```
GLM Bar_Nom_Num_Car Bar_Nom_Num_Movie Bar_Num_Num_Car Bar_Num_Num_Movie Bar_Ord_Num_Car
    Bar_Ord_Num_Movie Line_Nom_Num_Car Line_Nom_Num_Movie Line_Num_Num_Car Line_Num_Num_Movie
    Line_Ord_Num_Car Line_Ord_Num_Movie Pie_Nom_Num_Car Pie_Nom_Num_Movie Pie_Num_Num_Car
    Pie_Num_Num_Movie Pie_Ord_Num_Car Pie_Ord_Num_Movie Scatter_Nom_Num_Car Scatter_Nom_Num_Movie
    Scatter_Num_Num_Car Scatter_Num_Num_Movie Scatter_Ord_Num_Car Scatter_Ord_Num_Movie
    Table_Nom_Num_Car Table_Nom_Num_Movie Table_Num_Num_Car Table_Num_Num_Movie Table_Ord_Num_Car
    Table_Ord_Num_Movie
  /WSFACTOR=Visualization 5 Polynomial DataAttributeTypes 3 Polynomial Dataset
 2 Polynomial
  /METHOD=SSTYPE(3)
  /EMMEANS=TABLES(OVERALL)
  /EMMEANS=TABLES(Visualization) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(DataAttributeTypes) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(Visualization*DataAttributeTypes)
  /PRINT=DESCRIPTIVE ETASQ OPOWER HOMOGENEITY
  /CRITERIA=ALPHA(.05)
  /WSDESIGN=Visualization DataAttributeTypes Dataset Visualization*DataAttributeTypes
    Visualization*Dataset DataAttributeTypes*Dataset Visualization*DataAttributeTypes*Dataset.
```

## General Linear Model

## Notes

| | | |
|---|---|---|
| Output Created | | 06-SEP-2016 10:41:08 |
| Comments | | |
| Input | Data | C:\Users\Bahador\Desktop\Analysis\Cluster\Cluster_Ranking.sav |
| | Active Dataset | DataSet1 |
| | Filter | <none> |
| | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working Data File | 18 |
| 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. |

## Notes

| | |
|---|---|
| Syntax | GLM Bar_Nom_Num_Car Bar_Nom_Num_Movie Bar_Num_Num_Car Bar_Num_Num_Movie Bar_Ord_Num_Car Bar_Ord_Num_Movie Line_Nom_Num_Car Line_Nom_Num_Movie Line_Num_Num_Car Line_Num_Num_Movie Line_Ord_Num_Car Line_Ord_Num_Movie Pie_Nom_Num_Car Pie_Nom_Num_Movie Pie_Num_Num_Car Pie_Num_Num_Movie Pie_Ord_Num_Car Pie_Ord_Num_Movie Scatter_Nom_Num_Car Scatter_Nom_Num_Movie Scatter_Num_Num_Car Scatter_Num_Num_Movie Scatter_Ord_Num_Car Scatter_Ord_Num_Movie Table_Nom_Num_Car Table_Nom_Num_Movie Table_Num_Num_Car Table_Num_Num_Movie Table_Ord_Num_Car Table_Ord_Num_Movie<br><br>/WSFACTOR=Visualization 5 Polynomial DataAttributeTypes 3 Polynomial Dataset 2 Polynomial<br>/METHOD=SSTYPE(3)<br>/EMMEANS=TABLES (OVERALL)<br>/EMMEANS=TABLES (Visualization) COMPARE ADJ(BONFERRONI)<br>/EMMEANS=TABLES (DataAttributeTypes) COMPARE ADJ (BONFERRONI)<br>/EMMEANS=TABLES (Visualization*DataAttributeTypes)<br>/PRINT=DESCRIPTIVE ETASQ OPOWER HOMOGENEITY<br>/CRITERIA=ALPHA(.05)<br><br>/WSDESIGN=Visualization DataAttributeTypes Dataset Visualization*DataAttributeTypes Visualization*Dataset DataAttributeTypes*Datas |

## Notes

| | | |
|---|---|---|
| Resources | Processor Time | 00:00:00.03 |
| | Elapsed Time | 00:00:00.02 |

## Warnings

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

## Within-Subjects Factors

Measure: MEASURE_1

| Visualization | DataAttributeTypes | Dataset | Dependent Variable |
|---|---|---|---|
| 1 | 1 | 1 | Bar_Nom_Num_Car |
| | | 2 | Bar_Nom_Num_Movie |
| | 2 | 1 | Bar_Num_Num_Car |
| | | 2 | Bar_Num_Num_Movie |
| | 3 | 1 | Bar_Ord_Num_Car |
| | | 2 | Bar_Ord_Num_Movie |
| 2 | 1 | 1 | Line_Nom_Num_Car |
| | | 2 | Line_Nom_Num_Movie |
| | 2 | 1 | Line_Num_Num_Car |
| | | 2 | Line_Num_Num_Movie |
| | 3 | 1 | Line_Ord_Num_Car |
| | | 2 | Line_Ord_Num_Movie |
| 3 | 1 | 1 | Pie_Nom_Num_Car |
| | | 2 | Pie_Nom_Num_Movie |

## Within-Subjects Factors

Measure: MEASURE_1

| Visualization | DataAttributeTypes | Dataset | Dependent Variable |
|---|---|---|---|
| | 2 | 1 | Pie_Num_Num_Car |
| | | 2 | Pie_Num_Num_Movie |
| | 3 | 1 | Pie_Ord_Num_Car |
| | | 2 | Pie_Ord_Num_Movie |
| 4 | 1 | 1 | Scatter_Nom_Num_Car |
| | | 2 | Scatter_Nom_Num_Movie |
| | 2 | 1 | Scatter_Num_Num_Car |
| | | 2 | Scatter_Num_Num_Movie |
| | 3 | 1 | Scatter_Ord_Num_Car |
| | | 2 | Scatter_Ord_Num_Movie |
| 5 | 1 | 1 | Table_Nom_Num_Car |
| | | 2 | Table_Nom_Num_Movie |
| | 2 | 1 | Table_Num_Num_Car |
| | | 2 | Table_Num_Num_Movie |
| | 3 | 1 | Table_Ord_Num_Car |
| | | 2 | Table_Ord_Num_Movie |

## Descriptive Statistics

| | Mean | Std. Deviation | N |
|---|---|---|---|
| Bar_Nom_Num_Car | 2.0556 | 1.05564 | 18 |
| Bar_Nom_Num_Movie | 1.6667 | .68599 | 18 |
| Bar_Num_Num_Car | 1.8333 | .70711 | 18 |
| Bar_Num_Num_Movie | 1.7222 | .82644 | 18 |
| Bar_Ord_Num_Car | 1.8333 | .85749 | 18 |
| Bar_Ord_Num_Movie | 2.0556 | .80237 | 18 |
| Line_Nom_Num_Car | 4.6667 | .48507 | 18 |
| Line_Nom_Num_Movie | 4.5000 | .78591 | 18 |
| Line_Num_Num_Car | 4.2222 | .87820 | 18 |
| Line_Num_Num_Movie | 3.9444 | 1.05564 | 18 |
| Line_Ord_Num_Car | 4.3889 | 1.03690 | 18 |
| Line_Ord_Num_Movie | 4.3889 | .69780 | 18 |
| Pie_Nom_Num_Car | 2.6667 | 1.23669 | 18 |
| Pie_Nom_Num_Movie | 3.0000 | 1.08465 | 18 |
| Pie_Num_Num_Car | 3.1111 | .96338 | 18 |
| Pie_Num_Num_Movie | 3.1667 | 1.09813 | 18 |
| Pie_Ord_Num_Car | 2.7222 | 1.07406 | 18 |
| Pie_Ord_Num_Movie | 2.6667 | 1.08465 | 18 |
| Scatter_Nom_Num_Car | 3.6111 | 1.03690 | 18 |
| Scatter_Nom_Num_Movie | 3.8889 | .90025 | 18 |
| Scatter_Num_Num_Car | 4.2222 | .80845 | 18 |
| Scatter_Num_Num_Movie | 4.0556 | 1.10997 | 18 |
| Scatter_Ord_Num_Car | 3.9444 | .80237 | 18 |
| Scatter_Ord_Num_Movie | 4.0556 | .99836 | 18 |
| Table_Nom_Num_Car | 2.0000 | 1.08465 | 18 |
| Table_Nom_Num_Movie | 1.9444 | 1.10997 | 18 |
| Table_Num_Num_Car | 1.6111 | 1.03690 | 18 |
| Table_Num_Num_Movie | 2.1111 | 1.27827 | 18 |
| Table_Ord_Num_Car | 2.1111 | 1.27827 | 18 |
| Table_Ord_Num_Movie | 1.8333 | 1.24853 | 18 |

## Multivariate Tests[a]

| Effect | | Value | F | Hypothesis df | Error df |
|---|---|---|---|---|---|
| Visualization | Pillai's Trace | .918 | 39.289[b] | 4.000 | 14.000 |
| | Wilks' Lambda | .082 | 39.289[b] | 4.000 | 14.000 |
| | Hotelling's Trace | 11.225 | 39.289[b] | 4.000 | 14.000 |
| | Roy's Largest Root | 11.225 | 39.289[b] | 4.000 | 14.000 |
| DataAttributeTypes | Pillai's Trace | . | .[b] | . | . |
| | Wilks' Lambda | . | .[b] | . | . |
| | Hotelling's Trace | . | .[b] | . | . |
| | Roy's Largest Root | . | .[b] | . | . |
| Dataset | Pillai's Trace | . | .[b] | . | . |
| | Wilks' Lambda | . | .[b] | . | . |
| | Hotelling's Trace | . | .[b] | . | . |
| | Roy's Largest Root | . | .[b] | . | . |
| Visualization * DataAttributeTypes | Pillai's Trace | .823 | 5.794[b] | 8.000 | 10.000 |
| | Wilks' Lambda | .177 | 5.794[b] | 8.000 | 10.000 |
| | Hotelling's Trace | 4.635 | 5.794[b] | 8.000 | 10.000 |
| | Roy's Largest Root | 4.635 | 5.794[b] | 8.000 | 10.000 |
| Visualization * Dataset | Pillai's Trace | .339 | 1.793[b] | 4.000 | 14.000 |
| | Wilks' Lambda | .661 | 1.793[b] | 4.000 | 14.000 |
| | Hotelling's Trace | .512 | 1.793[b] | 4.000 | 14.000 |
| | Roy's Largest Root | .512 | 1.793[b] | 4.000 | 14.000 |
| DataAttributeTypes * Dataset | Pillai's Trace | . | .[b] | . | . |
| | Wilks' Lambda | . | .[b] | . | . |
| | Hotelling's Trace | . | .[b] | . | . |
| | Roy's Largest Root | . | .[b] | . | . |
| Visualization * DataAttributeTypes * Dataset | Pillai's Trace | .482 | 1.165[b] | 8.000 | 10.000 |
| | Wilks' Lambda | .518 | 1.165[b] | 8.000 | 10.000 |
| | Hotelling's Trace | .932 | 1.165[b] | 8.000 | 10.000 |
| | Roy's Largest Root | .932 | 1.165[b] | 8.000 | 10.000 |

## Multivariate Tests[a]

| Effect | | Sig. | Partial Eta Squared | Noncent. Parameter |
|---|---|---|---|---|
| Visualization | Pillai's Trace | .000 | .918 | 157.156 |
| | Wilks' Lambda | .000 | .918 | 157.156 |
| | Hotelling's Trace | .000 | .918 | 157.156 |
| | Roy's Largest Root | .000 | .918 | 157.156 |
| DataAttributeTypes | Pillai's Trace | . | . | . |
| | Wilks' Lambda | . | . | . |
| | Hotelling's Trace | . | . | . |
| | Roy's Largest Root | . | . | . |
| Dataset | Pillai's Trace | . | . | . |
| | Wilks' Lambda | . | . | . |
| | Hotelling's Trace | . | . | . |
| | Roy's Largest Root | . | . | . |
| Visualization * DataAttributeTypes | Pillai's Trace | .006 | .823 | 46.352 |
| | Wilks' Lambda | .006 | .823 | 46.352 |
| | Hotelling's Trace | .006 | .823 | 46.352 |
| | Roy's Largest Root | .006 | .823 | 46.352 |
| Visualization * Dataset | Pillai's Trace | .186 | .339 | 7.174 |
| | Wilks' Lambda | .186 | .339 | 7.174 |
| | Hotelling's Trace | .186 | .339 | 7.174 |
| | Roy's Largest Root | .186 | .339 | 7.174 |
| DataAttributeTypes * Dataset | Pillai's Trace | . | . | . |
| | Wilks' Lambda | . | . | . |
| | Hotelling's Trace | . | . | . |
| | Roy's Largest Root | . | . | . |
| Visualization * DataAttributeTypes * Dataset | Pillai's Trace | .403 | .482 | 9.317 |
| | Wilks' Lambda | .403 | .482 | 9.317 |
| | Hotelling's Trace | .403 | .482 | 9.317 |
| | Roy's Largest Root | .403 | .482 | 9.317 |

## Multivariate Tests[a]

| Effect | | Observed Power[c] |
|---|---|---|
| Visualization | Pillai's Trace | 1.000 |
| | Wilks' Lambda | 1.000 |
| | Hotelling's Trace | 1.000 |
| | Roy's Largest Root | 1.000 |
| DataAttributeTypes | Pillai's Trace | . |
| | Wilks' Lambda | . |
| | Hotelling's Trace | . |
| | Roy's Largest Root | . |
| Dataset | Pillai's Trace | . |
| | Wilks' Lambda | . |
| | Hotelling's Trace | . |
| | Roy's Largest Root | . |
| Visualization * DataAttributeTypes | Pillai's Trace | .952 |
| | Wilks' Lambda | .952 |
| | Hotelling's Trace | .952 |
| | Roy's Largest Root | .952 |
| Visualization * Dataset | Pillai's Trace | .411 |
| | Wilks' Lambda | .411 |
| | Hotelling's Trace | .411 |
| | Roy's Largest Root | .411 |
| DataAttributeTypes * Dataset | Pillai's Trace | . |
| | Wilks' Lambda | . |
| | Hotelling's Trace | . |
| | Roy's Largest Root | . |
| Visualization * DataAttributeTypes * Dataset | Pillai's Trace | .296 |
| | Wilks' Lambda | .296 |
| | Hotelling's Trace | .296 |
| | Roy's Largest Root | .296 |

a. Design: Intercept
Within Subjects Design: Visualization + DataAttributeTypes + Dataset + Visualization * DataAttributeTypes + Visualization * Dataset + DataAttributeTypes * Dataset + Visualization * ...

b. Exact statistic

c.

c. Computed using alpha = .05

## Mauchly's Test of Sphericity[a]

Measure: MEASURE_1

| Within Subjects Effect | Mauchly's W | Approx. Chi-Square | df | Sig. | Epsilon[b] Greenhouse-Geisser |
|---|---|---|---|---|---|
| Visualization | .471 | 11.599 | 9 | .239 | .743 |
| DataAttributeTypes | . | . | 2 | . | . |
| Dataset | . | . | 0 | . | . |
| Visualization * DataAttributeTypes | .030 | 49.691 | 35 | .062 | .527 |
| Visualization * Dataset | .374 | 15.173 | 9 | .088 | .719 |
| DataAttributeTypes * Dataset | . | . | 2 | . | . |
| Visualization * DataAttributeTypes * Dataset | .012 | 62.844 | 35 | .004 | .496 |

## Mauchly's Test of Sphericity[a]

Measure: MEASURE_1

| Within Subjects Effect | Epsilon[b] Huynh-Feldt | Lower-bound |
|---|---|---|
| Visualization | .917 | .250 |
| DataAttributeTypes | . | .500 |
| Dataset | . | 1.000 |
| Visualization * DataAttributeTypes | .723 | .125 |
| Visualization * Dataset | .881 | .250 |
| DataAttributeTypes * Dataset | . | .500 |
| Visualization * DataAttributeTypes * Dataset | .666 | .125 |

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: Visualization + DataAttributeTypes + Dataset + Visualization * DataAttributeTypes + Visualization * Dataset + DataAttributeTypes * Dataset + Visualization * ...

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 |
|---|---|---|---|---|---|
| Visualization | Sphericity Assumed | 561.389 | 4 | 140.347 | 30.207 |
| | Greenhouse-Geisser | 561.389 | 2.971 | 188.982 | 30.207 |
| | Huynh-Feldt | 561.389 | 3.669 | 153.019 | 30.207 |
| | Lower-bound | 561.389 | 1.000 | 561.389 | 30.207 |
| Error(Visualization) | Sphericity Assumed | 315.944 | 68 | 4.646 | |
| | Greenhouse-Geisser | 315.944 | 50.500 | 6.256 | |
| | Huynh-Feldt | 315.944 | 62.369 | 5.066 | |
| | Lower-bound | 315.944 | 17.000 | 18.585 | |
| DataAttributeTypes | Sphericity Assumed | .000 | 2 | .000 | . |
| | Greenhouse-Geisser | .000 | . | . | . |
| | Huynh-Feldt | .000 | . | . | . |
| | Lower-bound | .000 | 1.000 | .000 | . |
| Error(DataAttributeTypes) | Sphericity Assumed | .000 | 34 | .000 | |
| | Greenhouse-Geisser | .000 | . | . | |
| | Huynh-Feldt | .000 | . | . | |
| | Lower-bound | .000 | 17.000 | .000 | |
| Dataset | Sphericity Assumed | .000 | 1 | .000 | . |
| | Greenhouse-Geisser | .000 | . | . | . |
| | Huynh-Feldt | .000 | . | . | . |
| | Lower-bound | .000 | 1.000 | .000 | . |
| Error(Dataset) | Sphericity Assumed | .000 | 17 | .000 | |
| | Greenhouse-Geisser | .000 | . | . | |
| | Huynh-Feldt | .000 | . | . | |
| | Lower-bound | .000 | 17.000 | .000 | |
| Visualization * DataAttributeTypes | Sphericity Assumed | 11.889 | 8 | 1.486 | 2.442 |
| | Greenhouse-Geisser | 11.889 | 4.219 | 2.818 | 2.442 |

## Tests of Within-Subjects Effects

Measure: MEASURE_1

| Source | | Sig. | Partial Eta Squared | Noncent. Parameter |
|---|---|---|---|---|
| Visualization | Sphericity Assumed | .000 | .640 | 120.826 |
| | Greenhouse-Geisser | .000 | .640 | 89.731 |
| | Huynh-Feldt | .000 | .640 | 110.821 |
| | Lower-bound | .000 | .640 | 30.207 |
| Error(Visualization) | Sphericity Assumed | | | |
| | Greenhouse-Geisser | | | |
| | Huynh-Feldt | | | |
| | Lower-bound | | | |
| DataAttributeTypes | Sphericity Assumed | . | . | . |
| | Greenhouse-Geisser | . | . | . |
| | Huynh-Feldt | . | . | . |
| | Lower-bound | . | . | . |
| Error(DataAttributeTypes) | Sphericity Assumed | | | |
| | Greenhouse-Geisser | | | |
| | Huynh-Feldt | | | |
| | Lower-bound | | | |
| Dataset | Sphericity Assumed | . | . | . |
| | Greenhouse-Geisser | . | . | . |
| | Huynh-Feldt | . | . | . |
| | Lower-bound | . | . | . |
| Error(Dataset) | Sphericity Assumed | | | |
| | Greenhouse-Geisser | | | |
| | Huynh-Feldt | | | |
| | Lower-bound | | | |
| Visualization * DataAttributeTypes | Sphericity Assumed | .017 | .126 | 19.533 |
| | Greenhouse-Geisser | .051 | .126 | 10.301 |

## Tests of Within-Subjects Effects

Measure: MEASURE_1

| Source | | Observed Power[a] |
|---|---|---|
| Visualization | Sphericity Assumed | 1.000 |
| | Greenhouse-Geisser | 1.000 |
| | Huynh-Feldt | 1.000 |
| | Lower-bound | .999 |
| Error(Visualization) | Sphericity Assumed | |
| | Greenhouse-Geisser | |
| | Huynh-Feldt | |
| | Lower-bound | |
| DataAttributeTypes | Sphericity Assumed | . |
| | Greenhouse-Geisser | . |
| | Huynh-Feldt | . |
| | Lower-bound | . |
| Error(DataAttributeTypes) | Sphericity Assumed | |
| | Greenhouse-Geisser | |
| | Huynh-Feldt | |
| | Lower-bound | |
| Dataset | Sphericity Assumed | . |
| | Greenhouse-Geisser | . |
| | Huynh-Feldt | . |
| | Lower-bound | . |
| Error(Dataset) | Sphericity Assumed | |
| | Greenhouse-Geisser | |
| | Huynh-Feldt | |
| | Lower-bound | |
| Visualization * DataAttributeTypes | Sphericity Assumed | .888 |
| | Greenhouse-Geisser | .688 |

## Tests of Within-Subjects Effects

Measure: MEASURE_1

| Source | | Type III Sum of Squares | df | Mean Square | F |
|---|---|---|---|---|---|
| | Huynh-Feldt | 11.889 | 5.785 | 2.055 | 2.442 |
| | Lower-bound | 11.889 | 1.000 | 11.889 | 2.442 |
| Error (Visualization*DataAttributeTypes) | Sphericity Assumed | 82.778 | 136 | .609 | |
| | Greenhouse-Geisser | 82.778 | 71.723 | 1.154 | |
| | Huynh-Feldt | 82.778 | 98.351 | .842 | |
| | Lower-bound | 82.778 | 17.000 | 4.869 | |
| Visualization * Dataset | Sphericity Assumed | 1.389 | 4 | .347 | .959 |
| | Greenhouse-Geisser | 1.389 | 2.875 | .483 | .959 |
| | Huynh-Feldt | 1.389 | 3.522 | .394 | .959 |
| | Lower-bound | 1.389 | 1.000 | 1.389 | .959 |
| Error(Visualization*Dataset) | Sphericity Assumed | 24.611 | 68 | .362 | |
| | Greenhouse-Geisser | 24.611 | 48.878 | .504 | |
| | Huynh-Feldt | 24.611 | 59.880 | .411 | |
| | Lower-bound | 24.611 | 17.000 | 1.448 | |
| DataAttributeTypes * Dataset | Sphericity Assumed | .000 | 2 | .000 | . |
| | Greenhouse-Geisser | .000 | . | . | . |
| | Huynh-Feldt | .000 | . | . | . |
| | Lower-bound | .000 | 1.000 | .000 | . |
| Error (DataAttributeTypes*Dataset) | Sphericity Assumed | .000 | 34 | .000 | |
| | Greenhouse-Geisser | .000 | . | . | |
| | Huynh-Feldt | .000 | . | . | |
| | Lower-bound | .000 | 17.000 | .000 | |
| Visualization * DataAttributeTypes * Dataset | Sphericity Assumed | 6.556 | 8 | .819 | 1.477 |
| | Greenhouse-Geisser | 6.556 | 3.967 | 1.652 | 1.477 |
| | Huynh-Feldt | 6.556 | 5.326 | 1.231 | 1.477 |
| | Lower-bound | 6.556 | 1.000 | 6.556 | 1.477 |
| Error (Visualization*DataAttributeTypes*Dataset) | Sphericity Assumed | 75.444 | 136 | .555 | |
| | Greenhouse-Geisser | 75.444 | 67.447 | 1.119 | |
| | Huynh-Feldt | 75.444 | 90.545 | .833 | |
| | Lower-bound | 75.444 | 17.000 | 4.438 | |

## Tests of Within-Subjects Effects

Measure: MEASURE_1

| Source | | Sig. | Partial Eta Squared | Noncent. Parameter |
|---|---|---|---|---|
| | Huynh-Feldt | .032 | .126 | 14.126 |
| | Lower-bound | .137 | .126 | 2.442 |
| Error (Visualization*DataAttribute Types) | Sphericity Assumed | | | |
| | Greenhouse-Geisser | | | |
| | Huynh-Feldt | | | |
| | Lower-bound | | | |
| Visualization * Dataset | Sphericity Assumed | .436 | .053 | 3.837 |
| | Greenhouse-Geisser | .417 | .053 | 2.758 |
| | Huynh-Feldt | .428 | .053 | 3.379 |
| | Lower-bound | .341 | .053 | .959 |
| Error(Visualization*Dataset) | Sphericity Assumed | | | |
| | Greenhouse-Geisser | | | |
| | Huynh-Feldt | | | |
| | Lower-bound | | | |
| DataAttributeTypes * Dataset | Sphericity Assumed | . | . | . |
| | Greenhouse-Geisser | . | . | . |
| | Huynh-Feldt | . | . | . |
| | Lower-bound | . | . | . |
| Error (DataAttributeTypes*Dataset) | Sphericity Assumed | | | |
| | Greenhouse-Geisser | | | |
| | Huynh-Feldt | | | |
| | Lower-bound | | | |
| Visualization * DataAttributeTypes * Dataset | Sphericity Assumed | .171 | .080 | 11.817 |
| | Greenhouse-Geisser | .219 | .080 | 5.861 |
| | Huynh-Feldt | .202 | .080 | 7.868 |
| | Lower-bound | .241 | .080 | 1.477 |
| Error (Visualization*DataAttributeTypes*Dataset) | Sphericity Assumed | | | |
| | Greenhouse-Geisser | | | |
| | Huynh-Feldt | | | |
| | Lower-bound | | | |

## Tests of Within-Subjects Effects

Measure: MEASURE_1

| Source | | Observed Power[a] |
|---|---|---|
| | Huynh-Feldt | .794 |
| | Lower-bound | .314 |
| Error (Visualization*DataAttributeTypes) | Sphericity Assumed | |
| | Greenhouse-Geisser | |
| | Huynh-Feldt | |
| | Lower-bound | |
| Visualization * Dataset | Sphericity Assumed | .288 |
| | Greenhouse-Geisser | .242 |
| | Huynh-Feldt | .269 |
| | Lower-bound | .152 |
| Error(Visualization*Dataset) | Sphericity Assumed | |
| | Greenhouse-Geisser | |
| | Huynh-Feldt | |
| | Lower-bound | |
| DataAttributeTypes * Dataset | Sphericity Assumed | . |
| | Greenhouse-Geisser | . |
| | Huynh-Feldt | . |
| | Lower-bound | . |
| Error (DataAttributeTypes*Dataset) | Sphericity Assumed | |
| | Greenhouse-Geisser | |
| | Huynh-Feldt | |
| | Lower-bound | |
| Visualization * DataAttributeTypes * Dataset | Sphericity Assumed | .647 |
| | Greenhouse-Geisser | .433 |
| | Huynh-Feldt | .514 |
| | Lower-bound | .209 |
| Error (Visualization*DataAttributeTypes*Dataset) | Sphericity Assumed | |
| | Greenhouse-Geisser | |
| | Huynh-Feldt | |
| | Lower-bound | |

a. Computed using alpha = .05

## Tests of Within-Subjects Contrasts

Measure: MEASURE_1

| Source | Visualization | DataAttributeTypes | Dataset | Type III Sum of Squares | df |
|---|---|---|---|---|---|
| Visualization | Linear | | | .626 | 1 |
| | Quadratic | | | 325.929 | 1 |
| | Cubic | | | 7.837 | 1 |
| | Order 4 | | | 226.997 | 1 |
| Error(Visualization) | Linear | | | 66.607 | 17 |
| | Quadratic | | | 102.524 | 17 |
| | Cubic | | | 88.930 | 17 |
| | Order 4 | | | 57.884 | 17 |
| DataAttributeTypes | | Linear | | 2.842E-14 | 1 |
| | | Quadratic | | 2.842E-14 | 1 |
| Error(DataAttributeTypes) | | Linear | | .000 | 17 |
| | | Quadratic | | .000 | 17 |
| Dataset | | | Linear | 2.842E-14 | 1 |
| Error(Dataset) | | | Linear | .000 | 17 |
| Visualization * DataAttributeTypes | Linear | Linear | | .139 | 1 |
| | | Quadratic | | 1.157 | 1 |
| | Quadratic | Linear | | .194 | 1 |
| | | Quadratic | | 2.012 | 1 |
| | Cubic | Linear | | 1.701 | 1 |
| | | Quadratic | | 4.178 | 1 |
| | Order 4 | Linear | | .243 | 1 |
| | | Quadratic | | 2.264 | 1 |
| Error (Visualization*DataAttributeTypes) | Linear | Linear | | 13.761 | 17 |
| | | Quadratic | | 13.009 | 17 |
| | Quadratic | Linear | | 6.734 | 17 |
| | | Quadratic | | 4.393 | 17 |
| | Cubic | Linear | | 5.274 | 17 |
| | | Quadratic | | 6.280 | 17 |
| | Order 4 | Linear | | 13.953 | 17 |
| | | Quadratic | | 19.373 | 17 |
| Visualization * Dataset | Linear | | Linear | .726 | 1 |
| | Quadratic | | Linear | .095 | 1 |
| | Cubic | | Linear | .237 | 1 |
| | Order 4 | | Linear | .331 | 1 |

## Tests of Within-Subjects Contrasts

Measure: MEASURE_1

| Source | Visualization | DataAttributeTypes | Dataset | Mean Square | F |
|---|---|---|---|---|---|
| Visualization | Linear | | | .626 | .160 |
| | Quadratic | | | 325.929 | 54.044 |
| | Cubic | | | 7.837 | 1.498 |
| | Order 4 | | | 226.997 | 66.668 |
| Error(Visualization) | Linear | | | 3.918 | |
| | Quadratic | | | 6.031 | |
| | Cubic | | | 5.231 | |
| | Order 4 | | | 3.405 | |
| DataAttributeTypes | | Linear | | 2.842E-14 | . |
| | | Quadratic | | 2.842E-14 | . |
| Error(DataAttributeTypes) | | Linear | | .000 | |
| | | Quadratic | | .000 | |
| Dataset | | | Linear | 2.842E-14 | . |
| Error(Dataset) | | | Linear | .000 | |
| Visualization * DataAttributeTypes | Linear | Linear | | .139 | .172 |
| | | Quadratic | | 1.157 | 1.512 |
| | Quadratic | Linear | | .194 | .491 |
| | | Quadratic | | 2.012 | 7.786 |
| | Cubic | Linear | | 1.701 | 5.485 |
| | | Quadratic | | 4.178 | 11.310 |
| | Order 4 | Linear | | .243 | .296 |
| | | Quadratic | | 2.264 | 1.986 |
| Error (Visualization*DataAttributeTypes) | Linear | Linear | | .809 | |
| | | Quadratic | | .765 | |
| | Quadratic | Linear | | .396 | |
| | | Quadratic | | .258 | |
| | Cubic | Linear | | .310 | |
| | | Quadratic | | .369 | |
| | Order 4 | Linear | | .821 | |
| | | Quadratic | | 1.140 | |
| Visualization * Dataset | Linear | | Linear | .726 | 1.674 |
| | Quadratic | | Linear | .095 | .412 |
| | Cubic | | Linear | .237 | 1.008 |
| | Order 4 | | Linear | .331 | .604 |

## Tests of Within-Subjects Contrasts

Measure: MEASURE_1

| Source | Visualization | DataAttributeTypes | Dataset | Sig. | Partial Eta Squared |
|---|---|---|---|---|---|
| Visualization | Linear | | | .694 | .009 |
| | Quadratic | | | .000 | .761 |
| | Cubic | | | .238 | .081 |
| | Order 4 | | | .000 | .797 |
| Error(Visualization) | Linear | | | | |
| | Quadratic | | | | |
| | Cubic | | | | |
| | Order 4 | | | | |
| DataAttributeTypes | | Linear | | . | 1.000 |
| | | Quadratic | | . | 1.000 |
| Error(DataAttributeTypes) | | Linear | | | |
| | | Quadratic | | | |
| Dataset | | | Linear | . | 1.000 |
| Error(Dataset) | | | Linear | | |
| Visualization * DataAttributeTypes | Linear | Linear | | .684 | .010 |
| | | Quadratic | | .236 | .082 |
| | Quadratic | Linear | | .493 | .028 |
| | | Quadratic | | .013 | .314 |
| | Cubic | Linear | | .032 | .244 |
| | | Quadratic | | .004 | .400 |
| | Order 4 | Linear | | .593 | .017 |
| | | Quadratic | | .177 | .105 |
| Error (Visualization*DataAttributeTypes) | Linear | Linear | | | |
| | | Quadratic | | | |
| | Quadratic | Linear | | | |
| | | Quadratic | | | |
| | Cubic | Linear | | | |
| | | Quadratic | | | |
| | Order 4 | Linear | | | |
| | | Quadratic | | | |
| Visualization * Dataset | Linear | | Linear | .213 | .090 |
| | Quadratic | | Linear | .529 | .024 |
| | Cubic | | Linear | .329 | .056 |
| | Order 4 | | Linear | .448 | .034 |

## Tests of Within-Subjects Contrasts

Measure: MEASURE_1

| Source | Visualization | DataAttributeTypes | Dataset | Noncent. Parameter |
|---|---|---|---|---|
| Visualization | Linear | | | .160 |
| | Quadratic | | | 54.044 |
| | Cubic | | | 1.498 |
| | Order 4 | | | 66.668 |
| Error(Visualization) | Linear | | | |
| | Quadratic | | | |
| | Cubic | | | |
| | Order 4 | | | |
| DataAttributeTypes | | Linear | | . |
| | | Quadratic | | . |
| Error(DataAttributeTypes) | | Linear | | |
| | | Quadratic | | |
| Dataset | | | Linear | . |
| Error(Dataset) | | | Linear | |
| Visualization * DataAttributeTypes | Linear | Linear | | .172 |
| | | Quadratic | | 1.512 |
| | Quadratic | Linear | | .491 |
| | | Quadratic | | 7.786 |
| | Cubic | Linear | | 5.485 |
| | | Quadratic | | 11.310 |
| | Order 4 | Linear | | .296 |
| | | Quadratic | | 1.986 |
| Error (Visualization*DataAttributeTypes) | Linear | Linear | | |
| | | Quadratic | | |
| | Quadratic | Linear | | |
| | | Quadratic | | |
| | Cubic | Linear | | |
| | | Quadratic | | |
| | Order 4 | Linear | | |
| | | Quadratic | | |
| Visualization * Dataset | Linear | | Linear | 1.674 |
| | Quadratic | | Linear | .412 |
| | Cubic | | Linear | 1.008 |
| | Order 4 | | Linear | .604 |

## Tests of Within-Subjects Contrasts

Measure: MEASURE_1

| Source | Visualization | DataAttributeTypes | Dataset | Observed Power[a] |
|---|---|---|---|---|
| Visualization | Linear | | | .066 |
| | Quadratic | | | 1.000 |
| | Cubic | | | .212 |
| | Order 4 | | | 1.000 |
| Error(Visualization) | Linear | | | |
| | Quadratic | | | |
| | Cubic | | | |
| | Order 4 | | | |
| DataAttributeTypes | | Linear | | . |
| | | Quadratic | | . |
| Error(DataAttributeTypes) | | Linear | | |
| | | Quadratic | | |
| Dataset | | | Linear | . |
| Error(Dataset) | | | Linear | |
| Visualization * DataAttributeTypes | Linear | Linear | | .068 |
| | | Quadratic | | .213 |
| | Quadratic | Linear | | .101 |
| | | Quadratic | | .749 |
| | Cubic | Linear | | .598 |
| | | Quadratic | | .886 |
| | Order 4 | Linear | | .081 |
| | | Quadratic | | .265 |
| Error (Visualization*DataAttributeTypes) | Linear | Linear | | |
| | | Quadratic | | |
| | Quadratic | Linear | | |
| | | Quadratic | | |
| | Cubic | Linear | | |
| | | Quadratic | | |
| | Order 4 | Linear | | |
| | | Quadratic | | |
| Visualization * Dataset | Linear | | Linear | .231 |
| | Quadratic | | Linear | .093 |
| | Cubic | | Linear | .158 |
| | Order 4 | | Linear | .114 |

## Tests of Within-Subjects Contrasts

Measure: MEASURE_1

| Source | Visualization | DataAttributeTypes | Dataset | Type III Sum of Squares | df |
|---|---|---|---|---|---|
| Error(Visualization*Dataset) | Linear | | Linear | 7.374 | 17 |
| | Quadratic | | Linear | 3.929 | 17 |
| | Cubic | | Linear | 3.996 | 17 |
| | Order 4 | | Linear | 9.312 | 17 |
| DataAttributeTypes * Dataset | | Linear | Linear | 2.842E-14 | 1 |
| | | Quadratic | Linear | .000 | 1 |
| Error (DataAttributeTypes*Dataset) | | Linear | Linear | .000 | 17 |
| | | Quadratic | Linear | .000 | 17 |
| Visualization * DataAttributeTypes * Dataset | Linear | Linear | Linear | 1.800 | 1 |
| | | Quadratic | Linear | .896 | 1 |
| | Quadratic | Linear | Linear | .778 | 1 |
| | | Quadratic | Linear | 1.714 | 1 |
| | Cubic | Linear | Linear | .013 | 1 |
| | | Quadratic | Linear | .634 | 1 |
| | Order 4 | Linear | Linear | .243 | 1 |
| | | Quadratic | Linear | .478 | 1 |
| Error (Visualization*DataAttributeTypes*Dataset) | Linear | Linear | Linear | 9.600 | 17 |
| | | Quadratic | Linear | 12.104 | 17 |
| | Quadratic | Linear | Linear | 11.794 | 17 |
| | | Quadratic | Linear | 14.905 | 17 |
| | Cubic | Linear | Linear | 1.963 | 17 |
| | | Quadratic | Linear | 11.158 | 17 |
| | Order 4 | Linear | Linear | 6.811 | 17 |
| | | Quadratic | Linear | 7.111 | 17 |

## Tests of Within-Subjects Contrasts

Measure: MEASURE_1

| Source | Visualization | DataAttributeTypes | Dataset | Mean Square | F |
|---|---|---|---|---|---|
| Error(Visualization*Dataset) | Linear | | Linear | .434 | |
| | Quadratic | | Linear | .231 | |
| | Cubic | | Linear | .235 | |
| | Order 4 | | Linear | .548 | |
| DataAttributeTypes * Dataset | | Linear | Linear | 2.842E-14 | . |
| | | Quadratic | Linear | .000 | . |
| Error (DataAttributeTypes*Dataset) | | Linear | Linear | .000 | |
| | | Quadratic | Linear | .000 | |
| Visualization * DataAttributeTypes * Dataset | Linear | Linear | Linear | 1.800 | 3.188 |
| | | Quadratic | Linear | .896 | 1.259 |
| | Quadratic | Linear | Linear | .778 | 1.121 |
| | | Quadratic | Linear | 1.714 | 1.955 |
| | Cubic | Linear | Linear | .013 | .108 |
| | | Quadratic | Linear | .634 | .966 |
| | Order 4 | Linear | Linear | .243 | .607 |
| | | Quadratic | Linear | .478 | 1.142 |
| Error (Visualization*DataAttributeTypes*Dataset) | Linear | Linear | Linear | .565 | |
| | | Quadratic | Linear | .712 | |
| | Quadratic | Linear | Linear | .694 | |
| | | Quadratic | Linear | .877 | |
| | Cubic | Linear | Linear | .115 | |
| | | Quadratic | Linear | .656 | |
| | Order 4 | Linear | Linear | .401 | |
| | | Quadratic | Linear | .418 | |

## Tests of Within-Subjects Contrasts

Measure: MEASURE_1

| Source | Visualization | DataAttributeTypes | Dataset | Sig. | Partial Eta Squared |
|---|---|---|---|---|---|
| Error(Visualization*Dataset) | Linear | | Linear | | |
| | Quadratic | | Linear | | |
| | Cubic | | Linear | | |
| | Order 4 | | Linear | | |
| DataAttributeTypes * Dataset | | Linear | Linear | . | 1.000 |
| | | Quadratic | Linear | . | . |
| Error (DataAttributeTypes*Dataset) | | Linear | Linear | | |
| | | Quadratic | Linear | | |
| Visualization * DataAttributeTypes * Dataset | Linear | Linear | Linear | .092 | .158 |
| | | Quadratic | Linear | .277 | .069 |
| | Quadratic | Linear | Linear | .304 | .062 |
| | | Quadratic | Linear | .180 | .103 |
| | Cubic | Linear | Linear | .746 | .006 |
| | | Quadratic | Linear | .340 | .054 |
| | Order 4 | Linear | Linear | .447 | .034 |
| | | Quadratic | Linear | .300 | .063 |
| Error (Visualization*DataAttributeTypes*Dataset) | Linear | Linear | Linear | | |
| | | Quadratic | Linear | | |
| | Quadratic | Linear | Linear | | |
| | | Quadratic | Linear | | |
| | Cubic | Linear | Linear | | |
| | | Quadratic | Linear | | |
| | Order 4 | Linear | Linear | | |
| | | Quadratic | Linear | | |

## Tests of Within-Subjects Contrasts

Measure: MEASURE_1

| Source | Visualization | DataAttributeTypes | Dataset | Noncent. Parameter |
|---|---|---|---|---|
| Error(Visualization*Dataset) | Linear | | Linear | |
| | Quadratic | | Linear | |
| | Cubic | | Linear | |
| | Order 4 | | Linear | |
| DataAttributeTypes * Dataset | | Linear | Linear | . |
| | | Quadratic | Linear | . |
| Error (DataAttributeTypes*Dataset) | | Linear | Linear | |
| | | Quadratic | Linear | |
| Visualization * DataAttributeTypes * Dataset | Linear | Linear | Linear | 3.188 |
| | | Quadratic | Linear | 1.259 |
| | Quadratic | Linear | Linear | 1.121 |
| | | Quadratic | Linear | 1.955 |
| | Cubic | Linear | Linear | .108 |
| | | Quadratic | Linear | .966 |
| | Order 4 | Linear | Linear | .607 |
| | | Quadratic | Linear | 1.142 |
| Error (Visualization*DataAttributeTypes*Dataset) | Linear | Linear | Linear | |
| | | Quadratic | Linear | |
| | Quadratic | Linear | Linear | |
| | | Quadratic | Linear | |
| | Cubic | Linear | Linear | |
| | | Quadratic | Linear | |
| | Order 4 | Linear | Linear | |
| | | Quadratic | Linear | |

## Tests of Within-Subjects Contrasts

Measure: MEASURE_1

| Source | Visualization | DataAttributeTypes | Dataset | Observed Power[a] |
|---|---|---|---|---|
| Error(Visualization*Dataset) | Linear | | Linear | |
| | Quadratic | | Linear | |
| | Cubic | | Linear | |
| | Order 4 | | Linear | |
| DataAttributeTypes * Dataset | | Linear | Linear | . |
| | | Quadratic | Linear | . |
| Error (DataAttributeTypes*Dataset) | | Linear | Linear | |
| | | Quadratic | Linear | |
| Visualization * DataAttributeTypes * Dataset | Linear | Linear | Linear | .392 |
| | | Quadratic | Linear | .185 |
| | Quadratic | Linear | Linear | .170 |
| | | Quadratic | Linear | .262 |
| | Cubic | Linear | Linear | .061 |
| | | Quadratic | Linear | .153 |
| | Order 4 | Linear | Linear | .114 |
| | | Quadratic | Linear | .172 |
| Error (Visualization*DataAttributeTypes*Dataset) | Linear | Linear | Linear | |
| | | Quadratic | Linear | |
| | Quadratic | Linear | Linear | |
| | | Quadratic | Linear | |
| | Cubic | Linear | Linear | |
| | | Quadratic | Linear | |
| | Order 4 | Linear | Linear | |
| | | Quadratic | Linear | |

a. Computed using alpha = .05

### Tests of Between-Subjects Effects

Measure: MEASURE_1

Transformed Variable: Average

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
|---|---|---|---|---|---|---|
| Intercept | 4860.000 | 1 | 4860.000 | . | . | 1.000 |
| Error | .000 | 17 | .000 | | | |

### Tests of Between-Subjects Effects

Measure: MEASURE_1

Transformed Variable: Average

| Source | Noncent. Parameter | Observed Power[a] |
|---|---|---|
| Intercept | . | . |
| Error | | |

a. Computed using alpha = .05

## Estimated Marginal Means

### 1. Grand Mean

Measure: MEASURE_1

| | | 95% Confidence Interval | |
|---|---|---|---|
| Mean | Std. Error | Lower Bound | Upper Bound |
| 3.000 | .000 | 3.000 | 3.000 |

## 2. Visualization

### Estimates

Measure: MEASURE_1

| | | | 95% Confidence Interval | |
|---|---|---|---|---|
| Visualization | Mean | Std. Error | Lower Bound | Upper Bound |
| 1 | 1.861 | .141 | 1.564 | 2.158 |
| 2 | 4.352 | .154 | 4.027 | 4.677 |
| 3 | 2.889 | .202 | 2.462 | 3.315 |
| 4 | 3.963 | .171 | 3.602 | 4.324 |
| 5 | 1.935 | .241 | 1.426 | 2.445 |

## Pairwise Comparisons

Measure: MEASURE_1

| (I) Visualization | (J) Visualization | Mean Difference (I-J) | Std. Error | Sig.[b] | 95% Confidence [b]... Lower Bound |
|---|---|---|---|---|---|
| 1 | 2 | -2.491* | .256 | .000 | -3.315 |
| | 3 | -1.028* | .265 | .012 | -1.883 |
| | 4 | -2.102* | .197 | .000 | -2.737 |
| | 5 | -.074 | .311 | 1.000 | -1.075 |
| 2 | 1 | 2.491* | .256 | .000 | 1.666 |
| | 3 | 1.463* | .241 | .000 | .687 |
| | 4 | .389 | .270 | 1.000 | -.482 |
| | 5 | 2.417* | .307 | .000 | 1.426 |
| 3 | 1 | 1.028* | .265 | .012 | .172 |
| | 2 | -1.463* | .241 | .000 | -2.239 |
| | 4 | -1.074* | .302 | .024 | -2.046 |
| | 5 | .954 | .396 | .277 | -.322 |
| 4 | 1 | 2.102* | .197 | .000 | 1.466 |
| | 2 | -.389 | .270 | 1.000 | -1.259 |
| | 3 | 1.074* | .302 | .024 | .102 |
| | 5 | 2.028* | .340 | .000 | .931 |
| 5 | 1 | .074 | .311 | 1.000 | -.927 |
| | 2 | -2.417* | .307 | .000 | -3.407 |
| | 3 | -.954 | .396 | .277 | -2.230 |
| | 4 | -2.028* | .340 | .000 | -3.125 |

## Pairwise Comparisons

Measure: MEASURE_1

| (I) Visualization | (J) Visualization | 95% Confidence Interval for [b]... Upper Bound |
|---|---|---|
| 1 | 2 | -1.666 |
| | 3 | -.172 |
| | 4 | -1.466 |
| | 5 | .927 |
| 2 | 1 | 3.315 |
| | 3 | 2.239 |
| | 4 | 1.259 |
| | 5 | 3.407 |
| 3 | 1 | 1.883 |
| | 2 | -.687 |
| | 4 | -.102 |
| | 5 | 2.230 |
| 4 | 1 | 2.737 |
| | 2 | .482 |
| | 3 | 2.046 |
| | 5 | 3.125 |
| 5 | 1 | 1.075 |
| | 2 | -1.426 |
| | 3 | .322 |
| | 4 | -.931 |

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. | Partial Eta Squared |
|---|---|---|---|---|---|---|
| Pillai's trace | .918 | 39.289[a] | 4.000 | 14.000 | .000 | .918 |
| Wilks' lambda | .082 | 39.289[a] | 4.000 | 14.000 | .000 | .918 |
| Hotelling's trace | 11.225 | 39.289[a] | 4.000 | 14.000 | .000 | .918 |
| Roy's largest root | 11.225 | 39.289[a] | 4.000 | 14.000 | .000 | .918 |

**Multivariate Tests**

| | Noncent. Parameter | Observed Power[b] |
|---|---|---|
| Pillai's trace | 157.156 | 1.000 |
| Wilks' lambda | 157.156 | 1.000 |
| Hotelling's trace | 157.156 | 1.000 |
| Roy's largest root | 157.156 | 1.000 |

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

a. Exact statistic

b. Computed using alpha = .05

## 3. DataAttributeTypes

**Estimates**

Measure: MEASURE_1

| | | | 95% Confidence Interval | |
|---|---|---|---|---|
| DataAttributeTypes | Mean | Std. Error | Lower Bound | Upper Bound |
| 1 | 3.000 | .000 | 3.000 | 3.000 |
| 2 | 3.000 | .000 | 3.000 | 3.000 |
| 3 | 3.000 | .000 | 3.000 | 3.000 |

## Pairwise Comparisons

Measure: MEASURE_1

| (I) DataAttributeTypes | (J) DataAttributeTypes | Mean Difference (I-J) | Std. Error | Sig.[a] | 95% Confidence [a]... Lower Bound |
|---|---|---|---|---|---|
| 1 | 2 | -1.110E-16 | .000 | . | -1.110E-16 |
| | 3 | .000 | .000 | . | .000 |
| 2 | 1 | 1.110E-16 | .000 | . | 1.110E-16 |
| | 3 | 1.110E-16 | .000 | . | 1.110E-16 |
| 3 | 1 | .000 | .000 | . | .000 |
| | 2 | -1.110E-16 | .000 | . | -1.110E-16 |

## Pairwise Comparisons

Measure: MEASURE_1

| (I) DataAttributeTypes | (J) DataAttributeTypes | 95% Confidence Interval for [a]... Upper Bound |
|---|---|---|
| 1 | 2 | -1.110E-16 |
| | 3 | .000 |
| 2 | 1 | 1.110E-16 |
| | 3 | 1.110E-16 |
| 3 | 1 | .000 |
| | 2 | -1.110E-16 |

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

## Multivariate Tests

| | Value | F | Hypothesis df | Error df | Sig. | Partial Eta Squared |
|---|---|---|---|---|---|---|
| Pillai's trace | . | .[a] | . | . | . | . |
| Wilks' lambda | . | .[a] | . | . | . | . |
| Hotelling's trace | . | .[a] | . | . | . | . |
| Roy's largest root | . | .[a] | . | . | . | . |

## Multivariate Tests

| | Noncent. Parameter | Observed Power[b] |
|---|---|---|
| Pillai's trace | . | . |
| Wilks' lambda | . | . |
| Hotelling's trace | . | . |
| Roy's largest root | . | . |

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

a. Exact statistic

b. Computed using alpha = .05

## 4. Visualization * DataAttributeTypes

Measure: MEASURE_1

| Visualization | DataAttributeTypes | Mean | Std. Error | 95% Confidence Interval | |
|---|---|---|---|---|---|
| | | | | Lower Bound | Upper Bound |
| 1 | 1 | 1.861 | .171 | 1.501 | 2.221 |
| | 2 | 1.778 | .141 | 1.480 | 2.076 |
| | 3 | 1.944 | .171 | 1.584 | 2.305 |
| 2 | 1 | 4.583 | .123 | 4.324 | 4.843 |
| | 2 | 4.083 | .191 | 3.681 | 4.486 |
| | 3 | 4.389 | .196 | 3.975 | 4.803 |
| 3 | 1 | 2.833 | .243 | 2.322 | 3.345 |
| | 2 | 3.139 | .224 | 2.666 | 3.612 |
| | 3 | 2.694 | .240 | 2.189 | 3.200 |
| 4 | 1 | 3.750 | .195 | 3.339 | 4.161 |
| | 2 | 4.139 | .189 | 3.741 | 4.537 |
| | 3 | 4.000 | .206 | 3.565 | 4.435 |
| 5 | 1 | 1.972 | .234 | 1.479 | 2.466 |
| | 2 | 1.861 | .252 | 1.330 | 2.392 |
| | 3 | 1.972 | .287 | 1.366 | 2.578 |