

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\Filter\Filter\_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 PolynomialDataAttributTypes3 Polynomial Dataset2 Polynomial

/METHOD=SSTYPE(3)

/EMMEANS=TABLES(OVERALL)

/EMMEANS=TABLES(Visualization)

/EMMEANS=TABLES(DataAttributTypes)

/EMMEANS=TABLES(Visualization\*DataAttributTypes)

/PRINT=DESCRIPTIVE ETASQ OPOWER HOMOGENEITY

/CRITERIA=ALPHA(.05)

/WSDESIGN=VisualizationDataAttributTypesDataset Visualization\*DataAttributTypes

Visualization\*Dataset DataAttributTypes\*Dataset Visualization\*DataAttributTypes\*Dataset.

## General Linear Model

## Notes

Output Created		07-SEP-2016 12:13:39
Comments		
Input	Data	C: \Users\Bahador\Desktop\A nalysis\Filter\Filter_Rankin g.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	17
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
DataAttributTypes 3
Polynomial Dataset 2
Polynomial
/METHOD=SSTYPE(3)
/EMMEANS=TABLES
(OVERALL)
/EMMEANS=TABLES
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/EMMEANS=TABLES
(DataAttributTypes)
/EMMEANS=TABLES
(Visualization*DataAttribut
Types)
/PRINT=DESCRIPTIVE
ETASQ OPOWER
HOMOGENEITY
/CRITERIA=ALPHA(.05)

/WSDESIGN=Visualizatio
n DataAttributTypes
Dataset
Visualization*DataAttributT
ypes
    Visualization*Dataset
DataAttributTypes*Dataset
Visualization*DataAttributT
ypes*Dataset.

```

## Notes

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

[DataSet1] C:\Users\Bahador\Desktop\Analysis\Filter\Filter\_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	DataAttributTypes	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
3	1	1	Pie_Nom_Nu m_Car
		2	Pie_Nom_Nu m_Movie

## Within-Subjects Factors

Measure: MEASURE\_1

Visualization	DataAttributTypes	Dataset	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	2.5882	.79521	17
Bar_Nom_Num_Movie	2.0000	1.06066	17
Bar_Num_Num_Car	2.0588	1.02899	17
Bar_Num_Num_Movie	2.1176	.99262	17
Bar_Ord_Num_Car	2.3529	.70189	17
Bar_Ord_Num_Movie	1.5294	.71743	17
Line_Nom_Num_Car	4.8235	.39295	17
Line_Nom_Num_Movie	4.3529	.78591	17
Line_Num_Num_Car	4.2353	.75245	17
Line_Num_Num_Movie	4.5294	.51450	17
Line_Ord_Num_Car	4.7647	.43724	17
Line_Ord_Num_Movie	4.1176	1.21873	17
Pie_Nom_Num_Car	1.7647	.83137	17
Pie_Nom_Num_Movie	2.7059	.84887	17
Pie_Num_Num_Car	2.9412	1.24853	17
Pie_Num_Num_Movie	2.7647	1.14725	17
Pie_Ord_Num_Car	1.7647	.83137	17
Pie_Ord_Num_Movie	2.8824	1.61564	17
Scatter_Nom_Num_Car	4.1176	.33211	17
Scatter_Nom_Num_Movie	3.6471	1.41161	17
Scatter_Num_Num_Car	3.7059	1.04670	17
Scatter_Num_Num_Movie	3.3529	1.32009	17
Scatter_Ord_Num_Car	4.2353	.43724	17
Scatter_Ord_Num_Movie	3.8824	.78121	17
Table_Nom_Num_Car	1.7647	.90342	17
Table_Nom_Num_Movie	2.2941	1.44761	17
Table_Num_Num_Car	2.0588	1.51948	17
Table_Num_Num_Movie	2.2353	1.48026	17
Table_Ord_Num_Car	1.8824	.85749	17
Table_Ord_Num_Movie	2.5882	.87026	17

### Multivariate Tests<sup>a</sup>

Effect		Value	F	Hypothesis df	Error df
Visualization	Pillai's Trace	.964	87.175 <sup>b</sup>	4.000	13.000
	Wilks' Lambda	.036	87.175 <sup>b</sup>	4.000	13.000
	Hotelling's Trace	26.823	87.175 <sup>b</sup>	4.000	13.000
	Roy's Largest Root	26.823	87.175 <sup>b</sup>	4.000	13.000
DataAttributTypes	Pillai's Trace	.059	1.000 <sup>b</sup>	1.000	16.000
	Wilks' Lambda	.941	1.000 <sup>b</sup>	1.000	16.000
	Hotelling's Trace	.063	1.000 <sup>b</sup>	1.000	16.000
	Roy's Largest Root	.063	1.000 <sup>b</sup>	1.000	16.000
Dataset	Pillai's Trace	.059	1.000 <sup>b</sup>	1.000	16.000
	Wilks' Lambda	.941	1.000 <sup>b</sup>	1.000	16.000
	Hotelling's Trace	.063	1.000 <sup>b</sup>	1.000	16.000
	Roy's Largest Root	.063	1.000 <sup>b</sup>	1.000	16.000
Visualization * DataAttributTypes	Pillai's Trace	.753	3.427 <sup>b</sup>	8.000	9.000
	Wilks' Lambda	.247	3.427 <sup>b</sup>	8.000	9.000
	Hotelling's Trace	3.046	3.427 <sup>b</sup>	8.000	9.000
	Roy's Largest Root	3.046	3.427 <sup>b</sup>	8.000	9.000
Visualization * Dataset	Pillai's Trace	.607	5.022 <sup>b</sup>	4.000	13.000
	Wilks' Lambda	.393	5.022 <sup>b</sup>	4.000	13.000
	Hotelling's Trace	1.545	5.022 <sup>b</sup>	4.000	13.000
	Roy's Largest Root	1.545	5.022 <sup>b</sup>	4.000	13.000
DataAttributTypes * Dataset	Pillai's Trace	.059	1.000 <sup>b</sup>	1.000	16.000
	Wilks' Lambda	.941	1.000 <sup>b</sup>	1.000	16.000
	Hotelling's Trace	.063	1.000 <sup>b</sup>	1.000	16.000
	Roy's Largest Root	.063	1.000 <sup>b</sup>	1.000	16.000
Visualization * DataAttributTypes * Dataset	Pillai's Trace	.965	31.244 <sup>b</sup>	8.000	9.000
	Wilks' Lambda	.035	31.244 <sup>b</sup>	8.000	9.000
	Hotelling's Trace	27.773	31.244 <sup>b</sup>	8.000	9.000
	Roy's Largest Root	27.773	31.244 <sup>b</sup>	8.000	9.000

### Multivariate Tests<sup>a</sup>

Effect		Sig.	Partial Eta Squared	Noncent. Parameter
Visualization	Pillai's Trace	.000	.964	348.698
	Wilks' Lambda	.000	.964	348.698
	Hotelling's Trace	.000	.964	348.698
	Roy's Largest Root	.000	.964	348.698
DataAttributTypes	Pillai's Trace	.332	.059	1.000
	Wilks' Lambda	.332	.059	1.000
	Hotelling's Trace	.332	.059	1.000
	Roy's Largest Root	.332	.059	1.000
Dataset	Pillai's Trace	.332	.059	1.000
	Wilks' Lambda	.332	.059	1.000
	Hotelling's Trace	.332	.059	1.000
	Roy's Largest Root	.332	.059	1.000
Visualization * DataAttributTypes	Pillai's Trace	.042	.753	27.414
	Wilks' Lambda	.042	.753	27.414
	Hotelling's Trace	.042	.753	27.414
	Roy's Largest Root	.042	.753	27.414
Visualization * Dataset	Pillai's Trace	.011	.607	20.088
	Wilks' Lambda	.011	.607	20.088
	Hotelling's Trace	.011	.607	20.088
	Roy's Largest Root	.011	.607	20.088
DataAttributTypes * Dataset	Pillai's Trace	.332	.059	1.000
	Wilks' Lambda	.332	.059	1.000
	Hotelling's Trace	.332	.059	1.000
	Roy's Largest Root	.332	.059	1.000
Visualization * DataAttributTypes * Dataset	Pillai's Trace	.000	.965	249.954
	Wilks' Lambda	.000	.965	249.954
	Hotelling's Trace	.000	.965	249.954
	Roy's Largest Root	.000	.965	249.954



## Multivariate Tests<sup>a</sup>

Effect		Observed Power <sup>c</sup>
Visualization	Pillai's Trace	1.000
	Wilks' Lambda	1.000
	Hotelling's Trace	1.000
	Roy's Largest Root	1.000
DataAttributTypes	Pillai's Trace	.156
	Wilks' Lambda	.156
	Hotelling's Trace	.156
	Roy's Largest Root	.156
Dataset	Pillai's Trace	.156
	Wilks' Lambda	.156
	Hotelling's Trace	.156
	Roy's Largest Root	.156
Visualization * DataAttributTypes	Pillai's Trace	.734
	Wilks' Lambda	.734
	Hotelling's Trace	.734
	Roy's Largest Root	.734
Visualization * Dataset	Pillai's Trace	.866
	Wilks' Lambda	.866
	Hotelling's Trace	.866
	Roy's Largest Root	.866
DataAttributTypes * Dataset	Pillai's Trace	.156
	Wilks' Lambda	.156
	Hotelling's Trace	.156
	Roy's Largest Root	.156
Visualization * DataAttributTypes * Dataset	Pillai's Trace	1.000
	Wilks' Lambda	1.000
	Hotelling's Trace	1.000
	Roy's Largest Root	1.000

a. Design: Intercept

Within Subjects Design: Visualization + DataAttributTypes + Dataset + Visualization \* DataAttributTypes + Visualization \* Dataset + DataAttributTypes \* Dataset + Visualization \* DataAttributTypes \* Dataset

b. Exact statistic

c.

c. Computed using alpha = .05

### Mauchly's Test of Sphericity<sup>a</sup>

Measure: MEASURE\_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon <sup>b</sup> Greenhouse-Geisser
Visualization	.066	39.222	9	.000	.564
DataAttributTypes	.000	.	2	.	.500
Dataset	1.000	.000	0	.	1.000
Visualization * DataAttributTypes	.002	83.005	35	.000	.365
Visualization * Dataset	.377	14.049	9	.123	.624
DataAttributTypes * Dataset	.000	.	2	.	.500
Visualization * DataAttributTypes * Dataset	.000	113.485	35	.000	.405

### Mauchly's Test of Sphericity<sup>a</sup>

Measure: MEASURE\_1

Within Subjects Effect	Epsilon <sup>b</sup>	
	Huynh-Feldt	Lower-bound
Visualization	.662	.250
DataAttributTypes	.500	.500
Dataset	1.000	1.000
Visualization * DataAttributTypes	.456	.125
Visualization * Dataset	.748	.250
DataAttributTypes * Dataset	.500	.500
Visualization * DataAttributTypes * Dataset	.521	.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 + DataAttributTypes + Dataset + Visualization \* DataAttributTypes + Visualization \* Dataset + DataAttributTypes \* Dataset + Visualization \* DataAttributTypes \* Dataset

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	475.459	4	118.865	42.183
	Greenhouse-Geisser	475.459	2.258	210.597	42.183
	Huynh-Feldt	475.459	2.647	179.600	42.183
	Lower-bound	475.459	1.000	475.459	42.183
Error(Visualization)	Sphericity Assumed	180.341	64	2.818	
	Greenhouse-Geisser	180.341	36.123	4.992	
	Huynh-Feldt	180.341	42.357	4.258	
	Lower-bound	180.341	16.000	11.271	
DataAttributTypes	Sphericity Assumed	.004	2	.002	1.000
	Greenhouse-Geisser	.004	1.000	.004	1.000
	Huynh-Feldt	.004	1.000	.004	1.000
	Lower-bound	.004	1.000	.004	1.000
Error(DataAttributTypes)	Sphericity Assumed	.063	32	.002	
	Greenhouse-Geisser	.063	16.000	.004	
	Huynh-Feldt	.063	16.000	.004	
	Lower-bound	.063	16.000	.004	
Dataset	Sphericity Assumed	.002	1	.002	1.000
	Greenhouse-Geisser	.002	1.000	.002	1.000
	Huynh-Feldt	.002	1.000	.002	1.000
	Lower-bound	.002	1.000	.002	1.000
Error(Dataset)	Sphericity Assumed	.031	16	.002	
	Greenhouse-Geisser	.031	16.000	.002	
	Huynh-Feldt	.031	16.000	.002	
	Lower-bound	.031	16.000	.002	
Visualization * DataAttributTypes	Sphericity Assumed	16.153	8	2.019	2.128
	Greenhouse-Geisser	16.153	2.922	5.528	2.128

## Tests of Within-Subjects Effects

Measure: MEASURE\_1

Source		Sig.	Partial Eta Squared	Noncent. Parameter
Visualization	Sphericity Assumed	.000	.725	168.732
	Greenhouse-Geisser	.000	.725	95.235
	Huynh-Feldt	.000	.725	111.672
	Lower-bound	.000	.725	42.183
Error(Visualization)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
DataAttributTypes	Sphericity Assumed	.379	.059	2.000
	Greenhouse-Geisser	.332	.059	1.000
	Huynh-Feldt	.332	.059	1.000
	Lower-bound	.332	.059	1.000
Error(DataAttributTypes)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
Dataset	Sphericity Assumed	.332	.059	1.000
	Greenhouse-Geisser	.332	.059	1.000
	Huynh-Feldt	.332	.059	1.000
	Lower-bound	.332	.059	1.000
Error(Dataset)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
Visualization * DataAttributTypes	Sphericity Assumed	.038	.117	17.025
	Greenhouse-Geisser	.111	.117	6.219

## Tests of Within-Subjects Effects

Measure: MEASURE\_1

Source		Observed Power <sup>a</sup>
Visualization	Sphericity Assumed	1.000
	Greenhouse-Geisser	1.000
	Huynh-Feldt	1.000
	Lower-bound	1.000
Error(Visualization)	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	
DataAttributTypes	Sphericity Assumed	.209
	Greenhouse-Geisser	.156
	Huynh-Feldt	.156
	Lower-bound	.156
Error(DataAttributTypes)	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	
Dataset	Sphericity Assumed	.156
	Greenhouse-Geisser	.156
	Huynh-Feldt	.156
	Lower-bound	.156
Error(Dataset)	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	
Visualization * DataAttributTypes	Sphericity Assumed	.830
	Greenhouse-Geisser	.502

## Tests of Within-Subjects Effects

Measure: MEASURE\_1

Source		Type III Sum of Squares	df	Mean Square	F
	Huynh-Feldt	16.153	3.646	4.431	2.128
	Lower-bound	16.153	1.000	16.153	2.128
Error (Visualization*DataAttribut ypes)	Sphericity Assumed	121.447	128	.949	
	Greenhouse-Geisser	121.447	46.756	2.597	
	Huynh-Feldt	121.447	58.332	2.082	
	Lower-bound	121.447	16.000	7.590	
Visualization * Dataset	Sphericity Assumed	26.714	4	6.678	6.704
	Greenhouse-Geisser	26.714	2.495	10.707	6.704
	Huynh-Feldt	26.714	2.993	8.927	6.704
	Lower-bound	26.714	1.000	26.714	6.704
Error(Visualization*Dataset)	Sphericity Assumed	63.753	64	.996	
	Greenhouse-Geisser	63.753	39.920	1.597	
	Huynh-Feldt	63.753	47.882	1.331	
	Lower-bound	63.753	16.000	3.985	
DataAttributTypes * Dataset	Sphericity Assumed	.004	2	.002	1.000
	Greenhouse-Geisser	.004	1.000	.004	1.000
	Huynh-Feldt	.004	1.000	.004	1.000
	Lower-bound	.004	1.000	.004	1.000
Error (DataAttributTypes*Dataset )	Sphericity Assumed	.063	32	.002	
	Greenhouse-Geisser	.063	16.000	.004	
	Huynh-Feldt	.063	16.000	.004	
	Lower-bound	.063	16.000	.004	
Visualization * DataAttributTypes * Dataset	Sphericity Assumed	17.486	8	2.186	2.342
	Greenhouse-Geisser	17.486	3.244	5.391	2.342
	Huynh-Feldt	17.486	4.166	4.197	2.342
	Lower-bound	17.486	1.000	17.486	2.342
Error (Visualization*DataAttributT ypes*Dataset)	Sphericity Assumed	119.447	128	.933	
	Greenhouse-Geisser	119.447	51.902	2.301	
	Huynh-Feldt	119.447	66.661	1.792	
	Lower-bound	119.447	16.000	7.465	

## Tests of Within-Subjects Effects

Measure: MEASURE\_1

Source		Sig.	Partial Eta Squared	Noncent. Parameter
	Huynh-Feldt	.095	.117	7.758
	Lower-bound	.164	.117	2.128
Error (Visualization*DataAttribut Types)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
Visualization * Dataset	Sphericity Assumed	.000	.295	26.817
	Greenhouse-Geisser	.002	.295	16.727
	Huynh-Feldt	.001	.295	20.064
	Lower-bound	.020	.295	6.704
Error(Visualization*Dataset)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
DataAttributTypes * Dataset	Sphericity Assumed	.379	.059	2.000
	Greenhouse-Geisser	.332	.059	1.000
	Huynh-Feldt	.332	.059	1.000
	Lower-bound	.332	.059	1.000
Error (DataAttributTypes*Dataset )	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
Visualization * DataAttributTypes * Dataset	Sphericity Assumed	.022	.128	18.738
	Greenhouse-Geisser	.079	.128	7.598
	Huynh-Feldt	.061	.128	9.759
	Lower-bound	.145	.128	2.342
Error (Visualization*DataAttributT ypes*Dataset)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			

## Tests of Within-Subjects Effects

Measure: MEASURE\_1

Source		Observed Power <sup>a</sup>
	Huynh-Feldt	.569
	Lower-bound	.279
Error (Visualization*DataAttribut Types)	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	
Visualization * Dataset	Sphericity Assumed	.989
	Greenhouse-Geisser	.936
	Huynh-Feldt	.964
	Lower-bound	.681
Error(Visualization*Dataset)	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	
DataAttributTypes * Dataset	Sphericity Assumed	.209
	Greenhouse-Geisser	.156
	Huynh-Feldt	.156
	Lower-bound	.156
Error (DataAttributTypes*Dataset )	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	
Visualization * DataAttributTypes * Dataset	Sphericity Assumed	.871
	Greenhouse-Geisser	.578
	Huynh-Feldt	.661
	Lower-bound	.302
Error (Visualization*DataAttributT ypes*Dataset)	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	

a. Computed using alpha = .05



## Tests of Within-Subjects Contrasts

Measure: MEASURE\_1

Source	Visualization	DataAttributTypes	Dataset	Type III Sum of Squares	df
Visualization	Linear			3.529	1
	Quadratic			164.045	1
	Cubic			17.868	1
	Order 4			290.017	1
Error(Visualization)	Linear			18.337	16
	Quadratic			95.289	16
	Cubic			7.849	16
	Order 4			58.866	16
DataAttributTypes		Linear		.003	1
		Quadratic		.001	1
Error(DataAttributTypes)		Linear		.047	16
		Quadratic		.016	16
Dataset			Linear	.002	1
Error(Dataset)			Linear	.031	16
Visualization * DataAttributTypes	Linear	Linear		3.531	1
		Quadratic		.110	1
	Quadratic	Linear		.304	1
		Quadratic		.589	1
	Cubic	Linear		.013	1
		Quadratic		.993	1
	Order 4	Linear		.017	1
		Quadratic		10.597	1
Error (Visualization*DataAttributTypes)	Linear	Linear		12.144	16
		Quadratic		12.548	16
	Quadratic	Linear		13.750	16
		Quadratic		45.596	16
	Cubic	Linear		4.812	16
		Quadratic		10.516	16
	Order 4	Linear		11.129	16
		Quadratic		10.952	16
Visualization * Dataset	Linear		Linear	7.592	1
	Quadratic		Linear	.549	1
	Cubic		Linear	3.413	1
	Order 4		Linear	15.160	1

## Tests of Within-Subjects Contrasts

Measure: MEASURE\_1

Source	Visualization	DataAttributTypes	Dataset	Mean Square	F
Visualization	Linear			3.529	3.080
	Quadratic			164.045	27.545
	Cubic			17.868	36.423
	Order 4			290.017	78.827
Error(Visualization)	Linear			1.146	
	Quadratic			5.956	
	Cubic			.491	
	Order 4			3.679	
DataAttributTypes		Linear		.003	1.000
		Quadratic		.001	1.000
Error(DataAttributTypes)		Linear		.003	
		Quadratic		.001	
Dataset			Linear	.002	1.000
Error(Dataset)			Linear	.002	
Visualization * DataAttributTypes	Linear	Linear		3.531	4.652
		Quadratic		.110	.141
	Quadratic	Linear		.304	.353
		Quadratic		.589	.207
	Cubic	Linear		.013	.044
		Quadratic		.993	1.510
	Order 4	Linear		.017	.024
		Quadratic		10.597	15.481
Error (Visualization*DataAttribut Types)	Linear	Linear		.759	
		Quadratic		.784	
	Quadratic	Linear		.859	
		Quadratic		2.850	
	Cubic	Linear		.301	
		Quadratic		.657	
	Order 4	Linear		.696	
		Quadratic		.685	
Visualization * Dataset	Linear		Linear	7.592	10.465
	Quadratic		Linear	.549	.767
	Cubic		Linear	3.413	2.524
	Order 4		Linear	15.160	12.728

## Tests of Within-Subjects Contrasts

Measure: MEASURE\_1

Source	Visualization	DataAttributTypes	Dataset	Sig.	Partial Eta Squared
Visualization	Linear			.098	.161
	Quadratic			.000	.633
	Cubic			.000	.695
	Order 4			.000	.831
Error(Visualization)	Linear				
	Quadratic				
	Cubic				
	Order 4				
DataAttributTypes		Linear		.332	.059
		Quadratic		.332	.059
Error(DataAttributTypes)		Linear			
		Quadratic			
Dataset			Linear	.332	.059
Error(Dataset)			Linear		
Visualization * DataAttributTypes	Linear	Linear		.047	.225
		Quadratic		.713	.009
	Quadratic	Linear		.561	.022
		Quadratic		.656	.013
	Cubic	Linear		.836	.003
		Quadratic		.237	.086
	Order 4	Linear		.878	.002
		Quadratic		.001	.492
Error (Visualization*DataAttributTypes)	Linear	Linear			
		Quadratic			
	Quadratic	Linear			
		Quadratic			
	Cubic	Linear			
		Quadratic			
	Order 4	Linear			
		Quadratic			
Visualization * Dataset	Linear		Linear	.005	.395
	Quadratic		Linear	.394	.046
	Cubic		Linear	.132	.136
	Order 4		Linear	.003	.443

## Tests of Within-Subjects Contrasts

Measure: MEASURE\_1

Source	Visualization	DataAttributTypes	Dataset	Noncent. Parameter	Observed Power <sup>a</sup>
Visualization	Linear			3.080	.378
	Quadratic			27.545	.998
	Cubic			36.423	1.000
	Order 4			78.827	1.000
Error(Visualization)	Linear				
	Quadratic				
	Cubic				
	Order 4				
DataAttributTypes		Linear		1.000	.156
		Quadratic		1.000	.156
Error(DataAttributTypes)		Linear			
		Quadratic			
Dataset			Linear	1.000	.156
Error(Dataset)			Linear		
Visualization * DataAttributTypes	Linear	Linear		4.652	.527
		Quadratic		.141	.064
	Quadratic	Linear		.353	.087
		Quadratic		.207	.071
	Cubic	Linear		.044	.054
		Quadratic		1.510	.212
	Order 4	Linear		.024	.052
		Quadratic		15.481	.958
Error (Visualization*DataAttribut Types)	Linear	Linear			
		Quadratic			
	Quadratic	Linear			
		Quadratic			
	Cubic	Linear			
		Quadratic			
	Order 4	Linear			
		Quadratic			
Visualization * Dataset	Linear		Linear	10.465	.859
	Quadratic		Linear	.767	.131
	Cubic		Linear	2.524	.321
	Order 4		Linear	12.728	.917

## Tests of Within-Subjects Contrasts

Measure: MEASURE\_1

Source	Visualization	DataAttributTypes	Dataset	Type III Sum of Squares	df
Error(Visualization*Dataset)	Linear		Linear	11.608	16
	Quadratic		Linear	11.451	16
	Cubic		Linear	21.637	16
	Order 4		Linear	19.057	16
DataAttributTypes * Dataset		Linear	Linear	.003	1
		Quadratic	Linear	.001	1
Error (DataAttributTypes*Dataset )		Linear	Linear	.047	16
		Quadratic	Linear	.016	16
Visualization * DataAttributTypes * Dataset	Linear	Linear	Linear	.531	1
		Quadratic	Linear	5.824	1
	Quadratic	Linear	Linear	.051	1
		Quadratic	Linear	1.866	1
	Cubic	Linear	Linear	.013	1
		Quadratic	Linear	.083	1
	Order 4	Linear	Linear	.093	1
		Quadratic	Linear	9.025	1
Error (Visualization*DataAttribut Types*Dataset)	Linear	Linear	Linear	5.444	16
		Quadratic	Linear	6.401	16
	Quadratic	Linear	Linear	29.788	16
		Quadratic	Linear	34.152	16
	Cubic	Linear	Linear	14.512	16
		Quadratic	Linear	8.192	16
	Order 4	Linear	Linear	10.268	16
		Quadratic	Linear	10.690	16

## Tests of Within-Subjects Contrasts

Measure: MEASURE\_1

Source	Visualization	DataAttributTypes	Dataset	Mean Square	F
Error(Visualization*Dataset)	Linear		Linear	.725	
	Quadratic		Linear	.716	
	Cubic		Linear	1.352	
	Order 4		Linear	1.191	
DataAttributTypes * Dataset		Linear	Linear	.003	1.000
		Quadratic	Linear	.001	1.000
Error (DataAttributTypes*Dataset )		Linear	Linear	.003	
		Quadratic	Linear	.001	
Visualization * DataAttributTypes * Dataset	Linear	Linear	Linear	.531	1.560
		Quadratic	Linear	5.824	14.558
	Quadratic	Linear	Linear	.051	.028
		Quadratic	Linear	1.866	.874
	Cubic	Linear	Linear	.013	.015
		Quadratic	Linear	.083	.162
	Order 4	Linear	Linear	.093	.144
		Quadratic	Linear	9.025	13.508
Error (Visualization*DataAttribut Types*Dataset)	Linear	Linear	Linear	.340	
		Quadratic	Linear	.400	
	Quadratic	Linear	Linear	1.862	
		Quadratic	Linear	2.134	
	Cubic	Linear	Linear	.907	
		Quadratic	Linear	.512	
	Order 4	Linear	Linear	.642	
		Quadratic	Linear	.668	

### Tests of Within-Subjects Contrasts

Measure: MEASURE\_1

Source	Visualization	DataAttributTypes	Dataset	Sig.	Partial Eta Squared
Error(Visualization*Dataset)	Linear		Linear		
	Quadratic		Linear		
	Cubic		Linear		
	Order 4		Linear		
DataAttributTypes * Dataset		Linear	Linear	.332	.059
		Quadratic	Linear	.332	.059
Error (DataAttributTypes*Dataset )		Linear	Linear		
		Quadratic	Linear		
Visualization * DataAttributTypes * Dataset	Linear	Linear	Linear	.230	.089
		Quadratic	Linear	.002	.476
	Quadratic	Linear	Linear	.870	.002
		Quadratic	Linear	.364	.052
	Cubic	Linear	Linear	.905	.001
		Quadratic	Linear	.693	.010
	Order 4	Linear	Linear	.709	.009
		Quadratic	Linear	.002	.458
Error (Visualization*DataAttribut 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	DataAttributTypes	Dataset	Noncent. Parameter	Observed Power <sup>a</sup>
Error(Visualization*Dataset)	Linear		Linear		
	Quadratic		Linear		
	Cubic		Linear		
	Order 4		Linear		
DataAttributTypes * Dataset		Linear	Linear	1.000	.156
		Quadratic	Linear	1.000	.156
Error (DataAttributTypes*Dataset )		Linear	Linear		
		Quadratic	Linear		
Visualization * DataAttributTypes * Dataset	Linear	Linear	Linear	1.560	.217
		Quadratic	Linear	14.558	.947
	Quadratic	Linear	Linear	.028	.053
		Quadratic	Linear	.874	.142
	Cubic	Linear	Linear	.015	.051
		Quadratic	Linear	.162	.067
	Order 4	Linear	Linear	.144	.065
		Quadratic	Linear	13.508	.932
Error (Visualization*DataAttribut Types*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	4596.002	1	4596.002	2343961.000	.000	1.000
Error	.031	16	.002			

### Tests of Between-Subjects Effects

Measure: MEASURE\_1

Transformed Variable: Average

Source	Noncent. Parameter	Observed Power <sup>a</sup>
Intercept	2343961.000	1.000
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
3.002	.002	2.998	3.006

### 2. Visualization

Measure: MEASURE\_1

Visualization	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	2.108	.115	1.864	2.352
2	4.471	.104	4.250	4.692
3	2.471	.181	2.087	2.854
4	3.824	.134	3.540	4.107
5	2.137	.189	1.736	2.538

### 3. DataAttributTypes

Measure: MEASURE\_1

DataAttributTypes	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	3.006	.006	2.993	3.018
2	3.000	.000	3.000	3.000
3	3.000	.000	3.000	3.000

### 4. Visualization \* DataAttributTypes

Measure: MEASURE\_1

Visualization	DataAttributTypes	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
1	1	2.294	.197	1.877	2.711
	2	2.088	.198	1.669	2.507
	3	1.941	.112	1.703	2.180
2	1	4.588	.107	4.361	4.815
	2	4.382	.132	4.102	4.663
	3	4.441	.160	4.103	4.780
3	1	2.235	.177	1.859	2.611
	2	2.853	.267	2.287	3.419
	3	2.324	.235	1.826	2.821
4	1	3.882	.169	3.524	4.241
	2	3.529	.241	3.020	4.039
	3	4.059	.073	3.905	4.213
5	1	2.029	.199	1.608	2.451
	2	2.147	.311	1.487	2.807
	3	2.235	.155	1.906	2.564