

General Linear Model

Notes

| | | |
|------------------------|--------------------------------|---|
| Output Created | | 26-MAR-2022 16:40:47 |
| Comments | | |
| Input | Active Dataset | DataSet4 |
| | Filter | <none> |
| | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working Data File | 10 |
| 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 t1ma t1mb t2ma t2mb t3ma t3mb /WSFACTOR=Task 3 Polynomial Methods 2 Polynomial /METHOD=SSTYPE(3) /PLOT=PROFILE (Task*Methods) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO /EMMEANS=TABLES (Task) /EMMEANS=TABLES (Methods) /EMMEANS=TABLES (Task*Methods) /PRINT=DESCRIPTIVE /CRITERIA=ALPHA(.05) /WSDESIGN=Task Methods Task*Methods. |
| Resources | Processor Time | 00:00:00.56 |
| | Elapsed Time | 00:00:01.00 |

Within-Subjects Factors

Measure: MEASURE_1

| Task | Methods | Dependent Variable |
|------|---------|--------------------|
| 1 | 1 | t1ma |
| | 2 | t1mb |
| 2 | 1 | t2ma |
| | 2 | t2mb |
| 3 | 1 | t3ma |
| | 2 | t3mb |

Descriptive Statistics

| | Mean | Std. Deviation | N |
|------|------------|----------------|----|
| t1ma | 3.86228674 | .981744379 | 10 |
| t1mb | 5.39376155 | .841951468 | 10 |
| t2ma | 7.99561986 | .928154831 | 10 |
| t2mb | 8.30803692 | 1.13825017 | 10 |
| t3ma | 2.08388428 | 1.01167692 | 10 |
| t3mb | 5.43984765 | .836397790 | 10 |

Multivariate Tests^a

| Effect | | Value | F | Hypothesis df | Error df | Sig. |
|----------------|--------------------|--------|----------------------|---------------|----------|-------|
| Task | Pillai's Trace | .971 | 131.798 ^b | 2.000 | 8.000 | <.001 |
| | Wilks' Lambda | .029 | 131.798 ^b | 2.000 | 8.000 | <.001 |
| | Hotelling's Trace | 32.950 | 131.798 ^b | 2.000 | 8.000 | <.001 |
| | Roy's Largest Root | 32.950 | 131.798 ^b | 2.000 | 8.000 | <.001 |
| Methods | Pillai's Trace | .833 | 44.927 ^b | 1.000 | 9.000 | <.001 |
| | Wilks' Lambda | .167 | 44.927 ^b | 1.000 | 9.000 | <.001 |
| | Hotelling's Trace | 4.992 | 44.927 ^b | 1.000 | 9.000 | <.001 |
| | Roy's Largest Root | 4.992 | 44.927 ^b | 1.000 | 9.000 | <.001 |
| Task * Methods | Pillai's Trace | .682 | 8.579 ^b | 2.000 | 8.000 | .010 |
| | Wilks' Lambda | .318 | 8.579 ^b | 2.000 | 8.000 | .010 |
| | Hotelling's Trace | 2.145 | 8.579 ^b | 2.000 | 8.000 | .010 |
| | Roy's Largest Root | 2.145 | 8.579 ^b | 2.000 | 8.000 | .010 |

a. Design: Intercept

Within Subjects Design: Task + Methods + Task * Methods

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 |
|------------------------|-------------|--------------------|----|------|--|
| Task | .859 | 1.217 | 2 | .544 | .876 |
| Methods | 1.000 | .000 | 0 | . | 1.000 |
| Task * Methods | .973 | .220 | 2 | .896 | .974 |

Mauchly's Test of Sphericity^a

Measure: MEASURE_1

| Within Subjects Effect | Epsilon ^b | |
|------------------------|----------------------|-------------|
| | Huynh-Feldt | Lower-bound |
| Task | 1.000 | .500 |
| Methods | 1.000 | 1.000 |
| Task * Methods | 1.000 | .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: Task + Methods + Task * Methods

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 |
|---------------------|--------------------|-------------------------|--------|-------------|---------|
| Task | Sphericity Assumed | 216.261 | 2 | 108.131 | 128.099 |
| | Greenhouse-Geisser | 216.261 | 1.753 | 123.391 | 128.099 |
| | Huynh-Feldt | 216.261 | 2.000 | 108.131 | 128.099 |
| | Lower-bound | 216.261 | 1.000 | 216.261 | 128.099 |
| Error(Task) | Sphericity Assumed | 15.194 | 18 | .844 | |
| | Greenhouse-Geisser | 15.194 | 15.774 | .963 | |
| | Huynh-Feldt | 15.194 | 18.000 | .844 | |
| | Lower-bound | 15.194 | 9.000 | 1.688 | |
| Methods | Sphericity Assumed | 45.064 | 1 | 45.064 | 44.927 |
| | Greenhouse-Geisser | 45.064 | 1.000 | 45.064 | 44.927 |
| | Huynh-Feldt | 45.064 | 1.000 | 45.064 | 44.927 |
| | Lower-bound | 45.064 | 1.000 | 45.064 | 44.927 |
| Error(Methods) | Sphericity Assumed | 9.028 | 9 | 1.003 | |
| | Greenhouse-Geisser | 9.028 | 9.000 | 1.003 | |
| | Huynh-Feldt | 9.028 | 9.000 | 1.003 | |
| | Lower-bound | 9.028 | 9.000 | 1.003 | |
| Task * Methods | Sphericity Assumed | 23.463 | 2 | 11.732 | 11.107 |
| | Greenhouse-Geisser | 23.463 | 1.947 | 12.050 | 11.107 |
| | Huynh-Feldt | 23.463 | 2.000 | 11.732 | 11.107 |
| | Lower-bound | 23.463 | 1.000 | 23.463 | 11.107 |
| Error(Task*Methods) | Sphericity Assumed | 19.012 | 18 | 1.056 | |
| | Greenhouse-Geisser | 19.012 | 17.525 | 1.085 | |
| | Huynh-Feldt | 19.012 | 18.000 | 1.056 | |
| | Lower-bound | 19.012 | 9.000 | 2.112 | |

Tests of Within-Subjects Effects

Measure: MEASURE_1

| Source | | Sig. |
|---------------------|--------------------|-------|
| Task | Sphericity Assumed | <.001 |
| | Greenhouse-Geisser | <.001 |
| | Huynh-Feldt | <.001 |
| | Lower-bound | <.001 |
| Error(Task) | Sphericity Assumed | |
| | Greenhouse-Geisser | |
| | Huynh-Feldt | |
| | Lower-bound | |
| Methods | Sphericity Assumed | <.001 |
| | Greenhouse-Geisser | <.001 |
| | Huynh-Feldt | <.001 |
| | Lower-bound | <.001 |
| Error(Methods) | Sphericity Assumed | |
| | Greenhouse-Geisser | |
| | Huynh-Feldt | |
| | Lower-bound | |
| Task * Methods | Sphericity Assumed | <.001 |
| | Greenhouse-Geisser | <.001 |
| | Huynh-Feldt | <.001 |
| | Lower-bound | .009 |
| Error(Task*Methods) | Sphericity Assumed | |
| | Greenhouse-Geisser | |
| | Huynh-Feldt | |
| | Lower-bound | |

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

| Source | Task | Methods | Type III Sum of Squares | df | Mean Square | F |
|---------------------|-----------|---------|-------------------------|----|-------------|---------|
| Task | Linear | | 7.502 | 1 | 7.502 | 10.370 |
| | Quadratic | | 208.759 | 1 | 208.759 | 216.381 |
| Error(Task) | Linear | | 6.511 | 9 | .723 | |
| | Quadratic | | 8.683 | 9 | .965 | |
| Methods | | Linear | 45.064 | 1 | 45.064 | 44.927 |
| Error(Methods) | | Linear | 9.028 | 9 | 1.003 | |
| Task * Methods | Linear | Linear | 8.322 | 1 | 8.322 | 8.745 |
| | Quadratic | Linear | 15.141 | 1 | 15.141 | 13.044 |
| Error(Task*Methods) | Linear | Linear | 8.565 | 9 | .952 | |
| | Quadratic | Linear | 10.447 | 9 | 1.161 | |

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

| Source | Task | Methods | Sig. |
|---------------------|-----------|---------|-------|
| Task | Linear | | .010 |
| | Quadratic | | <.001 |
| Error(Task) | Linear | | |
| | Quadratic | | |
| Methods | | Linear | <.001 |
| Error(Methods) | | Linear | |
| Task * Methods | Linear | Linear | .016 |
| | Quadratic | Linear | .006 |
| Error(Task*Methods) | Linear | Linear | |
| | Quadratic | Linear | |

Tests of Between-Subjects Effects

Measure: MEASURE_1

Transformed Variable: Average

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
|-----------|-------------------------|----|-------------|----------|-------|
| Intercept | 1824.190 | 1 | 1824.190 | 2435.332 | <.001 |
| Error | 6.741 | 9 | .749 | | |

Estimated Marginal Means

1. Task

Measure: MEASURE_1

| Task | Mean | Std. Error | 95% Confidence Interval | |
|------|-------|------------|-------------------------|-------------|
| | | | Lower Bound | Upper Bound |
| 1 | 4.628 | .197 | 4.184 | 5.073 |
| 2 | 8.152 | .204 | 7.690 | 8.613 |
| 3 | 3.762 | .204 | 3.300 | 4.223 |

2. Methods

Measure: MEASURE_1

| Methods | Mean | Std. Error | 95% Confidence Interval | |
|---------|-------|------------|-------------------------|-------------|
| | | | Lower Bound | Upper Bound |
| 1 | 4.647 | .203 | 4.187 | 5.107 |
| 2 | 6.381 | .131 | 6.085 | 6.676 |

3. Task * Methods

Measure: MEASURE_1

| Task | Methods | Mean | Std. Error | 95% Confidence Interval | |
|------|---------|-------|------------|-------------------------|-------------|
| | | | | Lower Bound | Upper Bound |
| 1 | 1 | 3.862 | .310 | 3.160 | 4.565 |
| | 2 | 5.394 | .266 | 4.791 | 5.996 |
| 2 | 1 | 7.996 | .294 | 7.332 | 8.660 |
| | 2 | 8.308 | .360 | 7.494 | 9.122 |
| 3 | 1 | 2.084 | .320 | 1.360 | 2.808 |
| | 2 | 5.440 | .264 | 4.842 | 6.038 |

Profile Plots

