```
 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\Range\Range_Time.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
 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*DataAttribu
teTypes
    Visualization*Dataset DataAttributeTypes*Dataset Visualization*DataAttribu
teTypes*Dataset.
```

General Linear Model

Notes

Output Created		07-SEP-2016 13:12:08
Comments		
Input	Data	C:\Users\Bahador\Desktop\Analysis\Range\Range_Time.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 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*Datas

Notes

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

[DataSet1] C:\Users\Bahador\Desktop\Analysis\Range\Range_Time.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_Num_Car
		2	Bar_Nom_Num_Movie
	2	1	Bar_Num_Num_Car
		2	Bar_Num_Num_Movie
	3	1	Bar_Ord_Num_Car
		2	Bar_Ord_Num_Movie
2	1	1	Line_Nom_Num_Car
		2	Line_Nom_Num_Movie
	2	1	Line_Num_Num_Car
		2	Line_Num_Num_Movie
	3	1	Line_Ord_Num_Car
		2	Line_Ord_Num_Movie
3	1	1	Pie_Nom_Num_Car
		2	Pie_Nom_Num_Movie

Within-Subjects Factors

Measure: MEASURE_1

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

Descriptive Statistics

	Mean	Std. Deviation	N
Bar_Nom_Num_Car	23.9444	13.16176	18
Bar_Nom_Num_Movie	21.3889	14.57290	18
Bar_Num_Num_Car	22.8333	14.53697	18
Bar_Num_Num_Movie	15.3333	7.96315	18
Bar_Ord_Num_Car	17.5556	13.43928	18
Bar_Ord_Num_Movie	45.5556	31.39356	18
Line_Nom_Num_Car	20.3333	12.18485	18
Line_Nom_Num_Movie	20.7778	12.34578	18
Line_Num_Num_Car	18.2778	6.15301	18
Line_Num_Num_Movie	19.7778	12.60511	18
Line_Ord_Num_Car	16.8889	10.15694	18
Line_Ord_Num_Movie	15.2222	8.51680	18
Pie_Nom_Num_Car	16.2778	7.58331	18
Pie_Nom_Num_Movie	16.3333	7.65430	18
Pie_Num_Num_Car	19.9444	8.64647	18
Pie_Num_Num_Movie	22.9444	16.06045	18
Pie_Ord_Num_Car	22.3333	11.14081	18
Pie_Ord_Num_Movie	19.7778	11.94377	18
Scatter_Nom_Num_Car	15.1667	4.81725	18
Scatter_Nom_Num_Movie	15.8889	8.32352	18
Scatter_Num_Num_Car	20.5000	11.36170	18
Scatter_Num_Num_Movie	19.2222	13.97290	18
Scatter_Ord_Num_Car	18.2778	17.39779	18
Scatter_Ord_Num_Movie	16.5000	8.95249	18
Table_Nom_Num_Car	17.2778	7.96910	18
Table_Nom_Num_Movie	24.9444	24.45517	18
Table_Num_Num_Car	27.1667	11.77360	18
Table_Num_Num_Movie	23.3333	10.82481	18
Table_Ord_Num_Car	24.1111	18.28175	18
Table_Ord_Num_Movie	17.0556	12.92272	18

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df
Visualization	Pillai's Trace	.482	3.254[b]	4.000	14.000
	Wilks' Lambda	.518	3.254[b]	4.000	14.000
	Hotelling's Trace	.930	3.254[b]	4.000	14.000
	Roy's Largest Root	.930	3.254[b]	4.000	14.000
DataAttributeTypes	Pillai's Trace	.271	2.970[b]	2.000	16.000
	Wilks' Lambda	.729	2.970[b]	2.000	16.000
	Hotelling's Trace	.371	2.970[b]	2.000	16.000
	Roy's Largest Root	.371	2.970[b]	2.000	16.000
Dataset	Pillai's Trace	.037	.660[b]	1.000	17.000
	Wilks' Lambda	.963	.660[b]	1.000	17.000
	Hotelling's Trace	.039	.660[b]	1.000	17.000
	Roy's Largest Root	.039	.660[b]	1.000	17.000
Visualization * DataAttributeTypes	Pillai's Trace	.843	6.735[b]	8.000	10.000
	Wilks' Lambda	.157	6.735[b]	8.000	10.000
	Hotelling's Trace	5.388	6.735[b]	8.000	10.000
	Roy's Largest Root	5.388	6.735[b]	8.000	10.000
Visualization * Dataset	Pillai's Trace	.277	1.344[b]	4.000	14.000
	Wilks' Lambda	.723	1.344[b]	4.000	14.000
	Hotelling's Trace	.384	1.344[b]	4.000	14.000
	Roy's Largest Root	.384	1.344[b]	4.000	14.000
DataAttributeTypes * Dataset	Pillai's Trace	.142	1.325[b]	2.000	16.000
	Wilks' Lambda	.858	1.325[b]	2.000	16.000
	Hotelling's Trace	.166	1.325[b]	2.000	16.000
	Roy's Largest Root	.166	1.325[b]	2.000	16.000
Visualization * DataAttributeTypes * Dataset	Pillai's Trace	.793	4.782[b]	8.000	10.000
	Wilks' Lambda	.207	4.782[b]	8.000	10.000
	Hotelling's Trace	3.826	4.782[b]	8.000	10.000
	Roy's Largest Root	3.826	4.782[b]	8.000	10.000

Multivariate Tests[a]

Effect		Sig.	Partial Eta Squared	Noncent. Parameter
Visualization	Pillai's Trace	.044	.482	13.015
	Wilks' Lambda	.044	.482	13.015
	Hotelling's Trace	.044	.482	13.015
	Roy's Largest Root	.044	.482	13.015
DataAttributeTypes	Pillai's Trace	.080	.271	5.940
	Wilks' Lambda	.080	.271	5.940
	Hotelling's Trace	.080	.271	5.940
	Roy's Largest Root	.080	.271	5.940
Dataset	Pillai's Trace	.428	.037	.660
	Wilks' Lambda	.428	.037	.660
	Hotelling's Trace	.428	.037	.660
	Roy's Largest Root	.428	.037	.660
Visualization * DataAttributeTypes	Pillai's Trace	.003	.843	53.881
	Wilks' Lambda	.003	.843	53.881
	Hotelling's Trace	.003	.843	53.881
	Roy's Largest Root	.003	.843	53.881
Visualization * Dataset	Pillai's Trace	.303	.277	5.374
	Wilks' Lambda	.303	.277	5.374
	Hotelling's Trace	.303	.277	5.374
	Roy's Largest Root	.303	.277	5.374
DataAttributeTypes * Dataset	Pillai's Trace	.293	.142	2.651
	Wilks' Lambda	.293	.142	2.651
	Hotelling's Trace	.293	.142	2.651
	Roy's Largest Root	.293	.142	2.651
Visualization * DataAttributeTypes * Dataset	Pillai's Trace	.012	.793	38.260
	Wilks' Lambda	.012	.793	38.260
	Hotelling's Trace	.012	.793	38.260
	Roy's Largest Root	.012	.793	38.260

Multivariate Tests[a]

Effect		Observed Power[c]
Visualization	Pillai's Trace	.683
	Wilks' Lambda	.683
	Hotelling's Trace	.683
	Roy's Largest Root	.683
DataAttributeTypes	Pillai's Trace	.497
	Wilks' Lambda	.497
	Hotelling's Trace	.497
	Roy's Largest Root	.497
Dataset	Pillai's Trace	.120
	Wilks' Lambda	.120
	Hotelling's Trace	.120
	Roy's Largest Root	.120
Visualization * DataAttributeTypes	Pillai's Trace	.977
	Wilks' Lambda	.977
	Hotelling's Trace	.977
	Roy's Largest Root	.977
Visualization * Dataset	Pillai's Trace	.313
	Wilks' Lambda	.313
	Hotelling's Trace	.313
	Roy's Largest Root	.313
DataAttributeTypes * Dataset	Pillai's Trace	.245
	Wilks' Lambda	.245
	Hotelling's Trace	.245
	Roy's Largest Root	.245
Visualization * DataAttributeTypes * Dataset	Pillai's Trace	.902
	Wilks' Lambda	.902
	Hotelling's Trace	.902
	Roy's Largest Root	.902

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	.076	39.756	9	.000	.500
DataAttributeTypes	.923	1.275	2	.529	.929
Dataset	1.000	.000	0	.	1.000
Visualization * DataAttributeTypes	.005	75.456	35	.000	.505
Visualization * Dataset	.188	25.756	9	.002	.562
DataAttributeTypes * Dataset	.797	3.629	2	.163	.831
Visualization * DataAttributeTypes * Dataset	.008	68.043	35	.001	.481

Mauchly's Test of Sphericity[a]

Measure: MEASURE_1

Within Subjects Effect	Epsilon[b] Huynh-Feldt	Lower-bound
Visualization	.567	.250
DataAttributeTypes	1.000	.500
Dataset	1.000	1.000
Visualization * DataAttributeTypes	.681	.125
Visualization * Dataset	.652	.250
DataAttributeTypes * Dataset	.910	.500
Visualization * DataAttributeTypes * Dataset	.640	.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	3440.433	4	860.108	4.804
	Greenhouse-Geisser	3440.433	2.001	1719.118	4.804
	Huynh-Feldt	3440.433	2.268	1516.683	4.804
	Lower-bound	3440.433	1.000	3440.433	4.804
Error(Visualization)	Sphericity Assumed	12175.433	68	179.050	
	Greenhouse-Geisser	12175.433	34.022	357.872	
	Huynh-Feldt	12175.433	38.563	315.731	
	Lower-bound	12175.433	17.000	716.202	
DataAttributeTypes	Sphericity Assumed	445.937	2	222.969	2.632
	Greenhouse-Geisser	445.937	1.858	240.048	2.632
	Huynh-Feldt	445.937	2.000	222.969	2.632
	Lower-bound	445.937	1.000	445.937	2.632
Error(DataAttributeTypes)	Sphericity Assumed	2880.396	34	84.718	
	Greenhouse-Geisser	2880.396	31.581	91.207	
	Huynh-Feldt	2880.396	34.000	84.718	
	Lower-bound	2880.396	17.000	169.435	
Dataset	Sphericity Assumed	104.017	1	104.017	.660
	Greenhouse-Geisser	104.017	1.000	104.017	.660
	Huynh-Feldt	104.017	1.000	104.017	.660
	Lower-bound	104.017	1.000	104.017	.660
Error(Dataset)	Sphericity Assumed	2681.217	17	157.719	
	Greenhouse-Geisser	2681.217	17.000	157.719	
	Huynh-Feldt	2681.217	17.000	157.719	
	Lower-bound	2681.217	17.000	157.719	
Visualization * DataAttributeTypes	Sphericity Assumed	4299.933	8	537.492	3.357
	Greenhouse-Geisser	4299.933	4.036	1065.301	3.357

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Sig.	Partial Eta Squared	Noncent. Parameter
Visualization	Sphericity Assumed	.002	.220	19.215
	Greenhouse-Geisser	.015	.220	9.614
	Huynh-Feldt	.011	.220	10.897
	Lower-bound	.043	.220	4.804
Error(Visualization)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
DataAttributeTypes	Sphericity Assumed	.087	.134	5.264
	Greenhouse-Geisser	.091	.134	4.889
	Huynh-Feldt	.087	.134	5.264
	Lower-bound	.123	.134	2.632
Error(DataAttributeTypes)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
Dataset	Sphericity Assumed	.428	.037	.660
	Greenhouse-Geisser	.428	.037	.660
	Huynh-Feldt	.428	.037	.660
	Lower-bound	.428	.037	.660
Error(Dataset)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
Visualization * DataAttributeTypes	Sphericity Assumed	.002	.165	26.858
	Greenhouse-Geisser	.014	.165	13.551

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Observed Power[a]
Visualization	Sphericity Assumed	.942
	Greenhouse-Geisser	.760
	Huynh-Feldt	.800
	Lower-bound	.543
Error(Visualization)	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	
DataAttributeTypes	Sphericity Assumed	.488
	Greenhouse-Geisser	.468
	Huynh-Feldt	.488
	Lower-bound	.334
Error(DataAttributeTypes)	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	
Dataset	Sphericity Assumed	.120
	Greenhouse-Geisser	.120
	Huynh-Feldt	.120
	Lower-bound	.120
Error(Dataset)	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	
Visualization * DataAttributeTypes	Sphericity Assumed	.971
	Greenhouse-Geisser	.824

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F
	Huynh-Feldt	4299.933	5.450	788.950	3.357
	Lower-bound	4299.933	1.000	4299.933	3.357
Error (Visualization*DataAttributeTypes)	Sphericity Assumed	21773.400	136	160.099	
	Greenhouse-Geisser	21773.400	68.618	317.313	
	Huynh-Feldt	21773.400	92.653	234.999	
	Lower-bound	21773.400	17.000	1280.788	
Visualization * Dataset	Sphericity Assumed	910.456	4	227.614	1.480
	Greenhouse-Geisser	910.456	2.250	404.728	1.480
	Huynh-Feldt	910.456	2.610	348.895	1.480
	Lower-bound	910.456	1.000	910.456	1.480
Error(Visualization*Dataset)	Sphericity Assumed	10457.144	68	153.782	
	Greenhouse-Geisser	10457.144	38.242	273.444	
	Huynh-Feldt	10457.144	44.362	235.722	
	Lower-bound	10457.144	17.000	615.126	
DataAttributeTypes * Dataset	Sphericity Assumed	488.611	2	244.306	1.221
	Greenhouse-Geisser	488.611	1.663	293.879	1.221
	Huynh-Feldt	488.611	1.821	268.340	1.221
	Lower-bound	488.611	1.000	488.611	1.221
Error (DataAttributeTypes*Dataset)	Sphericity Assumed	6804.256	34	200.125	
	Greenhouse-Geisser	6804.256	28.265	240.733	
	Huynh-Feldt	6804.256	30.955	219.813	
	Lower-bound	6804.256	17.000	400.250	
Visualization * DataAttributeTypes * Dataset	Sphericity Assumed	7461.889	8	932.736	7.517
	Greenhouse-Geisser	7461.889	3.850	1938.167	7.517
	Huynh-Feldt	7461.889	5.118	1458.021	7.517
	Lower-bound	7461.889	1.000	7461.889	7.517
Error (Visualization*DataAttributeTypes*Dataset)	Sphericity Assumed	16874.911	136	124.080	
	Greenhouse-Geisser	16874.911	65.450	257.831	
	Huynh-Feldt	16874.911	87.003	193.958	
	Lower-bound	16874.911	17.000	992.642	

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Sig.	Partial Eta Squared	Noncent. Parameter
	Huynh-Feldt	.006	.165	18.298
	Lower-bound	.084	.165	3.357
Error (Visualization*DataAttributeTypes)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
Visualization * Dataset	Sphericity Assumed	.218	.080	5.920
	Greenhouse-Geisser	.240	.080	3.330
	Huynh-Feldt	.236	.080	3.862
	Lower-bound	.240	.080	1.480
Error(Visualization*Dataset)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
DataAttributeTypes * Dataset	Sphericity Assumed	.308	.067	2.442
	Greenhouse-Geisser	.303	.067	2.030
	Huynh-Feldt	.306	.067	2.223
	Lower-bound	.285	.067	1.221
Error (DataAttributeTypes*Dataset)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
Visualization * DataAttributeTypes * Dataset	Sphericity Assumed	.000	.307	60.138
	Greenhouse-Geisser	.000	.307	28.941
	Huynh-Feldt	.000	.307	38.472
	Lower-bound	.014	.307	7.517
Error (Visualization*DataAttributeTypes*Dataset)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Observed Power[a]
	Huynh-Feldt	.905
	Lower-bound	.409
Error (Visualization*DataAttributeTypes)	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	
Visualization * Dataset	Sphericity Assumed	.435
	Greenhouse-Geisser	.313
	Huynh-Feldt	.340
	Lower-bound	.210
Error(Visualization*Dataset)	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	
DataAttributeTypes * Dataset	Sphericity Assumed	.248
	Greenhouse-Geisser	.227
	Huynh-Feldt	.237
	Lower-bound	.181
Error (DataAttributeTypes*Dataset)	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	
Visualization * DataAttributeTypes * Dataset	Sphericity Assumed	1.000
	Greenhouse-Geisser	.994
	Huynh-Feldt	.999
	Lower-bound	.734
Error (Visualization*DataAttributeTypes*Dataset)	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	

a. Computed using alpha = .05

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Dataset	Type III Sum of Squares	df
Visualization	Linear			291.408	1
	Quadratic			2543.334	1
	Cubic			.490	1
	Order 4			605.201	1
Error(Visualization)	Linear			3463.408	17
	Quadratic			4879.154	17
	Cubic			2135.194	17
	Order 4			1697.677	17
DataAttributeTypes		Linear		394.803	1
		Quadratic		51.134	1
Error(DataAttributeTypes)		Linear		1555.547	17
		Quadratic		1324.849	17
Dataset			Linear	104.017	1
Error(Dataset)			Linear	2681.217	17
Visualization * DataAttributeTypes	Linear	Linear		280.001	1
		Quadratic		1820.504	1
	Quadratic	Linear		125.025	1
		Quadratic		489.778	1
	Cubic	Linear		882.235	1
		Quadratic		119.945	1
	Order 4	Linear		578.145	1
		Quadratic		4.301	1
Error (Visualization*DataAttributeTypes)	Linear	Linear		4774.374	17
		Quadratic		2370.954	17
	Quadratic	Linear		1913.314	17
		Quadratic		1728.002	17
	Cubic	Linear		2951.390	17
		Quadratic		3925.097	17
	Order 4	Linear		2475.416	17
		Quadratic		1634.853	17
Visualization * Dataset	Linear		Linear	606.001	1
	Quadratic		Linear	199.339	1
	Cubic		Linear	76.268	1
	Order 4		Linear	28.848	1

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Dataset	Mean Square	F
Visualization	Linear			291.408	1.430
	Quadratic			2543.334	8.862
	Cubic			.490	.004
	Order 4			605.201	6.060
Error(Visualization)	Linear			203.730	
	Quadratic			287.009	
	Cubic			125.600	
	Order 4			99.863	
DataAttributeTypes		Linear		394.803	4.315
		Quadratic		51.134	.656
Error(DataAttributeTypes)		Linear		91.503	
		Quadratic		77.932	
Dataset			Linear	104.017	.660
Error(Dataset)			Linear	157.719	
Visualization * DataAttributeTypes	Linear	Linear		280.001	.997
		Quadratic		1820.504	13.053
	Quadratic	Linear		125.025	1.111
		Quadratic		489.778	4.818
	Cubic	Linear		882.235	5.082
		Quadratic		119.945	.519
	Order 4	Linear		578.145	3.970
		Quadratic		4.301	.045
Error (Visualization*DataAttributeTypes)	Linear	Linear		280.846	
		Quadratic		139.468	
	Quadratic	Linear		112.548	
		Quadratic		101.647	
	Cubic	Linear		173.611	
		Quadratic		230.888	
	Order 4	Linear		145.613	
		Quadratic		96.168	
Visualization * Dataset	Linear		Linear	606.001	2.916
	Quadratic		Linear	199.339	1.254
	Cubic		Linear	76.268	.378
	Order 4		Linear	28.848	.622

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Dataset	Sig.	Partial Eta Squared
Visualization	Linear			.248	.078
	Quadratic			.008	.343
	Cubic			.951	.000
	Order 4			.025	.263
Error(Visualization)	Linear				
	Quadratic				
	Cubic				
	Order 4				
DataAttributeTypes		Linear		.053	.202
		Quadratic		.429	.037
Error(DataAttributeTypes)		Linear			
		Quadratic			
Dataset			Linear	.428	.037
Error(Dataset)			Linear		
Visualization * DataAttributeTypes	Linear	Linear		.332	.055
		Quadratic		.002	.434
	Quadratic	Linear		.307	.061
		Quadratic		.042	.221
	Cubic	Linear		.038	.230
		Quadratic		.481	.030
	Order 4	Linear		.063	.189
		Quadratic		.835	.003
Error (Visualization*DataAttributeTypes)	Linear	Linear			
		Quadratic			
	Quadratic	Linear			
		Quadratic			
	Cubic	Linear			
		Quadratic			
	Order 4	Linear			
		Quadratic			
Visualization * Dataset	Linear		Linear	.106	.146
	Quadratic		Linear	.278	.069
	Cubic		Linear	.547	.022
	Order 4		Linear	.441	.035

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Dataset	Noncent. Parameter
Visualization	Linear			1.430
	Quadratic			8.862
	Cubic			.004
	Order 4			6.060
Error(Visualization)	Linear			
	Quadratic			
	Cubic			
	Order 4			
DataAttributeTypes		Linear		4.315
		Quadratic		.656
Error(DataAttributeTypes)		Linear		
		Quadratic		
Dataset			Linear	.660
Error(Dataset)			Linear	
Visualization * DataAttributeTypes	Linear	Linear		.997
		Quadratic		13.053
	Quadratic	Linear		1.111
		Quadratic		4.818
	Cubic	Linear		5.082
		Quadratic		.519
	Order 4	Linear		3.970
		Quadratic		.045
Error (Visualization*DataAttributeTypes)	Linear	Linear		
		Quadratic		
	Quadratic	Linear		
		Quadratic		
	Cubic	Linear		
		Quadratic		
	Order 4	Linear		
		Quadratic		
Visualization * Dataset	Linear		Linear	2.916
	Quadratic		Linear	1.254
	Cubic		Linear	.378
	Order 4		Linear	.622

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Dataset	Observed Power[a]
Visualization	Linear			.204
	Quadratic			.801
	Cubic			.050
	Order 4			.641
Error(Visualization)	Linear			
	Quadratic			
	Cubic			
	Order 4			
DataAttributeTypes		Linear		.500
		Quadratic		.119
Error(DataAttributeTypes)		Linear		
		Quadratic		
Dataset			Linear	.120
Error(Dataset)			Linear	
Visualization * DataAttributeTypes	Linear	Linear		.156
		Quadratic		.925
	Quadratic	Linear		.169
		Quadratic		.544
	Cubic	Linear		.566
		Quadratic		.105
	Order 4	Linear		.468
		Quadratic		.055
Error (Visualization*DataAttributeTypes)	Linear	Linear		
		Quadratic		
	Quadratic	Linear		
		Quadratic		
	Cubic	Linear		
		Quadratic		
	Order 4	Linear		
		Quadratic		
Visualization * Dataset	Linear		Linear	.364
	Quadratic		Linear	.185
	Cubic		Linear	.089
	Order 4		Linear	.116

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Dataset	Type III Sum of Squares	df
Error(Visualization*Dataset)	Linear		Linear	3533.416	17
	Quadratic		Linear	2703.292	17
	Cubic		Linear	3432.482	17
	Order 4		Linear	787.955	17
DataAttributeTypes * Dataset		Linear	Linear	66.736	1
		Quadratic	Linear	421.875	1
Error (DataAttributeTypes*Dataset)		Linear	Linear	4238.614	17
		Quadratic	Linear	2565.642	17
Visualization * DataAttributeTypes * Dataset	Linear	Linear	Linear	3721.901	1
		Quadratic	Linear	515.289	1
	Quadratic	Linear	Linear	553.580	1
		Quadratic	Linear	1470.860	1
	Cubic	Linear	Linear	891.113	1
		Quadratic	Linear	285.289	1
	Order 4	Linear	Linear	22.267	1
		Quadratic	Linear	1.589	1
Error (Visualization*DataAttributeTypes*Dataset)	Linear	Linear	Linear	2361.074	17
		Quadratic	Linear	3030.769	17
	Quadratic	Linear	Linear	3204.188	17
		Quadratic	Linear	3223.205	17
	Cubic	Linear	Linear	1225.413	17
		Quadratic	Linear	657.986	17
	Order 4	Linear	Linear	1543.365	17
		Quadratic	Linear	1628.912	17

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Dataset	Mean Square	F
Error(Visualization*Dataset)	Linear		Linear	207.848	
	Quadratic		Linear	159.017	
	Cubic		Linear	201.911	
	Order 4		Linear	46.350	
DataAttributeTypes * Dataset		Linear	Linear	66.736	.268
		Quadratic	Linear	421.875	2.795
Error (DataAttributeTypes*Dataset)		Linear	Linear	249.330	
		Quadratic	Linear	150.920	
Visualization * DataAttributeTypes * Dataset	Linear	Linear	Linear	3721.901	26.798
		Quadratic	Linear	515.289	2.890
	Quadratic	Linear	Linear	553.580	2.937
		Quadratic	Linear	1470.860	7.758
	Cubic	Linear	Linear	891.113	12.362
		Quadratic	Linear	285.289	7.371
	Order 4	Linear	Linear	22.267	.245
		Quadratic	Linear	1.589	.017
Error (Visualization*DataAttributeTypes*Dataset)	Linear	Linear	Linear	138.887	
		Quadratic	Linear	178.281	
	Quadratic	Linear	Linear	188.482	
		Quadratic	Linear	189.600	
	Cubic	Linear	Linear	72.083	
		Quadratic	Linear	38.705	
	Order 4	Linear	Linear	90.786	
		Quadratic	Linear	95.818	

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	.612	.016
		Quadratic	Linear	.113	.141
Error (DataAttributeTypes*Dataset)		Linear	Linear		
		Quadratic	Linear		
Visualization * DataAttributeTypes * Dataset	Linear	Linear	Linear	.000	.612
		Quadratic	Linear	.107	.145
	Quadratic	Linear	Linear	.105	.147
		Quadratic	Linear	.013	.313
	Cubic	Linear	Linear	.003	.421
		Quadratic	Linear	.015	.302
	Order 4	Linear	Linear	.627	.014
		Quadratic	Linear	.899	.001
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	.268
		Quadratic	Linear	2.795
Error (DataAttributeTypes*Dataset)		Linear	Linear	
		Quadratic	Linear	
Visualization * DataAttributeTypes * Dataset	Linear	Linear	Linear	26.798
		Quadratic	Linear	2.890
	Quadratic	Linear	Linear	2.937
		Quadratic	Linear	7.758
	Cubic	Linear	Linear	12.362
		Quadratic	Linear	7.371
	Order 4	Linear	Linear	.245
		Quadratic	Linear	.017
Error (Visualization*DataAttributeTypes*Dataset)	Linear	Linear	Linear	
		Quadratic	Linear	
	Quadratic	Linear	Linear	
		Quadratic	Linear	
	Cubic	Linear	Linear	
		Quadratic	Linear	
	Order 4	Linear	Linear	
		Quadratic	Linear	

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Dataset	Observed Power[a]
Error(Visualization*Dataset)	Linear		Linear	
	Quadratic		Linear	
	Cubic		Linear	
	Order 4		Linear	
DataAttributeTypes * Dataset		Linear	Linear	.078
		Quadratic	Linear	.351
Error (DataAttributeTypes*Dataset)		Linear	Linear	
		Quadratic	Linear	
Visualization * DataAttributeTypes * Dataset	Linear	Linear	Linear	.998
		Quadratic	Linear	.361
	Quadratic	Linear	Linear	.366
		Quadratic	Linear	.747
	Cubic	Linear	Linear	.912
		Quadratic	Linear	.725
	Order 4	Linear	Linear	.075
		Quadratic	Linear	.052
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	226894.002	1	226894.002	205.992	.000	.924
Error	18724.965	17	1101.469			

Tests of Between-Subjects Effects

Measure: MEASURE_1

Transformed Variable: Average

Source	Noncent. Parameter	Observed Power[a]
Intercept	205.992	1.000
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
20.498	1.428	17.485	23.511

2. Visualization

Estimates

Measure: MEASURE_1

			95% Confidence Interval	
Visualization	Mean	Std. Error	Lower Bound	Upper Bound
1	24.435	2.387	19.400	29.470
2	18.546	1.838	14.669	22.423
3	19.602	1.607	16.211	22.992
4	17.593	1.581	14.257	20.929
5	22.315	1.636	18.864	25.766

Pairwise Comparisons

Measure: MEASURE_1

(I) Visualization	(J) Visualization	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence [a]... Lower Bound
1	2	5.889	2.612	.376	-2.528
	3	4.833	2.465	.665	-3.110
	4	6.843	2.269	.078	-.471
	5	2.120	2.309	1.000	-5.322
2	1	-5.889	2.612	.376	-14.306
	3	-1.056	.957	1.000	-4.141
	4	.954	.875	1.000	-1.866
	5	-3.769	1.657	.362	-9.110
3	1	-4.833	2.465	.665	-12.777
	2	1.056	.957	1.000	-2.030
	4	2.009	1.198	1.000	-1.850
	5	-2.713	1.104	.250	-6.270
4	1	-6.843	2.269	.078	-14.156
	2	-.954	.875	1.000	-3.773
	3	-2.009	1.198	1.000	-5.869
	5	-4.722	1.641	.104	-10.010
5	1	-2.120	2.309	1.000	-9.562
	2	3.769	1.657	.362	-1.573
	3	2.713	1.104	.250	-.845
	4	4.722	1.641	.104	-.565

Pairwise Comparisons

Measure: MEASURE_1

(I) Visualization	(J) Visualization	95% Confidence Interval for [a]... Upper Bound
1	2	14.306
	3	12.777
	4	14.156
	5	9.562
2	1	2.528
	3	2.030
	4	3.773
	5	1.573
3	1	3.110
	2	4.141
	4	5.869
	5	.845
4	1	.471
	2	1.866
	3	1.850
	5	.565
5	1	5.322
	2	9.110
	3	6.270
	4	10.010

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	.482	3.254[a]	4.000	14.000	.044	.482
Wilks' lambda	.518	3.254[a]	4.000	14.000	.044	.482
Hotelling's trace	.930	3.254[a]	4.000	14.000	.044	.482
Roy's largest root	.930	3.254[a]	4.000	14.000	.044	.482

Multivariate Tests

	Noncent. Parameter	Observed Power[b]
Pillai's trace	13.015	.683
Wilks' lambda	13.015	.683
Hotelling's trace	13.015	.683
Roy's largest root	13.015	.683

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

a. Exact statistic

b. Computed using alpha = .05

3. DataAttributeTypes

Estimates

Measure: MEASURE_1

			95% Confidence Interval	
DataAttributeTypes	Mean	Std. Error	Lower Bound	Upper Bound
1	19.233	1.307	16.476	21.990
2	20.933	1.436	17.904	23.963
3	21.328	1.814	17.500	25.155

Pairwise Comparisons

Measure: MEASURE_1

(I) DataAttributeTypes	(J) DataAttributeTypes	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence [a]... Lower Bound
1	2	-1.700	.829	.168	-3.902
	3	-2.094	1.008	.160	-4.772
2	1	1.700	.829	.168	-.502
	3	-.394	1.058	1.000	-3.204
3	1	2.094	1.008	.160	-.583
	2	.394	1.058	1.000	-2.415

Pairwise Comparisons

Measure: MEASURE_1

(I) DataAttributeTypes	(J) DataAttributeTypes	95% Confidence Interval for [a]... Upper Bound
1	2	.502
	3	.583
2	1	3.902
	3	2.415
3	1	4.772
	2	3.204

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	.271	2.970[a]	2.000	16.000	.080	.271
Wilks' lambda	.729	2.970[a]	2.000	16.000	.080	.271
Hotelling's trace	.371	2.970[a]	2.000	16.000	.080	.271
Roy's largest root	.371	2.970[a]	2.000	16.000	.080	.271

Multivariate Tests

	Noncent. Parameter	Observed Power[b]
Pillai's trace	5.940	.497
Wilks' lambda	5.940	.497
Hotelling's trace	5.940	.497
Roy's largest root	5.940	.497

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

				95% Confidence Interval	
Visualization	DataAttributeTypes	Mean	Std. Error	Lower Bound	Upper Bound
1	1	22.667	2.192	18.042	27.291
	2	19.083	1.822	15.239	22.928
	3	31.556	4.222	22.648	40.463
2	1	20.556	2.549	15.177	25.934
	2	19.028	1.580	15.694	22.362
	3	16.056	2.080	11.667	20.444
3	1	16.306	1.249	13.670	18.941
	2	21.444	2.704	15.740	27.149
	3	21.056	2.432	15.925	26.186
4	1	15.528	1.242	12.908	18.147
	2	19.861	2.723	14.115	25.607
	3	17.389	2.560	11.988	22.790
5	1	21.111	2.980	14.823	27.399
	2	25.250	1.677	21.712	28.788
	3	20.583	3.084	14.076	27.090