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DATASET ACTIVATE DataSet1.
GLM FirstPlaceDry FirstPlaceRain LoseDry LoseRain
  /WSFACTOR=Place 2 Polynomial Weather 2 Polynomial
  /METHOD=SSTYPE(3)
  /PLOT=PROFILE(Weather*Place Place*Weather)
  /EMMEANS=TABLES(Place) COMPARE ADJ(LSD)
  /EMMEANS=TABLES(Weather) COMPARE ADJ(LSD)
  /EMMEANS=TABLES(Place*Weather) COMPARE(Place) ADJ(LSD)
  /EMMEANS=TABLES(Place*Weather) COMPARE(Weather) ADJ(LSD)
  /PRINT=DESCRIPTIVE ETASQ
  /CRITERIA=ALPHA(.05)
  /WSDESIGN=Place Weather Place*Weather.

```

General Linear Model

Notes

Output Created		07-FEB-2015 00:06:02
Comments		
Input	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	8
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	<pre>GLM FirstPlaceDry FirstPlaceRain LoseDry LoseRain /WSFACTOR=Place 2 Polynomial Weather 2 Polynomial /METHOD=SSTYPE(3) /PLOT=PROFILE(Weather*Place Place*Weather) /EMMEANS=TABLES(Place) COMPARE ADJ(LSD) /EMMEANS=TABLES(Weather) COMPARE ADJ(LSD) /EMMEANS=TABLES (Place*Weather) COMPARE(Place) ADJ(LSD) /EMMEANS=TABLES (Place*Weather) COMPARE (Weather) ADJ(LSD) /PRINT=DESCRIPTIVE ETASQ /CRITERIA=ALPHA(.05) /WSDESIGN=Place Weather Place*Weather.</pre>
Resources	<p align="right">Processor Time 00:00:00.41 Elapsed Time 00:00:00.49</p>

Within-Subjects Factors

Measure: MEASURE_1

Place	Weather	Dependent Variable
1	1	FirstPlaceDry
	2	FirstPlaceRain
2	1	LoseDry
	2	LoseRain

Descriptive Statistics

	Mean	Std. Deviation	N
FirstPlaceDry	1.00	.926	8
FirstPlaceRain	.50	1.069	8
LoseDry	2.75	2.493	8
LoseRain	7.75	3.327	8

Multivariate Tests^a

Effect		Value	F	Hypothesis df	Error df	Sig.
Place	Pillai's Trace	.900	63.000 ^b	1.000	7.000	.000
	Wilks' Lambda	.100	63.000 ^b	1.000	7.000	.000
	Hotelling's Trace	9.000	63.000 ^b	1.000	7.000	.000
	Roy's Largest Root	9.000	63.000 ^b	1.000	7.000	.000
Weather	Pillai's Trace	.506	7.177 ^b	1.000	7.000	.032
	Wilks' Lambda	.494	7.177 ^b	1.000	7.000	.032
	Hotelling's Trace	1.025	7.177 ^b	1.000	7.000	.032
	Roy's Largest Root	1.025	7.177 ^b	1.000	7.000	.032
Place * Weather	Pillai's Trace	.438	5.465 ^b	1.000	7.000	.052
	Wilks' Lambda	.562	5.465 ^b	1.000	7.000	.052
	Hotelling's Trace	.781	5.465 ^b	1.000	7.000	.052
	Roy's Largest Root	.781	5.465 ^b	1.000	7.000	.052

Multivariate Tests^a

Effect		Partial Eta Squared
Place	Pillai's Trace	.900
	Wilks' Lambda	.900
	Hotelling's Trace	.900
	Roy's Largest Root	.900
Weather	Pillai's Trace	.506
	Wilks' Lambda	.506
	Hotelling's Trace	.506
	Roy's Largest Root	.506
Place * Weather	Pillai's Trace	.438
	Wilks' Lambda	.438
	Hotelling's Trace	.438
	Roy's Largest Root	.438

a. Design: Intercept
 Within Subjects Design: Place + Weather + Place * Weather

b. Exact statistic

Mauchly's Test of Sphericity^a

Measure: MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon ^b
					Greenhouse-Geisser
Place	1.000	.000	0	.	1.000
Weather	1.000	.000	0	.	1.000
Place * Weather	1.000	.000	0	.	1.000

Mauchly's Test of Sphericity^a

Measure: MEASURE_1

Within Subjects Effect	Epsilon ^b	
	Huynh-Feldt	Lower-bound
Place	1.000	1.000
Weather	1.000	1.000
Place * Weather	1.000	1.000

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: Place + Weather + Place * Weather

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
Place	Sphericity Assumed	162.000	1	162.000	63.000
	Greenhouse-Geisser	162.000	1.000	162.000	63.000
	Huynh-Feldt	162.000	1.000	162.000	63.000
	Lower-bound	162.000	1.000	162.000	63.000
Error(Place)	Sphericity Assumed	18.000	7	2.571	
	Greenhouse-Geisser	18.000	7.000	2.571	
	Huynh-Feldt	18.000	7.000	2.571	
	Lower-bound	18.000	7.000	2.571	
Weather	Sphericity Assumed	40.500	1	40.500	7.177
	Greenhouse-Geisser	40.500	1.000	40.500	7.177
	Huynh-Feldt	40.500	1.000	40.500	7.177
	Lower-bound	40.500	1.000	40.500	7.177
Error(Weather)	Sphericity Assumed	39.500	7	5.643	
	Greenhouse-Geisser	39.500	7.000	5.643	
	Huynh-Feldt	39.500	7.000	5.643	
	Lower-bound	39.500	7.000	5.643	
Place * Weather	Sphericity Assumed	60.500	1	60.500	5.465
	Greenhouse-Geisser	60.500	1.000	60.500	5.465
	Huynh-Feldt	60.500	1.000	60.500	5.465
	Lower-bound	60.500	1.000	60.500	5.465
Error(Place*Weather)	Sphericity Assumed	77.500	7	11.071	
	Greenhouse-Geisser	77.500	7.000	11.071	
	Huynh-Feldt	77.500	7.000	11.071	
	Lower-bound	77.500	7.000	11.071	

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Sig.	Partial Eta Squared
Place	Sphericity Assumed	.000	.900
	Greenhouse-Geisser	.000	.900
	Huynh-Feldt	.000	.900
	Lower-bound	.000	.900
Error(Place)	Sphericity Assumed		
	Greenhouse-Geisser		
	Huynh-Feldt		
	Lower-bound		
Weather	Sphericity Assumed	.032	.506
	Greenhouse-Geisser	.032	.506
	Huynh-Feldt	.032	.506
	Lower-bound	.032	.506
Error(Weather)	Sphericity Assumed		
	Greenhouse-Geisser		
	Huynh-Feldt		
	Lower-bound		
Place * Weather	Sphericity Assumed	.052	.438
	Greenhouse-Geisser	.052	.438
	Huynh-Feldt	.052	.438
	Lower-bound	.052	.438
Error(Place*Weather)	Sphericity Assumed		
	Greenhouse-Geisser		
	Huynh-Feldt		
	Lower-bound		

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Place	Weather	Type III Sum of Squares	df	Mean Square	F
Place	Linear		162.000	1	162.000	63.000
Error(Place)	Linear		18.000	7	2.571	
Weather		Linear	40.500	1	40.500	7.177
Error(Weather)		Linear	39.500	7	5.643	
Place * Weather	Linear	Linear	60.500	1	60.500	5.465
Error(Place*Weather)	Linear	Linear	77.500	7	11.071	

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Place	Weather	Sig.	Partial Eta Squared
Place	Linear		.000	.900
Error(Place)	Linear			
Weather		Linear	.032	.506
Error(Weather)		Linear		
Place * Weather	Linear	Linear	.052	.438
Error(Place*Weather)	Linear	Linear		

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	288.000	1	288.000	.	.	1.000
Error	.000	7	.000			

Estimated Marginal Means

1. Place

Estimates

Measure: MEASURE_1

Place	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	.750	.283	.080	1.420
2	5.250	.283	4.580	5.920

Pairwise Comparisons

Measure: MEASURE_1

(I) Place	(J) Place	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference ^b	
					Lower Bound	Upper Bound
1	2	-4.500 [*]	.567	.000	-5.841	-3.159
2	1	4.500 [*]	.567	.000	3.159	5.841

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Multivariate Tests

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's trace	.900	63.000 ^a	1.000	7.000	.000	.900
Wilks' lambda	.100	63.000 ^a	1.000	7.000	.000	.900
Hotelling's trace	9.000	63.000 ^a	1.000	7.000	.000	.900
Roy's largest root	9.000	63.000 ^a	1.000	7.000	.000	.900

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

a. Exact statistic

2. Weather

Estimates

Measure: MEASURE_1

Weather	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	1.875	.420	.882	2.868
2	4.125	.420	3.132	5.118

Pairwise Comparisons

Measure: MEASURE_1

(I) Weather	(J) Weather	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference ^b	
					Lower Bound	Upper Bound
1	2	-2.250 [*]	.840	.032	-4.236	-.264
2	1	2.250 [*]	.840	.032	.264	4.236

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Multivariate Tests

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's trace	.506	7.177 ^a	1.000	7.000	.032	.506
Wilks' lambda	.494	7.177 ^a	1.000	7.000	.032	.506
Hotelling's trace	1.025	7.177 ^a	1.000	7.000	.032	.506
Roy's largest root	1.025	7.177 ^a	1.000	7.000	.032	.506

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

a. Exact statistic

3. Place * Weather

Estimates

Measure: MEASURE_1

Place	Weather	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
1	1	1.000	.327	.226	1.774
	2	.500	.378	-.394	1.394
2	1	2.750	.881	.666	4.834
	2	7.750	1.176	4.968	10.532

Pairwise Comparisons

Measure: MEASURE_1

Weather	(I) Place	(J) Place	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval
						Lower Bound
1	1	2	-1.750	1.031	.133	-4.187
	2	1	1.750	1.031	.133	-.687
2	1	2	-7.250*	1.532	.002	-10.874
	2	1	7.250*	1.532	.002	3.626

Pairwise Comparisons

Measure: MEASURE_1

Weather	(I) Place	(J) Place	95% Confidence Interval for ^b ...
			Upper Bound
1	1	2	.687
	2	1	4.187
2	1	2	-3.626
	2	1	10.874

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Multivariate Tests

Weather		Value	F	Hypothesis df	Error df	Sig.
1	Pillai's trace	.292	2.882 ^a	1.000	7.000	.133
	Wilks' lambda	.708	2.882 ^a	1.000	7.000	.133
	Hotelling's trace	.412	2.882 ^a	1.000	7.000	.133
	Roy's largest root	.412	2.882 ^a	1.000	7.000	.133
2	Pillai's trace	.762	22.384 ^a	1.000	7.000	.002
	Wilks' lambda	.238	22.384 ^a	1.000	7.000	.002
	Hotelling's trace	3.198	22.384 ^a	1.000	7.000	.002
	Roy's largest root	3.198	22.384 ^a	1.000	7.000	.002

Multivariate Tests

Weather		Partial Eta Squared
1	Pillai's trace	.292
	Wilks' lambda	.292
	Hotelling's trace	.292
	Roy's largest root	.292
2	Pillai's trace	.762
	Wilks' lambda	.762
	Hotelling's trace	.762
	Roy's largest root	.762

Each F tests the multivariate simple effects of Place within each level combination of the other effects shown. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

a. Exact statistic

4. Place * Weather

Estimates

Measure: MEASURE_1

Place	Weather	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
1	1	1.000	.327	.226	1.774
	2	.500	.378	-.394	1.394
2	1	2.750	.881	.666	4.834
	2	7.750	1.176	4.968	10.532

Pairwise Comparisons

Measure: MEASURE_1

Place	(I) Weather	(J) Weather	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Int...
						Lower Bound
1	1	2	.500	.423	.275	-.499
	2	1	-.500	.423	.275	-1.499
2	1	2	-5.000*	2.000	.041	-9.729
	2	1	5.000*	2.000	.041	.271

Pairwise Comparisons

Measure: MEASURE_1

Place	(I) Weather	(J) Weather	95% Confidence Interval for ...
			Upper Bound
1	1	2	1.499
	2	1	.499
2	1	2	-.271
	2	1	9.729

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Multivariate Tests

Place		Value	F	Hypothesis df	Error df	Sig.
1	Pillai's trace	.167	1.400 ^a	1.000	7.000	.275
	Wilks' lambda	.833	1.400 ^a	1.000	7.000	.275
	Hotelling's trace	.200	1.400 ^a	1.000	7.000	.275
	Roy's largest root	.200	1.400 ^a	1.000	7.000	.275
2	Pillai's trace	.472	6.250 ^a	1.000	7.000	.041
	Wilks' lambda	.528	6.250 ^a	1.000	7.000	.041
	Hotelling's trace	.893	6.250 ^a	1.000	7.000	.041
	Roy's largest root	.893	6.250 ^a	1.000	7.000	.041

Multivariate Tests

Place		Partial Eta Squared
1	Pillai's trace	.167
	Wilks' lambda	.167
	Hotelling's trace	.167
	Roy's largest root	.167
2	Pillai's trace	.472
	Wilks' lambda	.472
	Hotelling's trace	.472
	Roy's largest root	.472

Each F tests the multivariate simple effects of Weather within each level combination of the other effects shown. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

a. Exact statistic

Profile Plots



