

GET

FILE='C:\SCL\2014\TurtlesApaloneGradients.sav'.

DATASET NAME DataSet1 WINDOW=FRONT.

GLM T1 T2 T3 T4 T5 T6 T7 T8 T9 T10 T11 T12 T13 T14 T15 T16 T17 T18 BY Group WI

TH Substrate TurtID RepNum

/WSFACTOR=factor1 18 Polynomial

/MEASURE=temp

/METHOD=SSTYPE(3)

/CRITERIA=ALPHA(.05)

/WSDESIGN=factor1

/DESIGN=Substrate TurtID RepNum Group.

## General Linear Model

### Notes

Output Created		26-Feb-2014 13:59:43
Comments		
Input	Data	C: \SCL\2014\TurtlesApaloneGradients. sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	720
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.
Syntax		GLM T1 T2 T3 T4 T5 T6 T7 T8 T9 T10 T11 T12 T13 T14 T15 T16 T17 T18 BY Group WITH Substrate TurtID RepNum /WSFACTOR=factor1 18 Polynomial /MEASURE=temp /METHOD=SSTYPE(3) /CRITERIA=ALPHA(.05) /WSDESIGN=factor1 /DESIGN=Substrate TurtID RepNum Group.

**Notes**

Resources	Processor Time	00:00:00.125
	Elapsed Time	00:00:00.260

[DataSet1] C:\SCL\2014\TurtlesApaloneGradients.sav

**Within-Subjects Factors**

Measure:temp

factor1	Dependent Variable
1	T1
2	T2
3	T3
4	T4
5	T5
6	T6
7	T7
8	T8
9	T9
10	T10
11	T11
12	T12
13	T13
14	T14
15	T15
16	T16
17	T17
18	T18

**Between-Subjects Factors**

	N
Group 1	360
2	360

**Multivariate Tests<sup>b</sup>**

Effect		Value	F	Hypothesis df	Error df	Sig.
factor1	Pillai's Trace	.019	.796 <sup>a</sup>	17.000	699.000	.699
	Wilks' Lambda	.981	.796 <sup>a</sup>	17.000	699.000	.699
	Hotelling's Trace	.019	.796 <sup>a</sup>	17.000	699.000	.699
	Roy's Largest Root	.019	.796 <sup>a</sup>	17.000	699.000	.699
factor1 * Substrate	Pillai's Trace	.015	.618 <sup>a</sup>	17.000	699.000	.880
	Wilks' Lambda	.985	.618 <sup>a</sup>	17.000	699.000	.880
	Hotelling's Trace	.015	.618 <sup>a</sup>	17.000	699.000	.880
	Roy's Largest Root	.015	.618 <sup>a</sup>	17.000	699.000	.880
factor1 * TurtID	Pillai's Trace	.033	1.398 <sup>a</sup>	17.000	699.000	.130
	Wilks' Lambda	.967	1.398 <sup>a</sup>	17.000	699.000	.130
	Hotelling's Trace	.034	1.398 <sup>a</sup>	17.000	699.000	.130
	Roy's Largest Root	.034	1.398 <sup>a</sup>	17.000	699.000	.130
factor1 * RepNum	Pillai's Trace	.016	.653 <sup>a</sup>	17.000	699.000	.850
	Wilks' Lambda	.984	.653 <sup>a</sup>	17.000	699.000	.850
	Hotelling's Trace	.016	.653 <sup>a</sup>	17.000	699.000	.850
	Roy's Largest Root	.016	.653 <sup>a</sup>	17.000	699.000	.850
factor1 * Group	Pillai's Trace	.070	3.093 <sup>a</sup>	17.000	699.000	.000
	Wilks' Lambda	.930	3.093 <sup>a</sup>	17.000	699.000	.000
	Hotelling's Trace	.075	3.093 <sup>a</sup>	17.000	699.000	.000
	Roy's Largest Root	.075	3.093 <sup>a</sup>	17.000	699.000	.000

a. Exact statistic

b. Design: Intercept + Substrate + TurtID + RepNum + Group  
 Within Subjects Design: factor1

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

Measure:temp

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.
factor1	.000	6424.818	152	.000

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

b. Design: Intercept + Substrate + TurtID + RepNum + Group  
Within Subjects Design: factor1

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

Measure:temp

Within Subjects Effect	Epsilon <sup>a</sup>		
	Greenhouse-Geisser	Huynh-Feldt	Lower-bound
factor1	.334	.339	.059

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. 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.

b. Design: Intercept + Substrate + TurtID + RepNum + Group  
Within Subjects Design: factor1

**Tests of Within-Subjects Effects**

Measure:temp

Source		Type III Sum of Squares	df	Mean Square
factor1	Sphericity Assumed	178.381	17	10.493
	Greenhouse-Geisser	178.381	5.675	31.431
	Huynh-Feldt	178.381	5.758	30.980
	Lower-bound	178.381	1.000	178.381
factor1 * Substrate	Sphericity Assumed	128.463	17	7.557
	Greenhouse-Geisser	128.463	5.675	22.635
	Huynh-Feldt	128.463	5.758	22.311
	Lower-bound	128.463	1.000	128.463
factor1 * TurtID	Sphericity Assumed	263.514	17	15.501
	Greenhouse-Geisser	263.514	5.675	46.431
	Huynh-Feldt	263.514	5.758	45.765
	Lower-bound	263.514	1.000	263.514
factor1 * RepNum	Sphericity Assumed	380.269	17	22.369
	Greenhouse-Geisser	380.269	5.675	67.004
	Huynh-Feldt	380.269	5.758	66.042
	Lower-bound	380.269	1.000	380.269
factor1 * Group	Sphericity Assumed	1385.567	17	81.504
	Greenhouse-Geisser	1385.567	5.675	244.137
	Huynh-Feldt	1385.567	5.758	240.635
	Lower-bound	1385.567	1.000	1385.567
Error(factor1)	Sphericity Assumed	173387.653	12155	14.265
	Greenhouse-Geisser	173387.653	4057.881	42.729
	Huynh-Feldt	173387.653	4116.936	42.116
	Lower-bound	173387.653	715.000	242.500

**Tests of Within-Subjects Effects**

Measure:temp

Source		F	Sig.
factor1	Sphericity Assumed	.736	.769
	Greenhouse-Geisser	.736	.613
	Huynh-Feldt	.736	.615
	Lower-bound	.736	.391
factor1 * Substrate	Sphericity Assumed	.530	.940
	Greenhouse-Geisser	.530	.776
	Huynh-Feldt	.530	.779
	Lower-bound	.530	.467
factor1 * TurtID	Sphericity Assumed	1.087	.360
	Greenhouse-Geisser	1.087	.367
	Huynh-Feldt	1.087	.367
	Lower-bound	1.087	.298
factor1 * RepNum	Sphericity Assumed	1.568	.063
	Greenhouse-Geisser	1.568	.156
	Huynh-Feldt	1.568	.155
	Lower-bound	1.568	.211
factor1 * Group	Sphericity Assumed	5.714	.000
	Greenhouse-Geisser	5.714	.000
	Huynh-Feldt	5.714	.000
	Lower-bound	5.714	.017

**Tests of Within-Subjects Contrasts**

Measure:temp

Source	factor1	Type III Sum of Squares	df	Mean Square	F	Sig.
factor1	Linear	112.991	1	112.991	1.390	.239
	Quadratic	5.078	1	5.078	.132	.717
	Cubic	.236	1	.236	.010	.920
	Order 4	.008	1	.008	.000	.983
	Order 5	.303	1	.303	.024	.876
	Order 6	.001	1	.001	.000	.992
	Order 7	.471	1	.471	.050	.823
	Order 8	30.214	1	30.214	4.313	.038
	Order 9	2.413	1	2.413	.366	.546
	Order 10	.423	1	.423	.070	.792
	Order 11	.013	1	.013	.003	.958
	Order 12	8.313	1	8.313	1.623	.203
	Order 13	5.255	1	5.255	1.078	.300
	Order 14	4.920	1	4.920	1.022	.312
	Order 15	.447	1	.447	.098	.755
	Order 16	1.213	1	1.213	.306	.580
	Order 17	6.083	1	6.083	1.568	.211

**Tests of Within-Subjects Contrasts**

Measure:temp

Source	factor1	Type III Sum of Squares	df	Mean Square	F	Sig.
factor1 * Substrate	Linear	19.611	1	19.611	.241	.623
	Quadratic	52.485	1	52.485	1.360	.244
	Cubic	.307	1	.307	.013	.908
	Order 4	1.240	1	1.240	.073	.787
	Order 5	3.124	1	3.124	.251	.617
	Order 6	.394	1	.394	.044	.834
	Order 7	.015	1	.015	.002	.968
	Order 8	12.825	1	12.825	1.831	.176
	Order 9	2.774	1	2.774	.420	.517
	Order 10	4.775	1	4.775	.787	.375
	Order 11	1.123	1	1.123	.240	.624
	Order 12	15.716	1	15.716	3.069	.080
	Order 13	9.781	1	9.781	2.005	.157
	Order 14	1.147	1	1.147	.238	.626
	Order 15	1.132	1	1.132	.247	.619
	Order 16	.058	1	.058	.015	.904
	Order 17	1.957	1	1.957	.505	.478



**Tests of Within-Subjects Contrasts**

Measure:temp

Source	factor1	Type III Sum of Squares	df	Mean Square	F	Sig.
factor1 * TurtID	Linear	128.730	1	128.730	1.584	.209
	Quadratic	27.080	1	27.080	.702	.402
	Cubic	.062	1	.062	.003	.959
	Order 4	10.331	1	10.331	.606	.436
	Order 5	.983	1	.983	.079	.779
	Order 6	.390	1	.390	.044	.835
	Order 7	.327	1	.327	.035	.853
	Order 8	25.188	1	25.188	3.596	.058
	Order 9	13.529	1	13.529	2.050	.153
	Order 10	2.968	1	2.968	.489	.485
	Order 11	11.160	1	11.160	2.386	.123
	Order 12	.977	1	.977	.191	.662
	Order 13	.696	1	.696	.143	.706
	Order 14	16.043	1	16.043	3.333	.068
	Order 15	1.171	1	1.171	.256	.613
	Order 16	23.496	1	23.496	5.922	.015
	Order 17	.383	1	.383	.099	.753

**Tests of Within-Subjects Contrasts**

Measure:temp

Source	factor1	Type III Sum of Squares	df	Mean Square	F	Sig.
factor1 * RepNum	Linear	337.809	1	337.809	4.157	.042
	Quadratic	7.534	1	7.534	.195	.659
	Cubic	6.179	1	6.179	.267	.605
	Order 4	4.263	1	4.263	.250	.617
	Order 5	.287	1	.287	.023	.879
	Order 6	.000	1	.000	.000	.997
	Order 7	2.863	1	2.863	.303	.582
	Order 8	2.088	1	2.088	.298	.585
	Order 9	.319	1	.319	.048	.826
	Order 10	.315	1	.315	.052	.820
	Order 11	1.102	1	1.102	.236	.628
	Order 12	1.616	1	1.616	.316	.574
	Order 13	6.629	1	6.629	1.359	.244
	Order 14	.065	1	.065	.013	.908
	Order 15	.524	1	.524	.115	.735
	Order 16	1.092	1	1.092	.275	.600
	Order 17	7.584	1	7.584	1.955	.162

**Tests of Within-Subjects Contrasts**

Measure:temp

Source	factor1	Type III Sum of Squares	df	Mean Square	F	Sig.
factor1 * Group	Linear	768.079	1	768.079	9.452	.002
	Quadratic	423.382	1	423.382	10.974	.001
	Cubic	.004	1	.004	.000	.989
	Order 4	1.825	1	1.825	.107	.744
	Order 5	27.369	1	27.369	2.196	.139
	Order 6	.004	1	.004	.000	.984
	Order 7	21.065	1	21.065	2.228	.136
	Order 8	69.602	1	69.602	9.936	.002
	Order 9	27.309	1	27.309	4.137	.042
	Order 10	14.027	1	14.027	2.312	.129
	Order 11	12.648	1	12.648	2.705	.100
	Order 12	2.629	1	2.629	.513	.474
	Order 13	1.076	1	1.076	.221	.639
	Order 14	1.981	1	1.981	.412	.521
	Order 15	.860	1	.860	.188	.665
	Order 16	2.702	1	2.702	.681	.409
	Order 17	11.006	1	11.006	2.837	.093

**Tests of Within-Subjects Contrasts**

Measure:temp

Source	factor1	Type III Sum of Squares	df	Mean Square
Error(factor1)	Linear	58104.032	715	81.264
	Quadratic	27584.188	715	38.579
	Cubic	16543.189	715	23.137
	Order 4	12185.108	715	17.042
	Order 5	8909.838	715	12.461
	Order 6	6417.502	715	8.976
	Order 7	6761.064	715	9.456
	Order 8	5008.517	715	7.005
	Order 9	4719.358	715	6.601
	Order 10	4338.503	715	6.068
	Order 11	3343.622	715	4.676
	Order 12	3662.080	715	5.122
	Order 13	3487.124	715	4.877
	Order 14	3441.141	715	4.813
	Order 15	3272.175	715	4.576
	Order 16	2836.869	715	3.968
	Order 17	2773.342	715	3.879

**Tests of Between-Subjects Effects**

Measure:temp  
Transformed Variable:Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	455240.109	1	455240.109	808.115	.000
Substrate	764.505	1	764.505	1.357	.244
TurtID	5288.567	1	5288.567	9.388	.002
RepNum	28363.039	1	28363.039	50.348	.000
Group	1610.279	1	1610.279	2.858	.091
Error	402785.180	715	563.336		