

```
GLM sud_neutral sud_bd sud_job hr_neutral hr_bd hr_job
  /WSFACTOR=social_scene 3 Polynomial
  /MEASURE=sud heart_rate
  /METHOD=SSTYPE(3)
  /PRINT=DESCRIPTIVE ETASQ
  /CRITERIA=ALPHA(.05)
  /WSDESIGN=social_scene.
```

General Linear Model

Notes

Output Created		08-JUN-2018 20:03:46
Comments		
Input	Data	D:\Surfdrive\PhD Research\#2\R_chapter_03\01\spss_data.sav
	Active Dataset	DataSet1
	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 sud_neutral sud_bd sud_job hr_neutral hr_bd hr_job /WSFACTOR=social_scene 3 Polynomial /MEASURE=sud heart_rate /METHOD=SSTYPE(3) /PRINT=DESCRIPTIVE ETASQ /CRITERIA=ALPHA(.05) /WSDESIGN=social_scene.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.02

[DataSet1] D:\Surfdrive\PhD Research\#2\R_chapter_03\01\spss_data.sav

Within-Subjects Factors

Measure	social scene	Dependent Variable
sud	1	sud_neutral
	2	sud_bd
	3	sud_job
heart_rate	1	hr_neutral
	2	hr_bd
	3	hr_job

Descriptive Statistics

	Mean	Std. Deviation	N
sud_neutral	2.3750	.88506	16
sud_bd	3.6875	1.01448	16
sud_job	4.5625	1.03078	16
hr_neutral	77.2144	11.12849	16
hr_bd	81.1769	11.29555	16
hr_job	84.1175	11.02929	16

Multivariate Tests^a

Effect			Value	F	Hypothesis df
Between Subjects	Intercept	Pillai's Trace	.984	442.235 ^b	2.000
		Wilks' Lambda	.016	442.235 ^b	2.000
		Hotelling's Trace	63.176	442.235 ^b	2.000
		Roy's Largest Root	63.176	442.235 ^b	2.000
Within Subjects	social_scene	Pillai's Trace	.865	19.143 ^b	4.000
		Wilks' Lambda	.135	19.143 ^b	4.000
		Hotelling's Trace	6.381	19.143 ^b	4.000
		Roy's Largest Root	6.381	19.143 ^b	4.000

Multivariate Tests^a

Effect			Error df	Sig.	Partial Eta Squared
Between Subjects	Intercept	Pillai's Trace	14.000	.000	.984
		Wilks' Lambda	14.000	.000	.984
		Hotelling's Trace	14.000	.000	.984
		Roy's Largest Root	14.000	.000	.984
Within Subjects	social_scene	Pillai's Trace	12.000	.000	.865
		Wilks' Lambda	12.000	.000	.865
		Hotelling's Trace	12.000	.000	.865
		Roy's Largest Root	12.000	.000	.865

- a. Design: Intercept
Within Subjects Design: social_scene
- b. Exact statistic

Mauchly's Test of Sphericity^a

Within Subjects Effect	Measure	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon ^b
						Greenhouse-Geisser
social_scene	sud	.967	.472	2	.790	.968
	heart_rate	.690	5.202	2	.074	.763

Mauchly's Test of Sphericity^a

Within Subjects Effect	Measure	Epsilon ^b	
		Huynh-Feldt	Lower-bound
social_scene	sud	1.000	.500
	heart_rate	.832	.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: social_scene
- 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

Multivariate^{a,b}

Within Subjects Effect		Value	F	Hypothesis df	Error df	Sig.
social_scene	Pillai's Trace	.756	9.117	4.000	60.000	.000
	Wilks' Lambda	.245	14.805 ^c	4.000	58.000	.000
	Hotelling's Trace	3.081	21.567	4.000	56.000	.000
	Roy's Largest Root	3.080	46.196 ^d	2.000	30.000	.000

Multivariate^{a,b}

Within Subjects Effect		Partial Eta Squared
social_scene	Pillai's Trace	.378
	Wilks' Lambda	.505
	Hotelling's Trace	.606
	Roy's Largest Root	.755

- a. Design: Intercept
Within Subjects Design: social_scene
- b. Tests are based on averaged variables.
- c. Exact statistic
- d. The statistic is an upper bound on F that yields a lower bound on the significance level.

Univariate Tests

Source	Measure		Type III Sum of Squares	df	Mean Square
social_scene	sud	Sphericity Assumed	38.792	2	19.396
		Greenhouse-Geisser	38.792	1.936	20.038
		Huynh-Feldt	38.792	2.000	19.396
		Lower-bound	38.792	1.000	38.792
	heart_rate	Sphericity Assumed	384.010	2	192.005
		Greenhouse-Geisser	384.010	1.526	251.591
		Huynh-Feldt	384.010	1.664	230.765
		Lower-bound	384.010	1.000	384.010
Error(social_scene)	sud	Sphericity Assumed	15.875	30	.529
		Greenhouse-Geisser	15.875	29.038	.547
		Huynh-Feldt	15.875	30.000	.529
		Lower-bound	15.875	15.000	1.058
	heart_rate	Sphericity Assumed	249.605	30	8.320
		Greenhouse-Geisser	249.605	22.895	10.902
		Huynh-Feldt	249.605	24.961	10.000
		Lower-bound	249.605	15.000	16.640

Univariate Tests

Source	Measure		F	Sig.	Partial Eta Squared
social_scene	sud	Sphericity Assumed	36.654	.000	.710
		Greenhouse-Geisser	36.654	.000	.710
		Huynh-Feldt	36.654	.000	.710
		Lower-bound	36.654	.000	.710
	heart_rate	Sphericity Assumed	23.077	.000	.606
		Greenhouse-Geisser	23.077	.000	.606
		Huynh-Feldt	23.077	.000	.606
		Lower-bound	23.077	.000	.606
Error(social_scene)	sud	Sphericity Assumed			
		Greenhouse-Geisser			
		Huynh-Feldt			
		Lower-bound			
	heart_rate	Sphericity Assumed			
		Greenhouse-Geisser			
		Huynh-Feldt			
		Lower-bound			

Tests of Within-Subjects Contrasts

Source	Measure	social_scene	Type III Sum of Squares	df	Mean Square	F
social_scene	sud	Linear	38.281	1	38.281	62.288
		Quadratic	.510	1	.510	1.150
	heart_rate	Linear	381.225	1	381.225	32.735
		Quadratic	2.785	1	2.785	.558
Error(social_scene)	sud	Linear	9.219	15	.615	
		Quadratic	6.656	15	.444	
	heart_rate	Linear	174.685	15	11.646	
		Quadratic	74.920	15	4.995	

Tests of Within-Subjects Contrasts

Source	Measure	social_scene	Sig.	Partial Eta Squared
social_scene	sud	Linear	.000	.806
		Quadratic	.300	.071
	heart_rate	Linear	.000	.686
		Quadratic	.467	.036
Error(social_scene)	sud	Linear		
		Quadratic		
	heart_rate	Linear		
		Quadratic		

Tests of Between-Subjects Effects

Transformed Variable: Average

Source	Measure	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	sud	602.083	1	602.083	331.422	.000
	heart_rate	313655.967	1	313655.967	879.974	.000
Error	sud	27.250	15	1.817		
	heart_rate	5346.565	15	356.438		

Tests of Between-Subjects Effects

Transformed Variable: Average

Source	Measure	Partial Eta Squared
Intercept	sud	.957
	heart_rate	.983
Error	sud	
	heart_rate	