR_Controllers VR_Controllers (PAIRED) /ES DISPLAY(TRUE) STANDARDIZER(SD) /CRITERIA=CI(.9500) /MISSING=ANALYSIS.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.00

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Neuro_Gaze	32.9925	16	9.87826	2.46956
	Eye_Gaze_Hands	15.0896	16	1.75789	.43947
Pair 2	Neuro_Gaze	32.9925	16	9.87826	2.46956
	VR_Controllers	8.8632	16	2.21230	.55307
Pair 3	Eye_Gaze_Hands	15.0896	16	1.75789	.43947
	VR_Controllers	8.8632	16	2.21230	.55307

Paired Samples Correlations

		N	Correlation	Significance	
				One-Sided p	Two-Sided p
Pair 1	Neuro_Gaze & Eye_Gaze_Hands	16	-.252	.173	.347
Pair 2	Neuro_Gaze & VR_Controllers	16	.260	.166	.332
Pair 3	Eye_Gaze_Hands & VR_Controllers	16	.096	.362	.723

Paired Samples Test

		Paired Differences				
					95% Confidence Interval of the ...	
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper
Pair 1	Neuro_Gaze - Eye_Gaze_Hands	17.90291	10.46019	2.61505	12.32907	23.47675
Pair 2	Neuro_Gaze - VR_Controllers	24.12938	9.54601	2.38650	19.04267	29.21608
Pair 3	Eye_Gaze_Hands - VR_Controllers	6.22647	2.69008	.67252	4.79303	7.65991

Paired Samples Test

		t	df	Significance	
				One-Sided p	Two-Sided p
Pair 1	Neuro_Gaze - Eye_Gaze_Hands	6.846	15	<.001	<.001
Pair 2	Neuro_Gaze - VR_Controllers	10.111	15	<.001	<.001
Pair 3	Eye_Gaze_Hands - VR_Controllers	9.258	15	<.001	<.001

Paired Samples Effect Sizes

					95% ...
			Standardizer[a]	Point Estimate	Lower
Pair 1	Neuro_Gaze - Eye_Gaze_Hands	Cohen's d	10.46019	1.712	.920
		Hedges' correction	11.02224	1.624	.874
Pair 2	Neuro_Gaze - VR_Controllers	Cohen's d	9.54601	2.528	1.497
		Hedges' correction	10.05894	2.399	1.421
Pair 3	Eye_Gaze_Hands - VR_Controllers	Cohen's d	2.69008	2.315	1.349
		Hedges' correction	2.83463	2.197	1.280

Paired Samples Effect Sizes

			95% ...
			Upper
Pair 1	Neuro_Gaze - Eye_Gaze_Hands	Cohen's d	2.480
		Hedges' correction	2.354
Pair 2	Neuro_Gaze - VR_Controllers	Cohen's d	3.538
		Hedges' correction	3.358
Pair 3	Eye_Gaze_Hands - VR_Controllers	Cohen's d	3.260
		Hedges' correction	3.093

a. The denominator used in estimating the effect sizes.
Cohen's d uses the sample standard deviation of the mean difference.
Hedges' correction uses the sample standard deviation of the mean difference, plus a correction factor.