

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_Accuracy.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 PolynomialDataset2 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=VisualizationDataAttributeTypesDataset Visualization*DataAttributeTypes

Visualization*Dataset DataAttributeTypes*Dataset Visualization*DataAttributeTypes*Dataset.

General Linear Model

Notes

Output Created		07-SEP-2016 12:10:52
Comments		
Input	Data	C: \Users\Bahador\Desktop\A nalysis\Filter\Filter_Accura cy.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)
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/WSDESIGN=Visualizatio
n DataAttributeTypes
Dataset
Visualization*DataAttribute
Types
Visualization*Dataset
DataAttributeTypes*Datase
```

Notes

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

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

Within-Subjects Factors

Measure: MEASURE_1

Visualization	DataAttributeTypes	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	94.4444	23.57023	18
Bar_Nom_Num_Movie	88.8889	32.33808	18
Bar_Num_Num_Car	94.4444	23.57023	18
Bar_Num_Num_Movie	83.3333	38.34825	18
Bar_Ord_Num_Car	94.4444	23.57023	18
Bar_Ord_Num_Movie	94.4444	23.57023	18
Line_Nom_Num_Car	100.0000	.00000	18
Line_Nom_Num_Movie	94.4444	23.57023	18
Line_Num_Num_Car	77.7778	42.77926	18
Line_Num_Num_Movie	77.7778	42.77926	18
Line_Ord_Num_Car	88.8889	32.33808	18
Line_Ord_Num_Movie	94.4444	23.57023	18
Pie_Nom_Num_Car	100.0000	.00000	18
Pie_Nom_Num_Movie	94.4444	23.57023	18
Pie_Num_Num_Car	83.3333	38.34825	18
Pie_Num_Num_Movie	94.4444	23.57023	18
Pie_Ord_Num_Car	100.0000	.00000	18
Pie_Ord_Num_Movie	83.3333	38.34825	18
Scatter_Nom_Num_Car	94.4444	23.57023	18
Scatter_Nom_Num_Movie	100.0000	.00000	18
Scatter_Num_Num_Car	77.7778	42.77926	18
Scatter_Num_Num_Movie	83.3333	38.34825	18
Scatter_Ord_Num_Car	77.7778	42.77926	18
Scatter_Ord_Num_Movie	94.4444	23.57023	18
Table_Nom_Num_Car	88.8889	32.33808	18
Table_Nom_Num_Movie	100.0000	.00000	18
Table_Num_Num_Car	94.4444	23.57023	18
Table_Num_Num_Movie	83.3333	38.34825	18
Table_Ord_Num_Car	94.4444	23.57023	18
Table_Ord_Num_Movie	100.0000	.00000	18

Multivariate Tests^a

Effect		Value	F	Hypothesis df	Error df
Visualization	Pillai's Trace	.206	.906 ^b	4.000	14.000
	Wilks' Lambda	.794	.906 ^b	4.000	14.000
	Hotelling's Trace	.259	.906 ^b	4.000	14.000
	Roy's Largest Root	.259	.906 ^b	4.000	14.000
DataAttributeTypes	Pillai's Trace	.348	4.276 ^b	2.000	16.000
	Wilks' Lambda	.652	4.276 ^b	2.000	16.000
	Hotelling's Trace	.535	4.276 ^b	2.000	16.000
	Roy's Largest Root	.535	4.276 ^b	2.000	16.000
Dataset	Pillai's Trace	.002	.029 ^b	1.000	17.000
	Wilks' Lambda	.998	.029 ^b	1.000	17.000
	Hotelling's Trace	.002	.029 ^b	1.000	17.000
	Roy's Largest Root	.002	.029 ^b	1.000	17.000
Visualization * DataAttributeTypes	Pillai's Trace	.348	.668 ^b	8.000	10.000
	Wilks' Lambda	.652	.668 ^b	8.000	10.000
	Hotelling's Trace	.534	.668 ^b	8.000	10.000
	Roy's Largest Root	.534	.668 ^b	8.000	10.000
Visualization * Dataset	Pillai's Trace	.212	.944 ^b	4.000	14.000
	Wilks' Lambda	.788	.944 ^b	4.000	14.000
	Hotelling's Trace	.270	.944 ^b	4.000	14.000
	Roy's Largest Root	.270	.944 ^b	4.000	14.000
DataAttributeTypes * Dataset	Pillai's Trace	.030	.246 ^b	2.000	16.000
	Wilks' Lambda	.970	.246 ^b	2.000	16.000
	Hotelling's Trace	.031	.246 ^b	2.000	16.000
	Roy's Largest Root	.031	.246 ^b	2.000	16.000
Visualization * DataAttributeTypes * Dataset	Pillai's Trace	.430	.942 ^b	8.000	10.000
	Wilks' Lambda	.570	.942 ^b	8.000	10.000
	Hotelling's Trace	.754	.942 ^b	8.000	10.000
	Roy's Largest Root	.754	.942 ^b	8.000	10.000

Multivariate Tests^a

Effect		Sig.	Partial Eta Squared	Noncent. Parameter
Visualization	Pillai's Trace	.487	.206	3.623
	Wilks' Lambda	.487	.206	3.623
	Hotelling's Trace	.487	.206	3.623
	Roy's Largest Root	.487	.206	3.623
DataAttributeTypes	Pillai's Trace	.033	.348	8.553
	Wilks' Lambda	.033	.348	8.553
	Hotelling's Trace	.033	.348	8.553
	Roy's Largest Root	.033	.348	8.553
Dataset	Pillai's Trace	.868	.002	.029
	Wilks' Lambda	.868	.002	.029
	Hotelling's Trace	.868	.002	.029
	Roy's Largest Root	.868	.002	.029
Visualization * DataAttributeTypes	Pillai's Trace	.710	.348	5.344
	Wilks' Lambda	.710	.348	5.344
	Hotelling's Trace	.710	.348	5.344
	Roy's Largest Root	.710	.348	5.344
Visualization * Dataset	Pillai's Trace	.467	.212	3.777
	Wilks' Lambda	.467	.212	3.777
	Hotelling's Trace	.467	.212	3.777
	Roy's Largest Root	.467	.212	3.777
DataAttributeTypes * Dataset	Pillai's Trace	.785	.030	.491
	Wilks' Lambda	.785	.030	.491
	Hotelling's Trace	.785	.030	.491
	Roy's Largest Root	.785	.030	.491
Visualization * DataAttributeTypes * Dataset	Pillai's Trace	.525	.430	7.535
	Wilks' Lambda	.525	.430	7.535
	Hotelling's Trace	.525	.430	7.535
	Roy's Largest Root	.525	.430	7.535

Multivariate Tests^a

Effect		Observed Power ^c
Visualization	Pillai's Trace	.218
	Wilks' Lambda	.218
	Hotelling's Trace	.218
	Roy's Largest Root	.218
DataAttributeTypes	Pillai's Trace	.660
	Wilks' Lambda	.660
	Hotelling's Trace	.660
	Roy's Largest Root	.660
Dataset	Pillai's Trace	.053
	Wilks' Lambda	.053
	Hotelling's Trace	.053
	Roy's Largest Root	.053
Visualization * DataAttributeTypes	Pillai's Trace	.177
	Wilks' Lambda	.177
	Hotelling's Trace	.177
	Roy's Largest Root	.177
Visualization * Dataset	Pillai's Trace	.226
	Wilks' Lambda	.226
	Hotelling's Trace	.226
	Roy's Largest Root	.226
DataAttributeTypes * Dataset	Pillai's Trace	.082
	Wilks' Lambda	.082
	Hotelling's Trace	.082
	Roy's Largest Root	.082
Visualization * DataAttributeTypes * Dataset	Pillai's Trace	.241
	Wilks' Lambda	.241
	Hotelling's Trace	.241
	Roy's Largest Root	.241

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	.595	7.999	9	.537	.790
DataAttributeTypes	.685	6.061	2	.048	.760
Dataset	1.000	.000	0	.	1.000
Visualization * DataAttributeTypes	.023	53.072	35	.032	.614
Visualization * Dataset	.268	20.321	9	.017	.695
DataAttributeTypes * Dataset	.946	.897	2	.639	.948
Visualization * DataAttributeTypes * Dataset	.005	74.996	35	.000	.484

Mauchly's Test of Sphericity^a

Measure: MEASURE_1

Within Subjects Effect	Epsilon ^b	
	Huynh-Feldt	Lower-bound
Visualization	.991	.250
DataAttributeTypes	.819	.500
Dataset	1.000	1.000
Visualization * DataAttributeTypes	.894	.125
Visualization * Dataset	.845	.250
DataAttributeTypes * Dataset	1.000	.500
Visualization * DataAttributeTypes * Dataset	.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 + 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	2481.481	4	620.370	.913
	Greenhouse-Geisser	2481.481	3.159	785.451	.913
	Huynh-Feldt	2481.481	3.964	625.969	.913
	Lower-bound	2481.481	1.000	2481.481	.913
Error(Visualization)	Sphericity Assumed	46185.185	68	679.194	
	Greenhouse-Geisser	46185.185	53.708	859.927	
	Huynh-Feldt	46185.185	67.392	685.324	
	Lower-bound	46185.185	17.000	2716.776	
DataAttributeTypes	Sphericity Assumed	10481.481	2	5240.741	5.903
	Greenhouse-Geisser	10481.481	1.521	6893.200	5.903
	Huynh-Feldt	10481.481	1.639	6395.260	5.903
	Lower-bound	10481.481	1.000	10481.481	5.903
Error(DataAttributeTypes)	Sphericity Assumed	30185.185	34	887.800	
	Greenhouse-Geisser	30185.185	25.849	1167.732	
	Huynh-Feldt	30185.185	27.862	1083.379	
	Lower-bound	30185.185	17.000	1775.599	
Dataset	Sphericity Assumed	18.519	1	18.519	.029
	Greenhouse-Geisser	18.519	1.000	18.519	.029
	Huynh-Feldt	18.519	1.000	18.519	.029
	Lower-bound	18.519	1.000	18.519	.029
Error(Dataset)	Sphericity Assumed	10981.481	17	645.969	
	Greenhouse-Geisser	10981.481	17.000	645.969	
	Huynh-Feldt	10981.481	17.000	645.969	
	Lower-bound	10981.481	17.000	645.969	
Visualization * DataAttributeTypes	Sphericity Assumed	5074.074	8	634.259	.915
	Greenhouse-Geisser	5074.074	4.915	1032.297	.915

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Sig.	Partial Eta Squared	Noncent. Parameter
Visualization	Sphericity Assumed	.461	.051	3.654
	Greenhouse-Geisser	.445	.051	2.886
	Huynh-Feldt	.461	.051	3.621
	Lower-bound	.353	.051	.913
Error(Visualization)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
DataAttributeTypes	Sphericity Assumed	.006	.258	11.806
	Greenhouse-Geisser	.013	.258	8.976
	Huynh-Feldt	.011	.258	9.675
	Lower-bound	.026	.258	5.903
Error(DataAttributeTypes)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
Dataset	Sphericity Assumed	.868	.002	.029
	Greenhouse-Geisser	.868	.002	.029
	Huynh-Feldt	.868	.002	.029
	Lower-bound	.868	.002	.029
Error(Dataset)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
Visualization * DataAttributeTypes	Sphericity Assumed	.506	.051	7.321
	Greenhouse-Geisser	.474	.051	4.498

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Observed Power ^a
Visualization	Sphericity Assumed	.275
	Greenhouse-Geisser	.243
	Huynh-Feldt	.274
	Lower-bound	.147
Error(Visualization)	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	
DataAttributeTypes	Sphericity Assumed	.846
	Greenhouse-Geisser	.763
	Huynh-Feldt	.786
	Lower-bound	.630
Error(DataAttributeTypes)	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	
Dataset	Sphericity Assumed	.053
	Greenhouse-Geisser	.053
	Huynh-Feldt	.053
	Lower-bound	.053
Error(Dataset)	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	
Visualization * DataAttributeTypes	Sphericity Assumed	.413
	Greenhouse-Geisser	.309

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F
	Huynh-Feldt	5074.074	7.156	709.083	.915
	Lower-bound	5074.074	1.000	5074.074	.915
Error (Visualization*DataAttribute Types)	Sphericity Assumed	94259.259	136	693.083	
	Greenhouse-Geisser	94259.259	83.560	1128.036	
	Huynh-Feldt	94259.259	121.649	774.846	
	Lower-bound	94259.259	17.000	5544.662	
Visualization * Dataset	Sphericity Assumed	3592.593	4	898.148	1.396
	Greenhouse-Geisser	3592.593	2.781	1291.780	1.396
	Huynh-Feldt	3592.593	3.380	1062.891	1.396
	Lower-bound	3592.593	1.000	3592.593	1.396
Error(Visualization*Dataset)	Sphericity Assumed	43740.741	68	643.246	
	Greenhouse-Geisser	43740.741	47.279	925.162	
	Huynh-Feldt	43740.741	57.460	761.233	
	Lower-bound	43740.741	17.000	2572.985	
DataAttributeTypes * Dataset	Sphericity Assumed	259.259	2	129.630	.321
	Greenhouse-Geisser	259.259	1.897	136.694	.321
	Huynh-Feldt	259.259	2.000	129.630	.321
	Lower-bound	259.259	1.000	259.259	.321
Error (DataAttributeTypes*Datase t)	Sphericity Assumed	13740.741	34	404.139	
	Greenhouse-Geisser	13740.741	32.243	426.164	
	Huynh-Feldt	13740.741	34.000	404.139	
	Lower-bound	13740.741	17.000	808.279	
Visualization * DataAttributeTypes * Dataset	Sphericity Assumed	7518.519	8	939.815	1.216
	Greenhouse-Geisser	7518.519	3.872	1941.925	1.216
	Huynh-Feldt	7518.519	5.156	1458.192	1.216
	Lower-bound	7518.519	1.000	7518.519	1.216
Error (Visualization*DataAttribute Types*Dataset)	Sphericity Assumed	105148.148	136	773.148	
	Greenhouse-Geisser	105148.148	65.819	1597.544	
	Huynh-Feldt	105148.148	87.653	1199.597	
	Lower-bound	105148.148	17.000	6185.185	

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Sig.	Partial Eta Squared	Noncent. Parameter
	Huynh-Feldt	.499	.051	6.548
	Lower-bound	.352	.051	.915
Error (Visualization*DataAttribute Types)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
Visualization * Dataset	Sphericity Assumed	.245	.076	5.585
	Greenhouse-Geisser	.256	.076	3.883
	Huynh-Feldt	.251	.076	4.719
	Lower-bound	.254	.076	1.396
Error(Visualization*Dataset)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
DataAttributeTypes * Dataset	Sphericity Assumed	.728	.019	.642
	Greenhouse-Geisser	.717	.019	.608
	Huynh-Feldt	.728	.019	.642
	Lower-bound	.579	.019	.321
Error (DataAttributeTypes*Datase t)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
Visualization * DataAttributeTypes * Dataset	Sphericity Assumed	.294	.067	9.725
	Greenhouse-Geisser	.313	.067	4.706
	Huynh-Feldt	.308	.067	6.268
	Lower-bound	.286	.067	1.216
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	.386
	Lower-bound	.147
Error (Visualization*DataAttribute Types)	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	
Visualization * Dataset	Sphericity Assumed	.412
	Greenhouse-Geisser	.334
	Huynh-Feldt	.373
	Lower-bound	.200
Error(Visualization*Dataset)	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	
DataAttributeTypes * Dataset	Sphericity Assumed	.097
	Greenhouse-Geisser	.096
	Huynh-Feldt	.097
	Lower-bound	.083
Error (DataAttributeTypes*Datase t)	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	
Visualization * DataAttributeTypes * Dataset	Sphericity Assumed	.544
	Greenhouse-Geisser	.354
	Huynh-Feldt	.420
	Lower-bound	.180
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			83.333	1
	Quadratic			535.714	1
	Cubic			148.148	1
	Order 4			1714.286	1
Error(Visualization)	Linear			11750.000	17
	Quadratic			15535.714	17
	Cubic			7185.185	17
	Order 4			11714.286	17
DataAttributeTypes		Linear		1000.000	1
		Quadratic		9481.481	1
Error(DataAttributeTypes)		Linear		12000.000	17
		Quadratic		18185.185	17
Dataset			Linear	18.519	1
Error(Dataset)			Linear	10981.481	17
Visualization * DataAttributeTypes	Linear	Linear		55.556	1
		Quadratic		.000	1
	Quadratic	Linear		1944.444	1
		Quadratic		476.190	1
	Cubic	Linear		222.222	1
		Quadratic		462.963	1
	Order 4	Linear		388.889	1
		Quadratic		1523.810	1
Error (Visualization*DataAttribute Types)	Linear	Linear		9444.444	17
		Quadratic		16166.667	17
	Quadratic	Linear		6269.841	17
		Quadratic		16309.524	17
	Cubic	Linear		7777.778	17
		Quadratic		14203.704	17
	Order 4	Linear		5896.825	17
		Quadratic		18190.476	17
Visualization * Dataset	Linear		Linear	1564.815	1
	Quadratic		Linear	165.344	1
	Cubic		Linear	333.333	1
	Order 4		Linear	1529.101	1

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Dataset	Mean Square	F
Visualization	Linear			83.333	.121
	Quadratic			535.714	.586
	Cubic			148.148	.351
	Order 4			1714.286	2.488
Error(Visualization)	Linear			691.176	
	Quadratic			913.866	
	Cubic			422.658	
	Order 4			689.076	
DataAttributeTypes		Linear		1000.000	1.417
		Quadratic		9481.481	8.864
Error(DataAttributeTypes)		Linear		705.882	
		Quadratic		1069.717	
Dataset			Linear	18.519	.029
Error(Dataset)			Linear	645.969	
Visualization * DataAttributeTypes	Linear	Linear		55.556	.100
		Quadratic		.000	.000
	Quadratic	Linear		1944.444	5.272
		Quadratic		476.190	.496
	Cubic	Linear		222.222	.486
		Quadratic		462.963	.554
	Order 4	Linear		388.889	1.121
		Quadratic		1523.810	1.424
Error (Visualization*DataAttribute Types)	Linear	Linear		555.556	
		Quadratic		950.980	
	Quadratic	Linear		368.814	
		Quadratic		959.384	
	Cubic	Linear		457.516	
		Quadratic		835.512	
	Order 4	Linear		346.872	
		Quadratic		1070.028	
Visualization * Dataset	Linear		Linear	1564.815	2.977
	Quadratic		Linear	165.344	.276
	Cubic		Linear	333.333	.680
	Order 4		Linear	1529.101	1.597

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Dataset	Sig.	Partial Eta Squared
Visualization	Linear			.733	.007
	Quadratic			.454	.033
	Cubic			.562	.020
	Order 4			.133	.128
Error(Visualization)	Linear				
	Quadratic				
	Cubic				
	Order 4				
DataAttributeTypes		Linear		.250	.077
		Quadratic		.008	.343
Error(DataAttributeTypes)		Linear			
		Quadratic			
Dataset			Linear	.868	.002
Error(Dataset)			Linear		
Visualization * DataAttributeTypes	Linear	Linear		.756	.006
		Quadratic		1.000	.000
	Quadratic	Linear		.035	.237
		Quadratic		.491	.028
	Cubic	Linear		.495	.028
		Quadratic		.467	.032
	Order 4	Linear		.304	.062
		Quadratic		.249	.077
Error (Visualization*DataAttribute Types)	Linear	Linear			
		Quadratic			
	Quadratic	Linear			
		Quadratic			
	Cubic	Linear			
		Quadratic			
	Order 4	Linear			
		Quadratic			
Visualization * Dataset	Linear		Linear	.103	.149
	Quadratic		Linear	.606	.016
	Cubic		Linear	.421	.038
	Order 4		Linear	.223	.086

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Dataset	Noncent. Parameter
Visualization	Linear			.121
	Quadratic			.586
	Cubic			.351
	Order 4			2.488
Error(Visualization)	Linear			
	Quadratic			
	Cubic			
	Order 4			
DataAttributeTypes		Linear		1.417
		Quadratic		8.864
Error(DataAttributeTypes)		Linear		
		Quadratic		
Dataset			Linear	.029
Error(Dataset)			Linear	
Visualization * DataAttributeTypes	Linear	Linear		.100
		Quadratic		.000
	Quadratic	Linear		5.272
		Quadratic		.496
	Cubic	Linear		.486
		Quadratic		.554
	Order 4	Linear		1.121
		Quadratic		1.424
Error (Visualization*DataAttribute Types)	Linear	Linear		
		Quadratic		
	Quadratic	Linear		
		Quadratic		
	Cubic	Linear		
		Quadratic		
	Order 4	Linear		
		Quadratic		
Visualization * Dataset	Linear		Linear	2.977
	Quadratic		Linear	.276
	Cubic		Linear	.680
	Order 4		Linear	1.597

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Dataset	Observed Power ^a
Visualization	Linear			.062
	Quadratic			.112
	Cubic			.087
	Order 4			.319
Error(Visualization)	Linear			
	Quadratic			
	Cubic			
	Order 4			
DataAttributeTypes		Linear		.203
		Quadratic		.801
Error(DataAttributeTypes)		Linear		
		Quadratic		
Dataset			Linear	.053
Error(Dataset)			Linear	
Visualization * DataAttributeTypes	Linear	Linear		.060
		Quadratic		.050
	Quadratic	Linear		.581
		Quadratic		.102
	Cubic	Linear		.101
		Quadratic		.108
	Order 4	Linear		.170
		Quadratic		.203
Error (Visualization*DataAttribute Types)	Linear	Linear		
		Quadratic		
	Quadratic	Linear		
		Quadratic		
	Cubic	Linear		
		Quadratic		
	Order 4	Linear		
		Quadratic		
Visualization * Dataset	Linear		Linear	.370
	Quadratic		Linear	.079
	Cubic		Linear	.122
	Order 4		Linear	.222

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Dataset	Type III Sum of Squares	df
Error(Visualization*Dataset)	Linear		Linear	8935.185	17
	Quadratic		Linear	10191.799	17
	Cubic		Linear	8333.333	17
	Order 4		Linear	16280.423	17
DataAttributeTypes * Dataset		Linear	Linear	111.111	1
		Quadratic	Linear	148.148	1
Error (DataAttributeTypes*Dataset)		Linear	Linear	6888.889	17
		Quadratic	Linear	6851.852	17
Visualization * DataAttributeTypes * Dataset	Linear	Linear	Linear	222.222	1
		Quadratic	Linear	462.963	1
	Quadratic	Linear	Linear	.000	1
		Quadratic	Linear	3822.751	1
	Cubic	Linear	Linear	55.556	1
		Quadratic	Linear	.000	1
	Order 4	Linear	Linear	1555.556	1
		Quadratic	Linear	1399.471	1
Error (Visualization*DataAttributeTypes*Dataset)	Linear	Linear	Linear	13277.778	17
		Quadratic	Linear	13037.037	17
	Quadratic	Linear	Linear	9642.857	17
		Quadratic	Linear	17248.677	17
	Cubic	Linear	Linear	3944.444	17
		Quadratic	Linear	27333.333	17
	Order 4	Linear	Linear	9301.587	17
		Quadratic	Linear	11362.434	17

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Visualization	DataAttributeTypes	Dataset	Mean Square	F
Error(Visualization*Dataset)	Linear		Linear	525.599	
	Quadratic		Linear	599.518	
	Cubic		Linear	490.196	
	Order 4		Linear	957.672	
DataAttributeTypes * Dataset		Linear	Linear	111.111	.274
		Quadratic	Linear	148.148	.368
Error (DataAttributeTypes*Dataset)		Linear	Linear	405.229	
		Quadratic	Linear	403.050	
Visualization * DataAttributeTypes * Dataset	Linear	Linear	Linear	222.222	.285
		Quadratic	Linear	462.963	.604
	Quadratic	Linear	Linear	.000	.000
		Quadratic	Linear	3822.751	3.768
	Cubic	Linear	Linear	55.556	.239
		Quadratic	Linear	.000	.000
	Order 4	Linear	Linear	1555.556	2.843
		Quadratic	Linear	1399.471	2.094
Error (Visualization*DataAttributeTypes*Dataset)	Linear	Linear	Linear	781.046	
		Quadratic	Linear	766.885	
	Quadratic	Linear	Linear	567.227	
		Quadratic	Linear	1014.628	
	Cubic	Linear	Linear	232.026	
		Quadratic	Linear	1607.843	
	Order 4	Linear	Linear	547.152	
		Quadratic	Linear	668.378	

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	.607	.016
		Quadratic	Linear	.552	.021
Error (DataAttributeTypes*Dataset)		Linear	Linear		
		Quadratic	Linear		
Visualization * DataAttributeTypes * Dataset	Linear	Linear	Linear	.601	.016
		Quadratic	Linear	.448	.034
	Quadratic	Linear	Linear	1.000	.000
		Quadratic	Linear	.069	.181
	Cubic	Linear	Linear	.631	.014
		Quadratic	Linear	1.000	.000
	Order 4	Linear	Linear	.110	.143
		Quadratic	Linear	.166	.110
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	.274
		Quadratic	Linear	.368
Error (DataAttributeTypes*Dataset)		Linear	Linear	
		Quadratic	Linear	
Visualization * DataAttributeTypes * Dataset	Linear	Linear	Linear	.285
		Quadratic	Linear	.604
	Quadratic	Linear	Linear	.000
		Quadratic	Linear	3.768
	Cubic	Linear	Linear	.239
		Quadratic	Linear	.000
	Order 4	Linear	Linear	2.843
		Quadratic	Linear	2.094
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	.078
		Quadratic	Linear	.088
Error (DataAttributeTypes*Dataset)		Linear	Linear	
		Quadratic	Linear	
Visualization * DataAttributeTypes * Dataset	Linear	Linear	Linear	.080
		Quadratic	Linear	.114
	Quadratic	Linear	Linear	.050
		Quadratic	Linear	.449
	Cubic	Linear	Linear	.075
		Quadratic	Linear	.050
	Order 4	Linear	Linear	.356
		Quadratic	Linear	.277
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	4464462.963	1	4464462.963	1056.011	.000	.984
Error	71870.370	17	4227.669			

Tests of Between-Subjects Effects

Measure: MEASURE_1

Transformed Variable: Average

Source	Noncent. Parameter	Observed Power ^a
Intercept	1056.011	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
90.926	2.798	85.023	96.829

2. Visualization

Estimates

Measure: MEASURE_1

Visualization	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	91.667	2.021	87.402	95.931
2	88.889	3.811	80.848	96.930
3	92.593	3.864	84.441	100.744
4	87.963	4.822	77.790	98.136
5	93.519	2.741	87.735	99.302

Pairwise Comparisons

Measure: MEASURE_1

(I) Visualization	(J) Visualization	Mean Difference (I-J)	Std. Error	Sig. ^a	95% Confidence a...
					Lower Bound
1	2	2.778	4.098	1.000	-10.428
	3	-.926	4.147	1.000	-14.289
	4	3.704	4.580	1.000	-11.056
	5	-1.852	3.270	1.000	-12.389
2	1	-2.778	4.098	1.000	-15.983
	3	-3.704	3.450	1.000	-14.821
	4	.926	3.152	1.000	-9.231
	5	-4.630	3.247	1.000	-15.092
3	1	.926	4.147	1.000	-12.437
	2	3.704	3.450	1.000	-7.413
	4	4.630	3.247	1.000	-5.832
	5	-.926	2.849	1.000	-10.108
4	1	-3.704	4.580	1.000	-18.464
	2	-.926	3.152	1.000	-11.083
	3	-4.630	3.247	1.000	-15.092
	5	-5.556	3.013	.827	-15.265
5	1	1.852	3.270	1.000	-8.685
	2	4.630	3.247	1.000	-5.832
	3	.926	2.849	1.000	-8.256
	4	5.556	3.013	.827	-4.153

Pairwise Comparisons

Measure: MEASURE_1

		95% Confidence Interval for ^a ...
(I) Visualization	(J) Visualization	Upper Bound
1	2	15.983
	3	12.437
	4	18.464
	5	8.685
2	1	10.428
	3	7.413
	4	11.083
	5	5.832
3	1	14.289
	2	14.821
	4	15.092
	5	8.256
4	1	11.056
	2	9.231
	3	5.832
	5	4.153
5	1	12.389
	2	15.092
	3	10.108
	4	15.265

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	.206	.906 ^a	4.000	14.000	.487	.206
Wilks' lambda	.794	.906 ^a	4.000	14.000	.487	.206
Hotelling's trace	.259	.906 ^a	4.000	14.000	.487	.206
Roy's largest root	.259	.906 ^a	4.000	14.000	.487	.206

Multivariate Tests

	Noncent. Parameter	Observed Power ^b
Pillai's trace	3.623	.218
Wilks' lambda	3.623	.218
Hotelling's trace	3.623	.218
Roy's largest root	3.623	.218

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	95.556	2.318	90.665	100.447
2	85.000	4.220	76.096	93.904
3	92.222	3.189	85.495	98.950

Pairwise Comparisons

Measure: MEASURE_1

(I) DataAttributeTypes	(J) DataAttributeTypes	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence ^b ...
					Lower Bound
1	2	10.556 [*]	3.917	.046	.156
	3	3.333	2.801	.751	-4.102
2	1	-10.556 [*]	3.917	.046	-20.955
	3	-7.222 [*]	2.532	.033	-13.944
3	1	-3.333	2.801	.751	-10.769
	2	7.222 [*]	2.532	.033	.501

Pairwise Comparisons

Measure: MEASURE_1

(I) DataAttributeTypes	(J) DataAttributeTypes	95% Confidence Interval for ^b ...
		Upper Bound
1	2	20.955
	3	10.769
2	1	-.156
	3	-.501
3	1	4.102
	2	13.944

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	.348	4.276 ^a	2.000	16.000	.033	.348
Wilks' lambda	.652	4.276 ^a	2.000	16.000	.033	.348
Hotelling's trace	.535	4.276 ^a	2.000	16.000	.033	.348
Roy's largest root	.535	4.276 ^a	2.000	16.000	.033	.348

Multivariate Tests

	Noncent. Parameter	Observed Power ^b
Pillai's trace	8.553	.660
Wilks' lambda	8.553	.660
Hotelling's trace	8.553	.660
Roy's largest root	8.553	.660

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	91.667	4.519	82.132	101.202
	2	88.889	5.042	78.252	99.526
	3	94.444	3.811	86.404	102.485
2	1	97.222	2.778	91.362	103.083
	2	77.778	8.306	60.254	95.302
	3	91.667	4.519	82.132	101.202
3	1	97.222	2.778	91.362	103.083
	2	88.889	6.462	75.255	102.523
	3	91.667	4.519	82.132	101.202
4	1	97.222	2.778	91.362	103.083
	2	80.556	7.162	65.446	95.665
	3	86.111	6.771	71.826	100.396
5	1	94.444	3.811	86.404	102.485
	2	88.889	6.462	75.255	102.523
	3	97.222	2.778	91.362	103.083