

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

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GET

FILE='C:\Users\Bahador\Desktop\Analysis\Distribution\Distribution_Ranking.sav'.

DATASET NAME DataSet1 WINDOW=FRONT.

GLM Bar_Num_Num_Car Bar_Num_Num_Movie Bar_Num_Num_Car Bar_Num_Num_Movie Bar_Ord_Num_Car

Bar_Ord_Num_Movie Line_Num_Num_Car Line_Num_Num_Movie Line_Num_Num_Car Line_Num_Num_Movie

Line_Ord_Num_Car Line_Ord_Num_Movie Pie_Num_Num_Car Pie_Num_Num_Movie Pie_Num_Num_Car

Pie_Num_Num_Movie Pie_Ord_Num_Car Pie_Ord_Num_Movie Scatter_Num_Num_Car Scatter_Num_Num_Movie

Scatter_Num_Num_Car Scatter_Num_Num_Movie Scatter_Ord_Num_Car Scatter_Ord_Num_Movie

Table_Num_Num_Car Table_Num_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		07-SEP-2016 09:59:39
Comments		
Input	Data	C: \Users\Bahador\Desktop\A nalysis\Distribution\Distri bution_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=Visualizatio
 n 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*DataAttribut
 eTypes)
 /PRINT=DESCRIPTIVE
 ETASQ OPOWER
 HOMOGENEITY
 /CRITERIA=ALPHA(.05)

/WSDESIGN=Visualizatio
 n DataAttributeTypes
 Dataset
 Visualization*DataAttribute
 Types
 Visualization*Dataset
 DataAttributeTypes*Dat

Notes

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

[DataSet1] C:\Users\Bahador\Desktop\Analysis\Distribution\Distribution_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	Dataset	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

Within-Subjects Factors

Measure: MEASURE_1

Visualization	DataAttributeTypes	Dataset	Dependent Variable
3	1	1	Pie_Nom_Nu m_Car
		2	Pie_Nom_Nu m_Movie
	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	2.8333	1.20049	18
Bar_Nom_Num_Movie	2.1111	1.02262	18
Bar_Num_Num_Car	2.0556	.99836	18
Bar_Num_Num_Movie	2.0000	.90749	18
Bar_Ord_Num_Car	2.4444	1.04162	18
Bar_Ord_Num_Movie	2.3889	.97853	18
Line_Nom_Num_Car	4.2222	1.30859	18
Line_Nom_Num_Movie	3.9444	1.30484	18
Line_Num_Num_Car	4.0556	1.16175	18
Line_Num_Num_Movie	4.1667	1.15045	18
Line_Ord_Num_Car	4.1667	1.15045	18
Line_Ord_Num_Movie	4.2222	1.16597	18
Pie_Nom_Num_Car	3.0000	1.37199	18
Pie_Nom_Num_Movie	3.3333	1.32842	18
Pie_Num_Num_Car	3.4444	1.42343	18
Pie_Num_Num_Movie	3.4444	1.38148	18
Pie_Ord_Num_Car	3.2222	1.47750	18
Pie_Ord_Num_Movie	3.1111	1.52966	18
Scatter_Nom_Num_Car	2.5556	1.09664	18
Scatter_Nom_Num_Movie	3.3333	1.08465	18
Scatter_Num_Num_Car	3.5000	.98518	18
Scatter_Num_Num_Movie	3.1667	1.24853	18
Scatter_Ord_Num_Car	3.2222	1.06027	18
Scatter_Ord_Num_Movie	2.8889	1.13183	18
Table_Nom_Num_Car	2.3889	1.46082	18
Table_Nom_Num_Movie	2.2778	1.52646	18
Table_Num_Num_Car	1.9444	1.21133	18
Table_Num_Num_Movie	2.2222	1.26284	18
Table_Ord_Num_Car	1.9444	1.34917	18
Table_Ord_Num_Movie	2.3889	1.50054	18

Multivariate Tests^a

Effect		Value	F	Hypothesis df	Error df
Visualization	Pillai's Trace	.665	6.953 ^b	4.000	14.000
	Wilks' Lambda	.335	6.953 ^b	4.000	14.000
	Hotelling's Trace	1.987	6.953 ^b	4.000	14.000
	Roy's Largest Root	1.987	6.953 ^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	.421	.910 ^b	8.000	10.000
	Wilks' Lambda	.579	.910 ^b	8.000	10.000
	Hotelling's Trace	.728	.910 ^b	8.000	10.000
	Roy's Largest Root	.728	.910 ^b	8.000	10.000
Visualization * Dataset	Pillai's Trace	.219	.980 ^b	4.000	14.000
	Wilks' Lambda	.781	.980 ^b	4.000	14.000
	Hotelling's Trace	.280	.980 ^b	4.000	14.000
	Roy's Largest Root	.280	.980 ^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	.713	3.101 ^b	8.000	10.000
	Wilks' Lambda	.287	3.101 ^b	8.000	10.000
	Hotelling's Trace	2.481	3.101 ^b	8.000	10.000
	Roy's Largest Root	2.481	3.101 ^b	8.000	10.000

Multivariate Tests^a

Effect		Sig.	Partial Eta Squared	Noncent. Parameter
Visualization	Pillai's Trace	.003	.665	27.812
	Wilks' Lambda	.003	.665	27.812
	Hotelling's Trace	.003	.665	27.812
	Roy's Largest Root	.003	.665	27.812
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	.544	.421	7.284
	Wilks' Lambda	.544	.421	7.284
	Hotelling's Trace	.544	.421	7.284
	Roy's Largest Root	.544	.421	7.284
Visualization * Dataset	Pillai's Trace	.450	.219	3.919
	Wilks' Lambda	.450	.219	3.919
	Hotelling's Trace	.450	.219	3.919
	Roy's Largest Root	.450	.219	3.919
DataAttributeTypes * Dataset	Pillai's Trace	.	.	.
	Wilks' Lambda	.	.	.
	Hotelling's Trace	.	.	.
	Roy's Largest Root	.	.	.
Visualization * DataAttributeTypes * Dataset	Pillai's Trace	.049	.713	24.808
	Wilks' Lambda	.049	.713	24.808
	Hotelling's Trace	.049	.713	24.808
	Roy's Largest Root	.049	.713	24.808

Multivariate Tests^a

Effect		Observed Power ^c
Visualization	Pillai's Trace	.961
	Wilks' Lambda	.961
	Hotelling's Trace	.961
	Roy's Largest Root	.961
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	.234
	Wilks' Lambda	.234
	Hotelling's Trace	.234
	Roy's Largest Root	.234
Visualization * Dataset	Pillai's Trace	.234
	Wilks' Lambda	.234
	Hotelling's Trace	.234
	Roy's Largest Root	.234
DataAttributeTypes * Dataset	Pillai's Trace	.
	Wilks' Lambda	.
	Hotelling's Trace	.
	Roy's Largest Root	.
Visualization * DataAttributeTypes * Dataset	Pillai's Trace	.717
	Wilks' Lambda	.717
	Hotelling's Trace	.717
	Roy's Largest Root	.717

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	.573	8.580	9	.479	.807
DataAttributeTypes	.	.	2	.	.
Dataset	.	.	0	.	.
Visualization * DataAttributeTypes	.022	54.085	35	.026	.581
Visualization * Dataset	.269	20.258	9	.017	.624
DataAttributeTypes * Dataset	.	.	2	.	.
Visualization * DataAttributeTypes * Dataset	.032	48.629	35	.075	.641

Mauchly's Test of Sphericity^a

Measure: MEASURE_1

Within Subjects Effect	Epsilon ^b	
	Huynh-Feldt	Lower-bound
Visualization	1.000	.250
DataAttributeTypes	.	.500
Dataset	.	1.000
Visualization * DataAttributeTypes	.827	.125
Visualization * Dataset	.740	.250
DataAttributeTypes * Dataset	.	.500
Visualization * DataAttributeTypes * Dataset	.951	.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	268.574	4	67.144	7.844
	Greenhouse-Geisser	268.574	3.227	83.226	7.844
	Huynh-Feldt	268.574	4.000	67.144	7.844
	Lower-bound	268.574	1.000	268.574	7.844
Error(Visualization)	Sphericity Assumed	582.093	68	8.560	
	Greenhouse-Geisser	582.093	54.860	10.611	
	Huynh-Feldt	582.093	68.000	8.560	
	Lower-bound	582.093	17.000	34.241	
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	10.370	8	1.296	1.729
	Greenhouse-Geisser	10.370	4.648	2.231	1.729

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Sig.	Partial Eta Squared	Noncent. Parameter
Visualization	Sphericity Assumed	.000	.316	31.375
	Greenhouse-Geisser	.000	.316	25.312
	Huynh-Feldt	.000	.316	31.375
	Lower-bound	.012	.316	7.844
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	.097	.092	13.832
	Greenhouse-Geisser	.142	.092	8.037

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Observed Power ^a
Visualization	Sphericity Assumed	.996
	Greenhouse-Geisser	.989
	Huynh-Feldt	.996
	Lower-bound	.752
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	.730
	Greenhouse-Geisser	.548

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F
	Huynh-Feldt	10.370	6.612	1.568	1.729
	Lower-bound	10.370	1.000	10.370	1.729
Error (Visualization*DataAttribute Types)	Sphericity Assumed	101.963	136	.750	
	Greenhouse-Geisser	101.963	79.021	1.290	
	Huynh-Feldt	101.963	112.404	.907	
	Lower-bound	101.963	17.000	5.998	
Visualization * Dataset	Sphericity Assumed	3.426	4	.856	1.536
	Greenhouse-Geisser	3.426	2.495	1.373	1.536
	Huynh-Feldt	3.426	2.958	1.158	1.536
	Lower-bound	3.426	1.000	3.426	1.536
Error(Visualization*Dataset)	Sphericity Assumed	37.907	68	.557	
	Greenhouse-Geisser	37.907	42.412	.894	
	Huynh-Feldt	37.907	50.286	.754	
	Lower-bound	37.907	17.000	2.230	
DataAttributeTypes * Dataset	Sphericity Assumed	.000	2	.000	.
	Greenhouse-Geisser	.000	.	.	.
	Huynh-Feldt	.000	.	.	.
	Lower-bound	.000	1.000	.000	.
Error (DataAttributeTypes*Datase t)	Sphericity Assumed	.000	34	.000	
	Greenhouse-Geisser	.000	.	.	
	Huynh-Feldt	.000	.	.	
	Lower-bound	.000	17.000	.000	
Visualization * DataAttributeTypes * Dataset	Sphericity Assumed	13.296	8	1.662	3.624
	Greenhouse-Geisser	13.296	5.127	2.593	3.624
	Huynh-Feldt	13.296	7.604	1.749	3.624
	Lower-bound	13.296	1.000	13.296	3.624
Error (Visualization*DataAttribute Types*Dataset)	Sphericity Assumed	62.370	136	.459	
	Greenhouse-Geisser	62.370	87.159	.716	
	Huynh-Feldt	62.370	129.273	.482	
	Lower-bound	62.370	17.000	3.669	

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Sig.	Partial Eta Squared	Noncent. Parameter
	Huynh-Feldt	.113	.092	11.432
	Lower-bound	.206	.092	1.729
Error (Visualization*DataAttribute Types)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
Visualization * Dataset	Sphericity Assumed	.201	.083	6.146
	Greenhouse-Geisser	.224	.083	3.833
	Huynh-Feldt	.217	.083	4.545
	Lower-bound	.232	.083	1.536
Error(Visualization*Dataset)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
DataAttributeTypes * Dataset	Sphericity Assumed	.	.	.
	Greenhouse-Geisser	.	.	.
	Huynh-Feldt	.	.	.
	Lower-bound	.	.	.
Error (DataAttributeTypes*Datase t)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
Visualization * DataAttributeTypes * Dataset	Sphericity Assumed	.001	.176	28.993
	Greenhouse-Geisser	.005	.176	18.581
	Huynh-Feldt	.001	.176	27.559
	Lower-bound	.074	.176	3.624
Error (Visualization*DataAttribute Types*Dataset)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Observed Power ^a
	Huynh-Feldt	.664
	Lower-bound	.237
Error (Visualization*DataAttribute Types)	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	
Visualization * Dataset	Sphericity Assumed	.451
	Greenhouse-Geisser	.343
	Huynh-Feldt	.378
	Lower-bound	.216
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	.981
	Greenhouse-Geisser	.915
	Huynh-Feldt	.976
	Lower-bound	.435
Error (Visualization*DataAttribute Types*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			16.626	1
	Quadratic			174.733	1
	Cubic			40.059	1
	Order 4			37.156	1
Error(Visualization)	Linear			124.141	17
	Quadratic			172.243	17
	Cubic			85.841	17
	Order 4			199.868	17
DataAttributeTypes		Linear		.000	1
		Quadratic		2.842E-14	1
Error(DataAttributeTypes)		Linear		7.105E-15	17
		Quadratic		7.105E-15	17
Dataset			Linear	2.842E-14	1
Error(Dataset)			Linear	.000	17
Visualization * DataAttributeTypes	Linear	Linear		.089	1
		Quadratic		1.780	1
	Quadratic	Linear		.571	1
		Quadratic		7.049	1
	Cubic	Linear		.022	1
		Quadratic		.535	1
	Order 4	Linear		.317	1
		Quadratic		.007	1
Error (Visualization*DataAttribute Types)	Linear	Linear		7.961	17
		Quadratic		14.504	17
	Quadratic	Linear		4.464	17
		Quadratic		14.011	17
	Cubic	Linear		8.178	17
		Quadratic		13.765	17
	Order 4	Linear		20.397	17
		Quadratic		18.684	17
Visualization * Dataset	Linear		Linear	2.904	1
	Quadratic		Linear	.169	1
	Cubic		Linear	.300	1
	Order 4		Linear	.053	1

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Dataset	Mean Square	F
Visualization	Linear			16.626	2.277
	Quadratic			174.733	17.246
	Cubic			40.059	7.933
	Order 4			37.156	3.160
Error(Visualization)	Linear			7.302	
	Quadratic			10.132	
	Cubic			5.049	
	Order 4			11.757	
DataAttributeTypes		Linear		.000	.000
		Quadratic		2.842E-14	68.000
Error(DataAttributeTypes)		Linear		4.180E-16	
		Quadratic		4.180E-16	
Dataset			Linear	2.842E-14	.
Error(Dataset)			Linear	.000	
Visualization * DataAttributeTypes	Linear	Linear		.089	.190
		Quadratic		1.780	2.086
	Quadratic	Linear		.571	2.176
		Quadratic		7.049	8.553
	Cubic	Linear		.022	.046
		Quadratic		.535	.661
	Order 4	Linear		.317	.265
		Quadratic		.007	.006
Error (Visualization*DataAttribute Types)	Linear	Linear		.468	
		Quadratic		.853	
	Quadratic	Linear		.263	
		Quadratic		.824	
	Cubic	Linear		.481	
		Quadratic		.810	
	Order 4	Linear		1.200	
		Quadratic		1.099	
Visualization * Dataset	Linear		Linear	2.904	4.070
	Quadratic		Linear	.169	.500
	Cubic		Linear	.300	.695
	Order 4		Linear	.053	.071

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Dataset	Sig.	Partial Eta Squared
Visualization	Linear			.150	.118
	Quadratic			.001	.504
	Cubic			.012	.318
	Order 4			.093	.157
Error(Visualization)	Linear				
	Quadratic				
	Cubic				
	Order 4				
DataAttributeTypes		Linear		1.000	.000
		Quadratic		.000	.800
Error(DataAttributeTypes)		Linear			
		Quadratic			
Dataset			Linear	.	1.000
Error(Dataset)			Linear		
Visualization * DataAttributeTypes	Linear	Linear		.669	.011
		Quadratic		.167	.109
	Quadratic	Linear		.158	.113
		Quadratic		.009	.335
	Cubic	Linear		.832	.003
		Quadratic		.427	.037
	Order 4	Linear		.614	.015
		Quadratic		.939	.000
Error (Visualization*DataAttribute Types)	Linear	Linear			
		Quadratic			
	Quadratic	Linear			
		Quadratic			
	Cubic	Linear			
		Quadratic			
	Order 4	Linear			
		Quadratic			
Visualization * Dataset	Linear		Linear	.060	.193
	Quadratic		Linear	.489	.029
	Cubic		Linear	.416	.039
	Order 4		Linear	.793	.004

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Dataset	Noncent. Parameter
Visualization	Linear			2.277
	Quadratic			17.246
	Cubic			7.933
	Order 4			3.160
Error(Visualization)	Linear			
	Quadratic			
	Cubic			
	Order 4			
DataAttributeTypes		Linear		.000
		Quadratic		68.000
Error(DataAttributeTypes)		Linear		
		Quadratic		
Dataset			Linear	.
Error(Dataset)			Linear	
Visualization * DataAttributeTypes	Linear	Linear		.190
		Quadratic		2.086
	Quadratic	Linear		2.176
		Quadratic		8.553
	Cubic	Linear		.046
		Quadratic		.661
	Order 4	Linear		.265
		Quadratic		.006
Error (Visualization*DataAttribute Types)	Linear	Linear		
		Quadratic		
	Quadratic	Linear		
		Quadratic		
	Cubic	Linear		
		Quadratic		
	Order 4	Linear		
		Quadratic		
Visualization * Dataset	Linear		Linear	4.070
	Quadratic		Linear	.500
	Cubic		Linear	.695
	Order 4		Linear	.071

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Dataset	Observed Power ^a
Visualization	Linear			.296
	Quadratic			.974
	Cubic			.756
	Order 4			.389
Error(Visualization)	Linear			
	Quadratic			
	Cubic			
	Order 4			
DataAttributeTypes		Linear		.050
		Quadratic		1.000
Error(DataAttributeTypes)		Linear		
		Quadratic		
Dataset			Linear	.
Error(Dataset)			Linear	
Visualization * DataAttributeTypes	Linear	Linear		.070
		Quadratic		.276
	Quadratic	Linear		.286
		Quadratic		.787
	Cubic	Linear		.055
		Quadratic		.120
	Order 4	Linear		.077
		Quadratic		.051
Error (Visualization*DataAttribute Types)	Linear	Linear		
		Quadratic		
	Quadratic	Linear		
		Quadratic		
	Cubic	Linear		
		Quadratic		
	Order 4	Linear		
		Quadratic		
Visualization * Dataset	Linear		Linear	.477
	Quadratic		Linear	.102
	Cubic		Linear	.124
	Order 4		Linear	.057

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Dataset	Type III Sum of Squares	df
Error(Visualization*Dataset)	Linear		Linear	12.130	17
	Quadratic		Linear	5.759	17
	Cubic		Linear	7.333	17
	Order 4		Linear	12.685	17
DataAttributeTypes * Dataset		Linear	Linear	.000	1
		Quadratic	Linear	5.684E-14	1
Error (DataAttributeTypes*Dataset)		Linear	Linear	.000	17
		Quadratic	Linear	1.066E-14	17
Visualization * DataAttributeTypes * Dataset	Linear	Linear	Linear	1.250	1
		Quadratic	Linear	.896	1
	Quadratic	Linear	Linear	5.433	1
		Quadratic	Linear	.894	1
	Cubic	Linear	Linear	3.472	1
		Quadratic	Linear	1.067	1
	Order 4	Linear	Linear	.179	1
		Quadratic	Linear	.106	1
Error (Visualization*DataAttributeTypes*Dataset)	Linear	Linear	Linear	11.600	17
		Quadratic	Linear	7.520	17
	Quadratic	Linear	Linear	6.889	17
		Quadratic	Linear	5.070	17
	Cubic	Linear	Linear	6.428	17
		Quadratic	Linear	3.600	17
	Order 4	Linear	Linear	13.750	17
		Quadratic	Linear	7.513	17

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Dataset	Mean Square	F
Error(Visualization*Dataset)	Linear		Linear	.714	
	Quadratic		Linear	.339	
	Cubic		Linear	.431	
	Order 4		Linear	.746	
DataAttributeTypes * Dataset		Linear	Linear	.000	.
		Quadratic	Linear	5.684E-14	90.667
Error (DataAttributeTypes*Dataset)		Linear	Linear	.000	
		Quadratic	Linear	6.269E-16	
Visualization * DataAttributeTypes * Dataset	Linear	Linear	Linear	1.250	1.832
		Quadratic	Linear	.896	2.026
	Quadratic	Linear	Linear	5.433	13.406
		Quadratic	Linear	.894	2.998
	Cubic	Linear	Linear	3.472	9.183
		Quadratic	Linear	1.067	5.037
	Order 4	Linear	Linear	.179	.221
		Quadratic	Linear	.106	.239
Error (Visualization*DataAttributeTypes*Dataset)	Linear	Linear	Linear	.682	
		Quadratic	Linear	.442	
	Quadratic	Linear	Linear	.405	
		Quadratic	Linear	.298	
	Cubic	Linear	Linear	.378	
		Quadratic	Linear	.212	
	Order 4	Linear	Linear	.809	
		Quadratic	Linear	.442	

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	.	.
		Quadratic	Linear	.000	.842
Error (DataAttributeTypes*Dataset)		Linear	Linear		
		Quadratic	Linear		
Visualization * DataAttributeTypes * Dataset	Linear	Linear	Linear	.194	.097
		Quadratic	Linear	.173	.106
	Quadratic	Linear	Linear	.002	.441
		Quadratic	Linear	.101	.150
	Cubic	Linear	Linear	.008	.351
		Quadratic	Linear	.038	.229
	Order 4	Linear	Linear	.644	.013
		Quadratic	Linear	.631	.014
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	90.667
Error (DataAttributeTypes*Dataset)		Linear	Linear	
		Quadratic	Linear	
Visualization * DataAttributeTypes * Dataset	Linear	Linear	Linear	1.832
		Quadratic	Linear	2.026
	Quadratic	Linear	Linear	13.406
		Quadratic	Linear	2.998
	Cubic	Linear	Linear	9.183
		Quadratic	Linear	5.037
	Order 4	Linear	Linear	.221
		Quadratic	Linear	.239
Error (Visualization*DataAttribute Types*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	1.000
Error (DataAttributeTypes*Dataset)		Linear	Linear	
		Quadratic	Linear	
Visualization * DataAttributeTypes * Dataset	Linear	Linear	Linear	.248
		Quadratic	Linear	.269
	Quadratic	Linear	Linear	.932
		Quadratic	Linear	.372
	Cubic	Linear	Linear	.815
		Quadratic	Linear	.562
	Order 4	Linear	Linear	.073
		Quadratic	Linear	.075
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

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	2.306	.194	1.895	2.716
2	4.130	.268	3.564	4.695
3	3.259	.297	2.634	3.885
4	3.111	.187	2.716	3.506
5	2.194	.291	1.581	2.808

Pairwise Comparisons

Measure: MEASURE_1

(I) Visualization	(J) Visualization	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence b...
					Lower Bound
1	2	-1.824 [*]	.352	.001	-2.958
	3	-.954	.392	.264	-2.218
	4	-.806	.306	.176	-1.793
	5	.111	.367	1.000	-1.071
2	1	1.824 [*]	.352	.001	.691
	3	.870	.491	.943	-.712
	4	1.019 [*]	.307	.041	.029
	5	1.935 [*]	.466	.007	.434
3	1	.954	.392	.264	-.311
	2	-.870	.491	.943	-2.453
	4	.148	.373	1.000	-1.053
	5	1.065	.472	.375	-.456
4	1	.806	.306	.176	-.182
	2	-1.019 [*]	.307	.041	-2.008
	3	-.148	.373	1.000	-1.349
	5	.917	.407	.376	-.393
5	1	-.111	.367	1.000	-1.293
	2	-1.935 [*]	.466	.007	-3.436
	3	-1.065	.472	.375	-2.585
	4	-.917	.407	.376	-2.227

Pairwise Comparisons

Measure: MEASURE_1

		95% Confidence Interval for ... ^b
(I) Visualization	(J) Visualization	Upper Bound
1	2	-.691
	3	.311
	4	.182
	5	1.293
2	1	2.958
	3	2.453
	4	2.008
	5	3.436
3	1	2.218
	2	.712
	4	1.349
	5	2.585
4	1	1.793
	2	-.029
	3	1.053
	5	2.227
5	1	1.071
	2	-.434
	3	.456
	4	.393

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	.665	6.953 ^a	4.000	14.000	.003	.665
Wilks' lambda	.335	6.953 ^a	4.000	14.000	.003	.665
Hotelling's trace	1.987	6.953 ^a	4.000	14.000	.003	.665
Roy's largest root	1.987	6.953 ^a	4.000	14.000	.003	.665

Multivariate Tests

	Noncent. Parameter	Observed Power ^b
Pillai's trace	27.812	.961
Wilks' lambda	27.812	.961
Hotelling's trace	27.812	.961
Roy's largest root	27.812	.961

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	1.000	-4.523E-9
2	1	-5.551E-17	.000	.	-5.551E-17
	3	.000	.000	1.000	-6.397E-9
3	1	-5.551E-17	.000	1.000	-4.523E-9
	2	.000	.000	1.000	-6.397E-9

Pairwise Comparisons

Measure: MEASURE_1

(I) DataAttributeTypes	(J) DataAttributeTypes	95% Confidence Interval for ... Upper Bound
1	2	5.551E-17
	3	4.523E-9
2	1	-5.551E-17
	3	6.397E-9
3	1	4.523E-9
	2	6.397E-9

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	2.472	.234	1.979	2.966
	2	2.028	.200	1.606	2.450
	3	2.417	.222	1.948	2.886
2	1	4.083	.292	3.467	4.700
	2	4.111	.267	3.548	4.674
	3	4.194	.269	3.628	4.761
3	1	3.167	.277	2.582	3.751
	2	3.444	.318	2.774	4.115
	3	3.167	.348	2.433	3.900
4	1	2.944	.217	2.486	3.403
	2	3.333	.246	2.815	3.852
	3	3.056	.242	2.545	3.566
5	1	2.333	.323	1.651	3.016
	2	2.083	.269	1.516	2.651
	3	2.167	.321	1.490	2.844