

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

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GET

FILE='C:\Users\Bahador\Desktop\Analysis\Range\Range_Ranking.sav'.

DATASET NAME DataSet1 WINDOW=FRONT.

GLM Bar_Num_Num_CarBar_Num_Num_MovieBar_Num_Num_CarBar_Num_Num_MovieBar_Ord_Num_Car

Bar_Ord_Num_MovieLine_Num_Num_CarLine_Num_Num_MovieLine_Num_Num_CarLine_Num_Num_Movie

Line_Ord_Num_CarLine_Ord_Num_MoviePie_Num_Num_CarPie_Num_Num_MoviePie_Num_Num_Car

Pie_Num_Num_MoviePie_Ord_Num_CarPie_Ord_Num_MovieScatter_Num_Num_CarScatter_Num_Num_Movie

Scatter_Num_Num_CarScatter_Num_Num_MovieScatter_Ord_Num_CarScatter_Ord_Num_Movie

Table_Num_Num_CarTable_Num_Num_MovieTable_Num_Num_CarTable_Num_Num_MovieTable_Ord_Num_Car

Table_Ord_Num_Movie

/WSFACTOR=Visualization5 PolynomialDataAttributeTypes3 PolynomialDataset s 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=VisualizationDataAttributeTypesDatasets Visualization*DataAttributeTypes

Visualization*Datasets DataAttributeTypes*Datasets Visualization*DataAttributeTypes*Datasets.

General Linear Model

Notes

Output Created		07-SEP-2016 13:09:23
Comments		
Input	Data	C: \Users\Bahador\Desktop\A nalysis\Range\Range_Ran king.sav
	Active Dataset	DataSet1
	Filter	<none>
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	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=Visualizatio
 n 5 Polynomial
 DataAttributeTypes 3
 Polynomial Datasets 2
 Polynomial
 /METHOD=SSTYPE(3)
 /EMMEANS=TABLES
 (OVERALL)
 /EMMEANS=TABLES
 (Visualization) COMPARE
 ADJ(BONFERRONI)
 /EMMEANS=TABLES
 (DataAttributeTypes)
 COMPARE ADJ
 (BONFERRONI)
 /EMMEANS=TABLES
 (Visualization*DataAttribut
 eTypes)
 /PRINT=DESCRIPTIVE
 ETASQ OPOWER
 HOMOGENEITY
 /CRITERIA=ALPHA(.05)

/WSDESIGN=Visualizatio
 n DataAttributeTypes
 Datasets
 Visualization*DataAttribute
 Types
 Visualization*Datasets
 DataAttributeTypes*Dat
 aTypes

Notes

Resources	Processor Time	00:00:00.05
	Elapsed Time	00:00:00.03

[DataSet1] C:\Users\Bahador\Desktop\Analysis\Range\Range_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_Nu m_Car
		2	Bar_Nom_Nu m_Movie
	2	1	Bar_Num_Nu m_Car
		2	Bar_Num_Nu m_Movie
	3	1	Bar_Ord_Nu m_Car
		2	Bar_Ord_Nu m_Movie
2	1	1	Line_Nom_Nu m_Car
		2	Line_Nom_Nu m_Movie
	2	1	Line_Num_Nu m_Car
		2	Line_Num_Nu m_Movie
	3	1	Line_Ord_Nu m_Car
		2	Line_Ord_Nu m_Movie
3	1	1	Pie_Nom_Nu m_Car
		2	Pie_Nom_Nu m_Movie

Within-Subjects Factors

Measure: MEASURE_1

Visualization	DataAttributeTypes	Datasets	Dependent Variable
	2	1	Pie_Num_Nu m_Car
		2	Pie_Num_Nu m_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_N um_Car
		2	Table_Ord_N um_Movie

Descriptive Statistics

	Mean	Std. Deviation	N
Bar_Nom_Num_Car	3.1111	.83235	18
Bar_Nom_Num_Movie	2.7778	1.11437	18
Bar_Num_Num_Car	2.8333	1.09813	18
Bar_Num_Num_Movie	2.7778	1.00326	18
Bar_Ord_Num_Car	2.5556	1.19913	18
Bar_Ord_Num_Movie	3.0000	1.13759	18
Line_Nom_Num_Car	3.2778	1.27443	18
Line_Nom_Num_Movie	3.1111	1.23140	18
Line_Num_Num_Car	2.9444	1.34917	18
Line_Num_Num_Movie	3.0556	1.43372	18
Line_Ord_Num_Car	3.1667	1.24853	18
Line_Ord_Num_Movie	3.0556	1.25895	18
Pie_Nom_Num_Car	2.9444	1.58938	18
Pie_Nom_Num_Movie	2.7778	1.35280	18
Pie_Num_Num_Car	2.8333	1.50489	18
Pie_Num_Num_Movie	3.0556	1.34917	18
Pie_Ord_Num_Car	2.9444	1.39209	18
Pie_Ord_Num_Movie	2.8333	1.50489	18
Scatter_Nom_Num_Car	3.6667	1.45521	18
Scatter_Nom_Num_Movie	2.9444	1.58938	18
Scatter_Num_Num_Car	3.7778	1.51679	18
Scatter_Num_Num_Movie	3.2778	1.56452	18
Scatter_Ord_Num_Car	3.9444	1.21133	18
Scatter_Ord_Num_Movie	3.6667	1.37199	18
Table_Nom_Num_Car	2.0000	1.41421	18
Table_Nom_Num_Movie	3.3889	1.78684	18
Table_Num_Num_Car	2.6111	1.46082	18
Table_Num_Num_Movie	2.8333	1.75734	18
Table_Ord_Num_Car	2.3889	1.61387	18
Table_Ord_Num_Movie	2.4444	1.65288	18

Multivariate Tests^a

Effect		Value	F	Hypothesis df	Error df
Visualization	Pillai's Trace	.208	.921 ^b	4.000	14.000
	Wilks' Lambda	.792	.921 ^b	4.000	14.000
	Hotelling's Trace	.263	.921 ^b	4.000	14.000
	Roy's Largest Root	.263	.921 ^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	.548	1.514 ^b	8.000	10.000
	Wilks' Lambda	.452	1.514 ^b	8.000	10.000
	Hotelling's Trace	1.212	1.514 ^b	8.000	10.000
	Roy's Largest Root	1.212	1.514 ^b	8.000	10.000
Visualization * Datasets	Pillai's Trace	.329	1.717 ^b	4.000	14.000
	Wilks' Lambda	.671	1.717 ^b	4.000	14.000
	Hotelling's Trace	.491	1.717 ^b	4.000	14.000
	Roy's Largest Root	.491	1.717 ^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	.498	1.240 ^b	8.000	10.000
	Wilks' Lambda	.502	1.240 ^b	8.000	10.000
	Hotelling's Trace	.992	1.240 ^b	8.000	10.000
	Roy's Largest Root	.992	1.240 ^b	8.000	10.000

Multivariate Tests^a

Effect		Sig.	Partial Eta Squared	Noncent. Parameter
Visualization	Pillai's Trace	.479	.208	3.684
	Wilks' Lambda	.479	.208	3.684
	Hotelling's Trace	.479	.208	3.684
	Roy's Largest Root	.479	.208	3.684
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	.265	.548	12.115
	Wilks' Lambda	.265	.548	12.115
	Hotelling's Trace	.265	.548	12.115
	Roy's Largest Root	.265	.548	12.115
Visualization * Datasets	Pillai's Trace	.202	.329	6.867
	Wilks' Lambda	.202	.329	6.867
	Hotelling's Trace	.202	.329	6.867
	Roy's Largest Root	.202	.329	6.867
DataAttributeTypes * Datasets	Pillai's Trace	.	.	.
	Wilks' Lambda	.	.	.
	Hotelling's Trace	.	.	.
	Roy's Largest Root	.	.	.
Visualization * DataAttributeTypes * Datasets	Pillai's Trace	.368	.498	9.916
	Wilks' Lambda	.368	.498	9.916
	Hotelling's Trace	.368	.498	9.916
	Roy's Largest Root	.368	.498	9.916

Multivariate Tests^a

Effect		Observed Power ^c
Visualization	Pillai's Trace	.221
	Wilks' Lambda	.221
	Hotelling's Trace	.221
	Roy's Largest Root	.221
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	.383
	Wilks' Lambda	.383
	Hotelling's Trace	.383
	Roy's Largest Root	.383
Visualization * Datasets	Pillai's Trace	.395
	Wilks' Lambda	.395
	Hotelling's Trace	.395
	Roy's Largest Root	.395
DataAttributeTypes * Datasets	Pillai's Trace	.
	Wilks' Lambda	.
	Hotelling's Trace	.
	Roy's Largest Root	.
Visualization * DataAttributeTypes * Datasets	Pillai's Trace	.314
	Wilks' Lambda	.314
	Hotelling's Trace	.314
	Roy's Largest Root	.314

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	.265	20.476	9	.016	.654
DataAttributeTypes	.	.	2	.	.
Datasets	.	.	0	.	.
Visualization * DataAttributeTypes	.011	63.716	35	.003	.560
Visualization * Datasets	.124	32.170	9	.000	.618
DataAttributeTypes * Datasets	.	.	2	.	.
Visualization * DataAttributeTypes * Datasets	.004	77.257	35	.000	.484

Mauchly's Test of Sphericity^a

Measure: MEASURE_1

Within Subjects Effect	Epsilon ^b	
	Huynh-Feldt	Lower-bound
Visualization	.784	.250
DataAttributeTypes	.	.500
Datasets	.	1.000
Visualization * DataAttributeTypes	.785	.125
Visualization * Datasets	.731	.250
DataAttributeTypes * Datasets	.	.500
Visualization * DataAttributeTypes * Datasets	.645	.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	53.481	4	13.370	1.246
	Greenhouse-Geisser	53.481	2.616	20.445	1.246
	Huynh-Feldt	53.481	3.134	17.063	1.246
	Lower-bound	53.481	1.000	53.481	1.246
Error(Visualization)	Sphericity Assumed	729.852	68	10.733	
	Greenhouse-Geisser	729.852	44.469	16.412	
	Huynh-Feldt	729.852	53.284	13.697	
	Lower-bound	729.852	17.000	42.932	
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	7.963	8	.995	1.561
	Greenhouse-Geisser	7.963	4.478	1.778	1.561

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Sig.	Partial Eta Squared	Noncent. Parameter
Visualization	Sphericity Assumed	.300	.068	4.983
	Greenhouse-Geisser	.303	.068	3.259
	Huynh-Feldt	.303	.068	3.905
	Lower-bound	.280	.068	1.246
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	.142	.084	12.490
	Greenhouse-Geisser	.187	.084	6.991

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Observed Power ^a
Visualization	Sphericity Assumed	.370
	Greenhouse-Geisser	.291
	Huynh-Feldt	.321
	Lower-bound	.184
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	.676
	Greenhouse-Geisser	.489

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F
	Huynh-Feldt	7.963	6.277	1.269	1.561
	Lower-bound	7.963	1.000	7.963	1.561
Error (Visualization*DataAttribute Types)	Sphericity Assumed	86.704	136	.638	
	Greenhouse-Geisser	86.704	76.121	1.139	
	Huynh-Feldt	86.704	106.705	.813	
	Lower-bound	86.704	17.000	5.100	
Visualization * Datasets	Sphericity Assumed	15.185	4	3.796	3.068
	Greenhouse-Geisser	15.185	2.472	6.143	3.068
	Huynh-Feldt	15.185	2.925	5.192	3.068
	Lower-bound	15.185	1.000	15.185	3.068
Error (Visualization*Datasets)	Sphericity Assumed	84.148	68	1.237	
	Greenhouse-Geisser	84.148	42.022	2.002	
	Huynh-Feldt	84.148	49.723	1.692	
	Lower-bound	84.148	17.000	4.950	
DataAttributeTypes * Datasets	Sphericity Assumed	.000	2	.000	.
	Greenhouse-Geisser	.000	.	.	.
	Huynh-Feldt	.000	.	.	.
	Lower-bound	.000	1.000	.000	.
Error (DataAttributeTypes*Datase ts)	Sphericity Assumed	.000	34	.000	
	Greenhouse-Geisser	.000	.	.	
	Huynh-Feldt	.000	.	.	
	Lower-bound	.000	17.000	.000	
Visualization * DataAttributeTypes * Datasets	Sphericity Assumed	14.370	8	1.796	2.767
	Greenhouse-Geisser	14.370	3.875	3.708	2.767
	Huynh-Feldt	14.370	5.163	2.783	2.767
	Lower-bound	14.370	1.000	14.370	2.767
Error (Visualization*DataAttribute Types*Datasets)	Sphericity Assumed	88.296	136	.649	
	Greenhouse-Geisser	88.296	65.883	1.340	
	Huynh-Feldt	88.296	87.767	1.006	
	Lower-bound	88.296	17.000	5.194	

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Sig.	Partial Eta Squared	Noncent. Parameter
	Huynh-Feldt	.163	.084	9.800
	Lower-bound	.228	.084	1.561
Error (Visualization*DataAttribute Types)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
Visualization * Datasets	Sphericity Assumed	.022	.153	12.271
	Greenhouse-Geisser	.047	.153	7.583
	Huynh-Feldt	.037	.153	8.973
	Lower-bound	.098	.153	3.068
Error (Visualization*Datasets)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
DataAttributeTypes * Datasets	Sphericity Assumed	.	.	.
	Greenhouse-Geisser	.	.	.
	Huynh-Feldt	.	.	.
	Lower-bound	.	.	.
Error (DataAttributeTypes*Datase ts)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
Visualization * DataAttributeTypes * Datasets	Sphericity Assumed	.007	.140	22.134
	Greenhouse-Geisser	.036	.140	10.723
	Huynh-Feldt	.022	.140	14.284
	Lower-bound	.115	.140	2.767
Error (Visualization*DataAttribute Types*Datasets)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Observed Power ^a
	Huynh-Feldt	.594
	Lower-bound	.218
Error (Visualization*DataAttribute Types)	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	
Visualization * Datasets	Sphericity Assumed	.781
	Greenhouse-Geisser	.621
	Huynh-Feldt	.677
	Lower-bound	.379
Error (Visualization*Datasets)	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	
DataAttributeTypes * Datasets	Sphericity Assumed	.
	Greenhouse-Geisser	.
	Huynh-Feldt	.
	Lower-bound	.
Error (DataAttributeTypes*Datase ts)	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	
Visualization * DataAttributeTypes * Datasets	Sphericity Assumed	.929
	Greenhouse-Geisser	.721
	Huynh-Feldt	.815
	Lower-bound	.348
Error (Visualization*DataAttribute Types*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			.004	1
	Quadratic			18.225	1
	Cubic			13.556	1
	Order 4			21.696	1
Error(Visualization)	Linear			139.430	17
	Quadratic			80.704	17
	Cubic			156.594	17
	Order 4			353.125	17
DataAttributeTypes		Linear		5.684E-14	1
		Quadratic		5.684E-14	1
Error(DataAttributeTypes)		Linear		.000	17
		Quadratic		.000	17
Datasets			Linear	.000	1
Error(Datasets)			Linear	.000	17
Visualization * DataAttributeTypes	Linear	Linear		.235	1
		Quadratic		.778	1
	Quadratic	Linear		2.382	1
		Quadratic		.119	1
	Cubic	Linear		2.939	1
		Quadratic		.002	1
	Order 4	Linear		.972	1
		Quadratic		.536	1
Error (Visualization*DataAttribute Types)	Linear	Linear		12.890	17
		Quadratic		10.063	17
	Quadratic	Linear		6.136	17
		Quadratic		15.577	17
	Cubic	Linear		7.311	17
		Quadratic		6.948	17
	Order 4	Linear		13.135	17
		Quadratic		14.643	17
Visualization * Datasets	Linear		Linear	1.070	1
	Quadratic		Linear	5.844	1
	Cubic		Linear	5.490	1
	Order 4		Linear	2.781	1

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Datasets	Mean Square	F
Visualization	Linear			.004	.000
	Quadratic			18.225	3.839
	Cubic			13.556	1.472
	Order 4			21.696	1.045
Error(Visualization)	Linear			8.202	
	Quadratic			4.747	
	Cubic			9.211	
	Order 4			20.772	
DataAttributeTypes		Linear		5.684E-14	.
		Quadratic		5.684E-14	.
Error(DataAttributeTypes)		Linear		.000	
		Quadratic		.000	
Datasets			Linear	.000	.
Error(Datasets)			Linear	.000	
Visualization * DataAttributeTypes	Linear	Linear		.235	.310
		Quadratic		.778	1.315
	Quadratic	Linear		2.382	6.599
		Quadratic		.119	.130
	Cubic	Linear		2.939	6.834
		Quadratic		.002	.005
	Order 4	Linear		.972	1.258
		Quadratic		.536	.622
Error (Visualization*DataAttribute Types)	Linear	Linear		.758	
		Quadratic		.592	
	Quadratic	Linear		.361	
		Quadratic		.916	
	Cubic	Linear		.430	
		Quadratic		.409	
	Order 4	Linear		.773	
		Quadratic		.861	
Visualization * Datasets	Linear		Linear	1.070	1.329
	Quadratic		Linear	5.844	2.994
	Cubic		Linear	5.490	7.003
	Order 4		Linear	2.781	1.974

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Datasets	Sig.	Partial Eta Squared
Visualization	Linear			.983	.000
	Quadratic			.067	.184
	Cubic			.242	.080
	Order 4			.321	.058
Error(Visualization)	Linear				
	Quadratic				
	Cubic				
	Order 4				
DataAttributeTypes		Linear		.	1.000
		Quadratic		.	1.000
Error(DataAttributeTypes)		Linear			
		Quadratic			
Datasets			Linear	.	.
Error(Datasets)			Linear		
Visualization * DataAttributeTypes	Linear	Linear		.585	.018
		Quadratic		.267	.072
	Quadratic	Linear		.020	.280
		Quadratic		.723	.008
	Cubic	Linear		.018	.287
		Quadratic		.947	.000
	Order 4	Linear		.278	.069
		Quadratic		.441	.035
Error (Visualization*DataAttribute Types)	Linear	Linear			
		Quadratic			
	Quadratic	Linear			
		Quadratic			
	Cubic	Linear			
		Quadratic			
	Order 4	Linear			
		Quadratic			
Visualization * Datasets	Linear		Linear	.265	.072
	Quadratic		Linear	.102	.150
	Cubic		Linear	.017	.292
	Order 4		Linear	.178	.104

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Datasets	Noncent. Parameter
Visualization	Linear			.000
	Quadratic			3.839
	Cubic			1.472
	Order 4			1.045
Error(Visualization)	Linear			
	Quadratic			
	Cubic			
	Order 4			
DataAttributeTypes		Linear		.
		Quadratic		.
Error(DataAttributeTypes)		Linear		
		Quadratic		
Datasets			Linear	.
Error(Datasets)			Linear	
Visualization * DataAttributeTypes	Linear	Linear		.310
		Quadratic		1.315
	Quadratic	Linear		6.599
		Quadratic		.130
	Cubic	Linear		6.834
		Quadratic		.005
	Order 4	Linear		1.258
		Quadratic		.622
Error (Visualization*DataAttribute Types)	Linear	Linear		
		Quadratic		
	Quadratic	Linear		
		Quadratic		
	Cubic	Linear		
		Quadratic		
	Order 4	Linear		
		Quadratic		
Visualization * Datasets	Linear		Linear	1.329
	Quadratic		Linear	2.994
	Cubic		Linear	7.003
	Order 4		Linear	1.974

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Datasets	Observed Power ^a
Visualization	Linear			.050
	Quadratic			.456
	Cubic			.209
	Order 4			.162
Error(Visualization)	Linear			
	Quadratic			
	Cubic			
	Order 4			
DataAttributeTypes		Linear		.
		Quadratic		.
Error(DataAttributeTypes)		Linear		
		Quadratic		
Datasets			Linear	.
Error(Datasets)			Linear	
Visualization * DataAttributeTypes	Linear	Linear		.082
		Quadratic		.191
	Quadratic	Linear		.678
		Quadratic		.063
	Cubic	Linear		.693
		Quadratic		.050
	Order 4	Linear		.185
		Quadratic		.116
Error (Visualization*DataAttribute Types)	Linear	Linear		
		Quadratic		
	Quadratic	Linear		
		Quadratic		
	Cubic	Linear		
		Quadratic		
	Order 4	Linear		
		Quadratic		
Visualization * Datasets	Linear		Linear	.193
	Quadratic		Linear	.372
	Cubic		Linear	.704
	Order 4		Linear	.264

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Datasets	Type III Sum of Squares	df
Error (Visualization*Datasets)	Linear		Linear	13.696	17
	Quadratic		Linear	33.180	17
	Cubic		Linear	13.327	17
	Order 4		Linear	23.945	17
DataAttributeTypes * Datasets		Linear	Linear	.000	1
		Quadratic	Linear	5.684E-14	1
Error (DataAttributeTypes*Datase ts)		Linear	Linear	.000	17
		Quadratic	Linear	.000	17
Visualization * DataAttributeTypes * Datasets	Linear	Linear	Linear	6.613	1
		Quadratic	Linear	.634	1
	Quadratic	Linear	Linear	.953	1
		Quadratic	Linear	2.064	1
	Cubic	Linear	Linear	3.756	1
		Quadratic	Linear	.007	1
	Order 4	Linear	Linear	.317	1
		Quadratic	Linear	.026	1
Error (Visualization*DataAttribute Types*Datasets)	Linear	Linear	Linear	11.213	17
		Quadratic	Linear	5.975	17
	Quadratic	Linear	Linear	16.636	17
		Quadratic	Linear	16.037	17
	Cubic	Linear	Linear	14.294	17
		Quadratic	Linear	5.676	17
	Order 4	Linear	Linear	10.218	17
		Quadratic	Linear	8.247	17

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Datasets	Mean Square	F
Error (Visualization*Datasets)	Linear		Linear	.806	
	Quadratic		Linear	1.952	
	Cubic		Linear	.784	
	Order 4		Linear	1.409	
DataAttributeTypes * Datasets		Linear	Linear	.000	.
		Quadratic	Linear	5.684E-14	.
Error (DataAttributeTypes*Datase ts)		Linear	Linear	.000	
		Quadratic	Linear	.000	
Visualization * DataAttributeTypes * Datasets	Linear	Linear	Linear	6.613	10.026
		Quadratic	Linear	.634	1.803
	Quadratic	Linear	Linear	.953	.974
		Quadratic	Linear	2.064	2.188
	Cubic	Linear	Linear	3.756	4.466
		Quadratic	Linear	.007	.022
	Order 4	Linear	Linear	.317	.528
		Quadratic	Linear	.026	.055
Error (Visualization*DataAttribute Types*Datasets)	Linear	Linear	Linear	.660	
		Quadratic	Linear	.351	
	Quadratic	Linear	Linear	.979	
		Quadratic	Linear	.943	
	Cubic	Linear	Linear	.841	
		Quadratic	Linear	.334	
	Order 4	Linear	Linear	.601	
		Quadratic	Linear	.485	

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*Dataset s)		Linear	Linear		
		Quadratic	Linear		
Visualization * DataAttributeTypes * Datasets	Linear	Linear	Linear	.006	.371
		Quadratic	Linear	.197	.096
	Quadratic	Linear	Linear	.337	.054
		Quadratic	Linear	.157	.114
	Cubic	Linear	Linear	.050	.208
		Quadratic	Linear	.883	.001
	Order 4	Linear	Linear	.477	.030
		Quadratic	Linear	.818	.003
Error (Visualization*DataAttribute Types*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*Datase ts)		Linear	Linear	
		Quadratic	Linear	
Visualization * DataAttributeTypes * Datasets	Linear	Linear	Linear	10.026
		Quadratic	Linear	1.803
	Quadratic	Linear	Linear	.974
		Quadratic	Linear	2.188
	Cubic	Linear	Linear	4.466
		Quadratic	Linear	.022
	Order 4	Linear	Linear	.528
		Quadratic	Linear	.055
Error (Visualization*DataAttribute Types*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*Dataset s)		Linear	Linear	
		Quadratic	Linear	
Visualization * DataAttributeTypes * Datasets	Linear	Linear	Linear	.847
		Quadratic	Linear	.245
	Quadratic	Linear	Linear	.154
		Quadratic	Linear	.287
	Cubic	Linear	Linear	.513
		Quadratic	Linear	.052
	Order 4	Linear	Linear	.105
		Quadratic	Linear	.056
Error (Visualization*DataAttribute Types*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

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

2. Visualization

Estimates

Measure: MEASURE_1

Visualization	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	2.843	.215	2.390	3.295
2	3.102	.280	2.511	3.693
3	2.898	.291	2.284	3.512
4	3.546	.301	2.911	4.182
5	2.611	.313	1.952	3.270

Pairwise Comparisons

Measure: MEASURE_1

(I) Visualization	(J) Visualization	Mean Difference (I-J)	Std. Error	Sig. ^a	95% Confidence a...
					Lower Bound
1	2	-.259	.399	1.000	-1.545
	3	-.056	.321	1.000	-1.089
	4	-.704	.397	.940	-1.982
	5	.231	.456	1.000	-1.239
2	1	.259	.399	1.000	-1.027
	3	.204	.546	1.000	-1.557
	4	-.444	.338	1.000	-1.533
	5	.491	.467	1.000	-1.014
3	1	.056	.321	1.000	-.977
	2	-.204	.546	1.000	-1.964
	4	-.648	.519	1.000	-2.322
	5	.287	.387	1.000	-.960
4	1	.704	.397	.940	-.574
	2	.444	.338	1.000	-.645
	3	.648	.519	1.000	-1.026
	5	.935	.557	1.000	-.859
5	1	-.231	.456	1.000	-1.702
	2	-.491	.467	1.000	-1.995
	3	-.287	.387	1.000	-1.534
	4	-.935	.557	1.000	-2.729

Pairwise Comparisons

Measure: MEASURE_1

		95% Confidence Interval for ^a ...
(I) Visualization	(J) Visualization	Upper Bound
1	2	1.027
	3	.977
	4	.574
	5	1.702
2	1	1.545
	3	1.964
	4	.645
	5	1.995
3	1	1.089
	2	1.557
	4	1.026
	5	1.534
4	1	1.982
	2	1.533
	3	2.322
	5	2.729
5	1	1.239
	2	1.014
	3	.960
	4	.859

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	.208	.921 ^a	4.000	14.000	.479	.208
Wilks' lambda	.792	.921 ^a	4.000	14.000	.479	.208
Hotelling's trace	.263	.921 ^a	4.000	14.000	.479	.208
Roy's largest root	.263	.921 ^a	4.000	14.000	.479	.208

Multivariate Tests

	Noncent. Parameter	Observed Power ^b
Pillai's trace	3.684	.221
Wilks' lambda	3.684	.221
Hotelling's trace	3.684	.221
Roy's largest root	3.684	.221

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

DataAttributeTypes	Mean	Std. Error	95% Confidence Interval	
			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 ... Lower Bound
1	2	5.551E-17	.000	.	5.551E-17
	3	5.551E-17	.000	.	5.551E-17
2	1	-5.551E-17	.000	.	-5.551E-17
	3	.000	.000	.	.000
3	1	-5.551E-17	.000	.	-5.551E-17
	2	.000	.000	.	.000

Pairwise Comparisons

Measure: MEASURE_1

(I) DataAttributeTypes	(J) DataAttributeTypes	95% Confidence Interval for ... Upper Bound
1	2	5.551E-17
	3	5.551E-17
2	1	-5.551E-17
	3	.000
3	1	-5.551E-17
	2	.000

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	.000	.000 ^a	1.000	17.000	1.000	.000
Wilks' lambda	1.000	.000 ^a	1.000	17.000	1.000	.000
Hotelling's trace	.000	.000 ^a	1.000	17.000	1.000	.000
Roy's largest root	.000	.000 ^a	1.000	17.000	1.000	.000

Multivariate Tests

	Noncent. Parameter	Observed Power ^b
Pillai's trace	.000	.050
Wilks' lambda	.000	.050
Hotelling's trace	.000	.050
Roy's largest root	.000	.050

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	2.944	.213	2.494	3.395
	2	2.806	.240	2.300	3.311
	3	2.778	.240	2.272	3.284
2	1	3.194	.275	2.615	3.774
	2	3.000	.310	2.345	3.655
	3	3.111	.287	2.505	3.718
3	1	2.861	.320	2.185	3.537
	2	2.944	.294	2.324	3.565
	3	2.889	.307	2.242	3.536
4	1	3.306	.321	2.628	3.983
	2	3.528	.332	2.827	4.228
	3	3.806	.297	3.178	4.433
5	1	2.694	.326	2.006	3.383
	2	2.722	.324	2.039	3.406
	3	2.417	.351	1.677	3.156