```
 Your temporary usage period for IBM SPSS Statistics will expire in 10 days.

Your  license will expire in 10 days.
GET
  FILE='C:\Users\Bahador\Desktop\Analysis\Order\Order_Ranking.sav'.
DATASET NAME DataSet1 WINDOW=FRONT.
GLM Bar_Nom_Num_Car Bar_Nom_Num_Movie Bar_Num_Num_Car Bar_Num_Num_Movie Bar_Or
d_Num_Car
    Bar_Ord_Num_Movie Line_Nom_Num_Car Line_Nom_Num_Movie Line_Num_Num_Car Lin
e_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 Sc
atter_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_Movi
e Table_Ord_Num_Car
    Table_Ord_Num_Movie
  /WSFACTOR=Visualization 5 Polynomial DataAttributeTypes 3 Polynomial Dataset
s 2 Polynomial
  /METHOD=SSTYPE(3)
  /EMMEANS=TABLES(OVERALL)
  /EMMEANS=TABLES(Visualization) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(Visualization*DataAttributeTypes)
  /PRINT=DESCRIPTIVE ETASQ OPOWER HOMOGENEITY
  /CRITERIA=ALPHA(.05)
  /WSDESIGN=Visualization DataAttributeTypes Datasets Visualization*DataAttrib
uteTypes
    Visualization*Datasets DataAttributeTypes*Datasets Visualization*DataAttri
buteTypes*Datasets.
```

General Linear Model

Notes

Output Created		07-SEP-2016 13:01:54
Comments		
Input	Data	C:\Users\Bahador\Desktop\Analysis\Order\Order_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 /WSFACTOR=Visualization 5 Polynomial DataAttributeTypes 3 Polynomial Datasets 2 Polynomial /METHOD=SSTYPE(3) /EMMEANS=TABLES (OVERALL) /EMMEANS=TABLES (Visualization) COMPARE ADJ(BONFERRONI) /EMMEANS=TABLES (Visualization*DataAttributeTypes) /PRINT=DESCRIPTIVE ETASQ OPOWER HOMOGENEITY /CRITERIA=ALPHA(.05) /WSDESIGN=Visualization DataAttributeTypes Datasets Visualization*DataAttributeTypes Visualization*Datasets DataAttributeTypes*Datasets Visualization*DataAttributeTypes*Datasets.

Notes

Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.02

[DataSet1] C:\Users\Bahador\Desktop\Analysis\Order\Order_Ranking.sav

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	Datasets	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	Datasets	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	2.1667	1.38267	18
Bar_Nom_Num_Movie	1.7778	1.00326	18
Bar_Num_Num_Car	1.5000	.70711	18
Bar_Num_Num_Movie	1.4444	.61570	18
Bar_Ord_Num_Car	2.0556	1.43372	18
Bar_Ord_Num_Movie	1.7778	1.30859	18
Line_Nom_Num_Car	3.3889	1.24328	18
Line_Nom_Num_Movie	3.2222	1.16597	18
Line_Num_Num_Car	2.8889	1.02262	18
Line_Num_Num_Movie	3.1667	.78591	18
Line_Ord_Num_Car	3.5556	1.04162	18
Line_Ord_Num_Movie	3.4444	.85559	18
Pie_Nom_Num_Car	3.7778	1.39560	18
Pie_Nom_Num_Movie	4.3333	.90749	18
Pie_Num_Num_Car	4.1667	1.24853	18
Pie_Num_Num_Movie	4.0556	1.47418	18
Pie_Ord_Num_Car	4.0000	1.37199	18
Pie_Ord_Num_Movie	4.0556	1.34917	18
Scatter_Nom_Num_Car	3.1111	1.32349	18
Scatter_Nom_Num_Movie	3.2222	1.16597	18
Scatter_Num_Num_Car	3.8333	1.09813	18
Scatter_Num_Num_Movie	3.6111	1.03690	18
Scatter_Ord_Num_Car	2.9444	.93760	18
Scatter_Ord_Num_Movie	2.8889	1.07861	18
Table_Nom_Num_Car	2.5556	1.29352	18
Table_Nom_Num_Movie	2.4444	1.46417	18
Table_Num_Num_Car	2.6111	1.24328	18
Table_Num_Num_Movie	2.7222	1.44733	18
Table_Ord_Num_Car	2.4444	1.42343	18
Table_Ord_Num_Movie	2.8333	1.46528	18

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df
Visualization	Pillai's Trace	.818	15.722[b]	4.000	14.000
	Wilks' Lambda	.182	15.722[b]	4.000	14.000
	Hotelling's Trace	4.492	15.722[b]	4.000	14.000
	Roy's Largest Root	4.492	15.722[b]	4.000	14.000
DataAttributeTypes	Pillai's Trace	.	.[b]	.	.
	Wilks' Lambda	.	.[b]	.	.
	Hotelling's Trace	.	.[b]	.	.
	Roy's Largest Root	.	.[b]	.	.
Datasets	Pillai's Trace	.	.[b]	.	.
	Wilks' Lambda	.	.[b]	.	.
	Hotelling's Trace	.	.[b]	.	.
	Roy's Largest Root	.	.[b]	.	.
Visualization * DataAttributeTypes	Pillai's Trace	.716	3.153[b]	8.000	10.000
	Wilks' Lambda	.284	3.153[b]	8.000	10.000
	Hotelling's Trace	2.522	3.153[b]	8.000	10.000
	Roy's Largest Root	2.522	3.153[b]	8.000	10.000
Visualization * Datasets	Pillai's Trace	.361	1.980[b]	4.000	14.000
	Wilks' Lambda	.639	1.980[b]	4.000	14.000
	Hotelling's Trace	.566	1.980[b]	4.000	14.000
	Roy's Largest Root	.566	1.980[b]	4.000	14.000
DataAttributeTypes * Datasets	Pillai's Trace	.	.[b]	.	.
	Wilks' Lambda	.	.[b]	.	.
	Hotelling's Trace	.	.[b]	.	.
	Roy's Largest Root	.	.[b]	.	.
Visualization * DataAttributeTypes * Datasets	Pillai's Trace	.540	1.469[b]	8.000	10.000
	Wilks' Lambda	.460	1.469[b]	8.000	10.000
	Hotelling's Trace	1.175	1.469[b]	8.000	10.000
	Roy's Largest Root	1.175	1.469[b]	8.000	10.000

Multivariate Tests[a]

Effect		Sig.	Partial Eta Squared	Noncent. Parameter
Visualization	Pillai's Trace	.000	.818	62.886
	Wilks' Lambda	.000	.818	62.886
	Hotelling's Trace	.000	.818	62.886
	Roy's Largest Root	.000	.818	62.886
DataAttributeTypes	Pillai's Trace	.	.	.
	Wilks' Lambda	.	.	.
	Hotelling's Trace	.	.	.
	Roy's Largest Root	.	.	.
Datasets	Pillai's Trace	.	.	.
	Wilks' Lambda	.	.	.
	Hotelling's Trace	.	.	.
	Roy's Largest Root	.	.	.
Visualization * DataAttributeTypes	Pillai's Trace	.046	.716	25.223
	Wilks' Lambda	.046	.716	25.223
	Hotelling's Trace	.046	.716	25.223
	Roy's Largest Root	.046	.716	25.223
Visualization * Datasets	Pillai's Trace	.153	.361	7.918
	Wilks' Lambda	.153	.361	7.918
	Hotelling's Trace	.153	.361	7.918
	Roy's Largest Root	.153	.361	7.918
DataAttributeTypes * Datasets	Pillai's Trace	.	.	.
	Wilks' Lambda	.	.	.
	Hotelling's Trace	.	.	.
	Roy's Largest Root	.	.	.
Visualization * DataAttributeTypes * Datasets	Pillai's Trace	.279	.540	11.753
	Wilks' Lambda	.279	.540	11.753
	Hotelling's Trace	.279	.540	11.753
	Roy's Largest Root	.279	.540	11.753

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	.
Datasets	Pillai's Trace	.
	Wilks' Lambda	.
	Hotelling's Trace	.
	Roy's Largest Root	.
Visualization * DataAttributeTypes	Pillai's Trace	.726
	Wilks' Lambda	.726
	Hotelling's Trace	.726
	Roy's Largest Root	.726
Visualization * Datasets	Pillai's Trace	.451
	Wilks' Lambda	.451
	Hotelling's Trace	.451
	Roy's Largest Root	.451
DataAttributeTypes * Datasets	Pillai's Trace	.
	Wilks' Lambda	.
	Hotelling's Trace	.
	Roy's Largest Root	.
Visualization * DataAttributeTypes * Datasets	Pillai's Trace	.372
	Wilks' Lambda	.372
	Hotelling's Trace	.372
	Roy's Largest Root	.372

a. Design: Intercept
Within Subjects Design: Visualization + DataAttributeTypes + Datasets + Visualization * DataAttributeTypes + Visualization * Datasets + DataAttributeTypes * Datasets + 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	.451	12.283	9	.200	.761
DataAttributeTypes	.	.	2	.	.
Datasets	.	.	0	.	.
Visualization * DataAttributeTypes	.009	66.130	35	.002	.547
Visualization * Datasets	.288	19.183	9	.024	.679
DataAttributeTypes * Datasets	.	.	2	.	.
Visualization * DataAttributeTypes * Datasets	.007	69.322	35	.001	.482

Mauchly's Test of Sphericity[a]

Measure: MEASURE_1

Within Subjects Effect	Epsilon[b] Huynh-Feldt	Lower-bound
Visualization	.946	.250
DataAttributeTypes	.	.500
Datasets	.	1.000
Visualization * DataAttributeTypes	.760	.125
Visualization * Datasets	.820	.250
DataAttributeTypes * Datasets	.	.500
Visualization * DataAttributeTypes * Datasets	.641	.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 + Datasets + Visualization * DataAttributeTypes + Visualization * Datasets + DataAttributeTypes * Datasets + 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	314.593	4	78.648	11.848
	Greenhouse-Geisser	314.593	3.045	103.303	11.848
	Huynh-Feldt	314.593	3.785	83.119	11.848
	Lower-bound	314.593	1.000	314.593	11.848
Error(Visualization)	Sphericity Assumed	451.407	68	6.638	
	Greenhouse-Geisser	451.407	51.771	8.719	
	Huynh-Feldt	451.407	64.342	7.016	
	Lower-bound	451.407	17.000	26.553	
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	
Datasets	Sphericity Assumed	.000	1	.000	.
	Greenhouse-Geisser	.000	.	.	.
	Huynh-Feldt	.000	.	.	.
	Lower-bound	.000	1.000	.000	.
Error(Datasets)	Sphericity Assumed	.000	17	.000	
	Greenhouse-Geisser	.000	.	.	
	Huynh-Feldt	.000	.	.	
	Lower-bound	.000	17.000	.000	
Visualization * DataAttributeTypes	Sphericity Assumed	22.407	8	2.801	3.185
	Greenhouse-Geisser	22.407	4.376	5.121	3.185

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Sig.	Partial Eta Squared	Noncent. Parameter
Visualization	Sphericity Assumed	.000	.411	47.390
	Greenhouse-Geisser	.000	.411	36.080
	Huynh-Feldt	.000	.411	44.841
	Lower-bound	.003	.411	11.848
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			
Datasets	Sphericity Assumed	.	.	.
	Greenhouse-Geisser	.	.	.
	Huynh-Feldt	.	.	.
	Lower-bound	.	.	.
Error(Datasets)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
Visualization * DataAttributeTypes	Sphericity Assumed	.002	.158	25.482
	Greenhouse-Geisser	.015	.158	13.938

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Observed Power[a]
Visualization	Sphericity Assumed	1.000
	Greenhouse-Geisser	.999
	Huynh-Feldt	1.000
	Lower-bound	.900
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	
Datasets	Sphericity Assumed	.
	Greenhouse-Geisser	.
	Huynh-Feldt	.
	Lower-bound	.
Error(Datasets)	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	
Visualization * DataAttributeTypes	Sphericity Assumed	.962
	Greenhouse-Geisser	.826

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F
	Huynh-Feldt	22.407	6.081	3.685	3.185
	Lower-bound	22.407	1.000	22.407	3.185
Error (Visualization*DataAttributeTypes)	Sphericity Assumed	119.593	136	.879	
	Greenhouse-Geisser	119.593	74.391	1.608	
	Huynh-Feldt	119.593	103.377	1.157	
	Lower-bound	119.593	17.000	7.035	
Visualization * Datasets	Sphericity Assumed	2.852	4	.713	.936
	Greenhouse-Geisser	2.852	2.715	1.051	.936
	Huynh-Feldt	2.852	3.280	.869	.936
	Lower-bound	2.852	1.000	2.852	.936
Error (Visualization*Datasets)	Sphericity Assumed	51.815	68	.762	
	Greenhouse-Geisser	51.815	46.147	1.123	
	Huynh-Feldt	51.815	55.766	.929	
	Lower-bound	51.815	17.000	3.048	
DataAttributeTypes * Datasets	Sphericity Assumed	.000	2	.000	.
	Greenhouse-Geisser	.000	.	.	.
	Huynh-Feldt	.000	.	.	.
	Lower-bound	.000	1.000	.000	.
Error (DataAttributeTypes*Datasets)	Sphericity Assumed	.000	34	.000	
	Greenhouse-Geisser	.000	.	.	
	Huynh-Feldt	.000	.	.	
	Lower-bound	.000	17.000	.000	
Visualization * DataAttributeTypes * Datasets	Sphericity Assumed	5.370	8	.671	.815
	Greenhouse-Geisser	5.370	3.855	1.393	.815
	Huynh-Feldt	5.370	5.126	1.048	.815
	Lower-bound	5.370	1.000	5.370	.815
Error (Visualization*DataAttributeTypes*Datasets)	Sphericity Assumed	111.963	136	.823	
	Greenhouse-Geisser	111.963	65.532	1.709	
	Huynh-Feldt	111.963	87.149	1.285	
	Lower-bound	111.963	17.000	6.586	

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Sig.	Partial Eta Squared	Noncent. Parameter
	Huynh-Feldt	.006	.158	19.369
	Lower-bound	.092	.158	3.185
Error (Visualization*DataAttributeTypes)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
Visualization * Datasets	Sphericity Assumed	.449	.052	3.743
	Greenhouse-Geisser	.424	.052	2.540
	Huynh-Feldt	.436	.052	3.069
	Lower-bound	.347	.052	.936
Error (Visualization*Datasets)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
DataAttributeTypes * Datasets	Sphericity Assumed	.	.	.
	Greenhouse-Geisser	.	.	.
	Huynh-Feldt	.	.	.
	Lower-bound	.	.	.
Error (DataAttributeTypes*Datasets)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
Visualization * DataAttributeTypes * Datasets	Sphericity Assumed	.590	.046	6.523
	Greenhouse-Geisser	.516	.046	3.143
	Huynh-Feldt	.544	.046	4.180
	Lower-bound	.379	.046	.815
Error (Visualization*DataAttributeTypes*Datasets)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Observed Power[a]
	Huynh-Feldt	.913
	Lower-bound	.391
Error (Visualization*DataAttributeTypes)	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	
Visualization * Datasets	Sphericity Assumed	.281
	Greenhouse-Geisser	.230
	Huynh-Feldt	.253
	Lower-bound	.150
Error (Visualization*Datasets)	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	
DataAttributeTypes * Datasets	Sphericity Assumed	.
	Greenhouse-Geisser	.
	Huynh-Feldt	.
	Lower-bound	.
Error (DataAttributeTypes*Datasets)	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	
Visualization * DataAttributeTypes * Datasets	Sphericity Assumed	.367
	Greenhouse-Geisser	.243
	Huynh-Feldt	.283
	Lower-bound	.137
Error (Visualization*DataAttributeTypes*Datasets)	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	

a. Computed using alpha = .05

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Datasets	Type III Sum of Squares	df
Visualization	Linear			28.356	1
	Quadratic			268.366	1
	Cubic			7.500	1
	Order 4			10.370	1
Error(Visualization)	Linear			88.594	17
	Quadratic			120.313	17
	Cubic			109.300	17
	Order 4			133.201	17
DataAttributeTypes		Linear		.000	1
		Quadratic		.000	1
Error(DataAttributeTypes)		Linear		.000	17
		Quadratic		.000	17
Datasets			Linear	.000	1
Error(Datasets)			Linear	.000	17
Visualization * DataAttributeTypes	Linear	Linear		.006	1
		Quadratic		11.557	1
	Quadratic	Linear		.099	1
		Quadratic		2.446	1
	Cubic	Linear		2.113	1
		Quadratic		5.704	1
	Order 4	Linear		.005	1
		Quadratic		.478	1
Error (Visualization*DataAttributeTypes)	Linear	Linear		25.644	17
		Quadratic		27.693	17
	Quadratic	Linear		8.937	17
		Quadratic		5.733	17
	Cubic	Linear		16.863	17
		Quadratic		8.421	17
	Order 4	Linear		11.334	17
		Quadratic		14.969	17
Visualization * Datasets	Linear		Linear	1.268	1
	Quadratic		Linear	.482	1
	Cubic		Linear	.626	1
	Order 4		Linear	.476	1

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Datasets	Mean Square	F
Visualization	Linear			28.356	5.441
	Quadratic			268.366	37.920
	Cubic			7.500	1.167
	Order 4			10.370	1.324
Error(Visualization)	Linear			5.211	
	Quadratic			7.077	
	Cubic			6.429	
	Order 4			7.835	
DataAttributeTypes		Linear		.000	.
		Quadratic		.000	.
Error(DataAttributeTypes)		Linear		.000	
		Quadratic		.000	
Datasets			Linear	.000	.
Error(Datasets)			Linear	.000	
Visualization * DataAttributeTypes	Linear	Linear		.006	.004
		Quadratic		11.557	7.095
	Quadratic	Linear		.099	.189
		Quadratic		2.446	7.253
	Cubic	Linear		2.113	2.130
		Quadratic		5.704	11.516
	Order 4	Linear		.005	.007
		Quadratic		.478	.543
Error (Visualization*DataAttributeTypes)	Linear	Linear		1.508	
		Quadratic		1.629	
	Quadratic	Linear		.526	
		Quadratic		.337	
	Cubic	Linear		.992	
		Quadratic		.495	
	Order 4	Linear		.667	
		Quadratic		.881	
Visualization * Datasets	Linear		Linear	1.268	1.803
	Quadratic		Linear	.482	.775
	Cubic		Linear	.626	.451
	Order 4		Linear	.476	1.417

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Datasets	Sig.	Partial Eta Squared
Visualization	Linear			.032	.242
	Quadratic			.000	.690
	Cubic			.295	.064
	Order 4			.266	.072
Error(Visualization)	Linear				
	Quadratic				
	Cubic				
	Order 4				
DataAttributeTypes		Linear		.	.
		Quadratic		.	.
Error(DataAttributeTypes)		Linear			
		Quadratic			
Datasets			Linear	.	.
Error(Datasets)			Linear		
Visualization * DataAttributeTypes	Linear	Linear		.952	.000
		Quadratic		.016	.294
	Quadratic	Linear		.669	.011
		Quadratic		.015	.299
	Cubic	Linear		.163	.111
		Quadratic		.003	.404
	Order 4	Linear		.932	.000
		Quadratic		.471	.031
Error (Visualization*DataAttributeTypes)	Linear	Linear			
		Quadratic			
	Quadratic	Linear			
		Quadratic			
	Cubic	Linear			
		Quadratic			
	Order 4	Linear			
		Quadratic			
Visualization * Datasets	Linear		Linear	.197	.096
	Quadratic		Linear	.391	.044
	Cubic		Linear	.511	.026
	Order 4		Linear	.250	.077

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Datasets	Noncent. Parameter
Visualization	Linear			5.441
	Quadratic			37.920
	Cubic			1.167
	Order 4			1.324
Error(Visualization)	Linear			
	Quadratic			
	Cubic			
	Order 4			
DataAttributeTypes		Linear		.
		Quadratic		.
Error(DataAttributeTypes)		Linear		
		Quadratic		
Datasets			Linear	.
Error(Datasets)			Linear	
Visualization * DataAttributeTypes	Linear	Linear		.004
		Quadratic		7.095
	Quadratic	Linear		.189
		Quadratic		7.253
	Cubic	Linear		2.130
		Quadratic		11.516
	Order 4	Linear		.007
		Quadratic		.543
Error (Visualization*DataAttributeTypes)	Linear	Linear		
		Quadratic		
	Quadratic	Linear		
		Quadratic		
	Cubic	Linear		
		Quadratic		
	Order 4	Linear		
		Quadratic		
Visualization * Datasets	Linear		Linear	1.803
	Quadratic		Linear	.775
	Cubic		Linear	.451
	Order 4		Linear	1.417

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Datasets	Observed Power[a]
Visualization	Linear			.595
	Quadratic			1.000
	Cubic			.175
	Order 4			.192
Error(Visualization)	Linear			
	Quadratic			
	Cubic			
	Order 4			
DataAttributeTypes		Linear		.
		Quadratic		.
Error(DataAttributeTypes)		Linear		
		Quadratic		
Datasets			Linear	.
Error(Datasets)			Linear	
Visualization * DataAttributeTypes	Linear	Linear		.050
		Quadratic		.709
	Quadratic	Linear		.070
		Quadratic		.719
	Cubic	Linear		.281
		Quadratic		.892
	Order 4	Linear		.051
		Quadratic		.107
Error (Visualization*DataAttributeTypes)	Linear	Linear		
		Quadratic		
	Quadratic	Linear		
		Quadratic		
	Cubic	Linear		
		Quadratic		
	Order 4	Linear		
		Quadratic		
Visualization * Datasets	Linear		Linear	.245
	Quadratic		Linear	.132
	Cubic		Linear	.097
	Order 4		Linear	.203

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Datasets	Type III Sum of Squares	df
Error (Visualization*Datasets)	Linear		Linear	11.949	17
	Quadratic		Linear	10.577	17
	Cubic		Linear	23.574	17
	Order 4		Linear	5.714	17
DataAttributeTypes * Datasets		Linear	Linear	.000	1
		Quadratic	Linear	2.842E-14	1
Error (DataAttributeTypes*Datasets)		Linear	Linear	.000	17
		Quadratic	Linear	.000	17
Visualization * DataAttributeTypes * Datasets	Linear	Linear	Linear	.139	1
		Quadratic	Linear	.980	1
	Quadratic	Linear	Linear	1.750	1
		Quadratic	Linear	.583	1
	Cubic	Linear	Linear	.313	1
		Quadratic	Linear	.634	1
	Order 4	Linear	Linear	.243	1
		Quadratic	Linear	.729	1
Error (Visualization*DataAttributeTypes*Datasets)	Linear	Linear	Linear	20.311	17
		Quadratic	Linear	19.204	17
	Quadratic	Linear	Linear	19.571	17
		Quadratic	Linear	10.643	17
	Cubic	Linear	Linear	13.863	17
		Quadratic	Linear	10.891	17
	Order 4	Linear	Linear	6.811	17
		Quadratic	Linear	10.670	17

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Datasets	Mean Square	F
Error (Visualization*Datasets)	Linear		Linear	.703	
	Quadratic		Linear	.622	
	Cubic		Linear	1.387	
	Order 4		Linear	.336	
DataAttributeTypes * Datasets		Linear	Linear	.000	.
		Quadratic	Linear	2.842E-14	.
Error (DataAttributeTypes*Datasets)		Linear	Linear	.000	
		Quadratic	Linear	.000	
Visualization * DataAttributeTypes * Datasets	Linear	Linear	Linear	.139	.116
		Quadratic	Linear	.980	.867
	Quadratic	Linear	Linear	1.750	1.520
		Quadratic	Linear	.583	.932
	Cubic	Linear	Linear	.313	.383
		Quadratic	Linear	.634	.989
	Order 4	Linear	Linear	.243	.607
		Quadratic	Linear	.729	1.162
Error (Visualization*DataAttributeTypes*Datasets)	Linear	Linear	Linear	1.195	
		Quadratic	Linear	1.130	
	Quadratic	Linear	Linear	1.151	
		Quadratic	Linear	.626	
	Cubic	Linear	Linear	.815	
		Quadratic	Linear	.641	
	Order 4	Linear	Linear	.401	
		Quadratic	Linear	.628	

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Datasets	Sig.	Partial Eta Squared
Error (Visualization*Datasets)	Linear		Linear		
	Quadratic		Linear		
	Cubic		Linear		
	Order 4		Linear		
DataAttributeTypes * Datasets		Linear	Linear	.	.
		Quadratic	Linear	.	1.000
Error (DataAttributeTypes*Datasets)		Linear	Linear		
		Quadratic	Linear		
Visualization * DataAttributeTypes * Datasets	Linear	Linear	Linear	.737	.007
		Quadratic	Linear	.365	.049
	Quadratic	Linear	Linear	.234	.082
		Quadratic	Linear	.348	.052
	Cubic	Linear	Linear	.544	.022
		Quadratic	Linear	.334	.055
	Order 4	Linear	Linear	.447	.034
		Quadratic	Linear	.296	.064
Error (Visualization*DataAttributeTypes*Datasets)	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	Datasets	Noncent. Parameter
Error (Visualization*Datasets)	Linear		Linear	
	Quadratic		Linear	
	Cubic		Linear	
	Order 4		Linear	
DataAttributeTypes * Datasets		Linear	Linear	.
		Quadratic	Linear	.
Error (DataAttributeTypes*Datasets)		Linear	Linear	
		Quadratic	Linear	
Visualization * DataAttributeTypes * Datasets	Linear	Linear	Linear	.116
		Quadratic	Linear	.867
	Quadratic	Linear	Linear	1.520
		Quadratic	Linear	.932
	Cubic	Linear	Linear	.383
		Quadratic	Linear	.989
	Order 4	Linear	Linear	.607
		Quadratic	Linear	1.162
Error (Visualization*DataAttributeTypes*Datasets)	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	Datasets	Observed Power[a]
Error (Visualization*Datasets)	Linear		Linear	
	Quadratic		Linear	
	Cubic		Linear	
	Order 4		Linear	
DataAttributeTypes * Datasets		Linear	Linear	.
		Quadratic	Linear	.
Error (DataAttributeTypes*Datasets)		Linear	Linear	
		Quadratic	Linear	
Visualization * DataAttributeTypes * Datasets	Linear	Linear	Linear	.062
		Quadratic	Linear	.142
	Quadratic	Linear	Linear	.214
		Quadratic	Linear	.149
	Cubic	Linear	Linear	.090
		Quadratic	Linear	.156
	Order 4	Linear	Linear	.114
		Quadratic	Linear	.175
Error (Visualization*DataAttributeTypes*Datasets)	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	1.787	.186	1.395	2.179
2	3.278	.167	2.925	3.631
3	4.065	.269	3.497	4.633
4	3.269	.208	2.830	3.707
5	2.602	.260	2.053	3.151

Pairwise Comparisons

Measure: MEASURE_1

(I) Visualization	(J) Visualization	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence [b]... Lower Bound
1	2	-1.491*	.293	.001	-2.434
	3	-2.278*	.385	.000	-3.518
	4	-1.481*	.219	.000	-2.188
	5	-.815	.369	.414	-2.005
2	1	1.491*	.293	.001	.548
	3	-.787	.319	.245	-1.814
	4	.009	.282	1.000	-.898
	5	.676	.345	.669	-.437
3	1	2.278*	.385	.000	1.037
	2	.787	.319	.245	-.240
	4	.796	.427	.793	-.579
	5	1.463*	.420	.028	.110
4	1	1.481*	.219	.000	.775
	2	-.009	.282	1.000	-.916
	3	-.796	.427	.793	-2.171
	5	.667	.391	1.000	-.593
5	1	.815	.369	.414	-.375
	2	-.676	.345	.669	-1.788
	3	-1.463*	.420	.028	-2.816
	4	-.667	.391	1.000	-1.926

Pairwise Comparisons

Measure: MEASURE_1

(I) Visualization	(J) Visualization	95% Confidence Interval for [b]... Upper Bound
1	2	-.548
	3	-1.037
	4	-.775
	5	.375
2	1	2.434
	3	.240
	4	.916
	5	1.788
3	1	3.518
	2	1.814
	4	2.171
	5	2.816
4	1	2.188
	2	.898
	3	.579
	5	1.926
5	1	2.005
	2	.437
	3	-.110
	4	.593

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	.818	15.722[a]	4.000	14.000	.000	.818
Wilks' lambda	.182	15.722[a]	4.000	14.000	.000	.818
Hotelling's trace	4.492	15.722[a]	4.000	14.000	.000	.818
Roy's largest root	4.492	15.722[a]	4.000	14.000	.000	.818

Multivariate Tests

	Noncent. Parameter	Observed Power[b]
Pillai's trace	62.886	1.000
Wilks' lambda	62.886	1.000
Hotelling's trace	62.886	1.000
Roy's largest root	62.886	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. Visualization * DataAttributeTypes

Measure: MEASURE_1

Visualization	DataAttributeTypes	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
1	1	1.972	.251	1.443	2.501
	2	1.472	.143	1.171	1.773
	3	1.917	.263	1.362	2.471
2	1	3.306	.203	2.878	3.733
	2	3.028	.196	2.615	3.441
	3	3.500	.202	3.074	3.926
3	1	4.056	.249	3.531	4.581
	2	4.111	.299	3.481	4.741
	3	4.028	.309	3.376	4.680
4	1	3.167	.262	2.614	3.719
	2	3.722	.226	3.246	4.199
	3	2.917	.211	2.471	3.362
5	1	2.500	.289	1.891	3.109
	2	2.667	.280	2.076	3.258
	3	2.639	.297	2.013	3.264