

SORT CASES BY Population.
 SPLIT FILE LAYERED BY Population.
 GLM inverseloggrowthBY Family Population
 /random Family Population
 /design Family(Population).

General Linear Model

Notes

Output Created		10-JUN-2021 11:31:31
Comments		
Input	Data	\\Client\C\$\Users\Carina\Documents\Master's figure dataset\Donnedata.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	Population
	N of Rows in Working Data File	94
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 inverseloggrowth BY Family Population /random Family Population /design Family (Population).
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.02

Warnings

No valid cases were found in split file Population =

Between-Subjects Factors

Population			N
Gb	Family	Gb4	5
		Gb5	5
	Population	Gb	10
Md	Family	Md1	2
		Md2	4
		Md3	2
	Population	Md	8
Mr	Family	Mr1	2
		Mr2	4
		Mr3	5
		Mr4	4
		Mr5	4
	Population	Mr	19
PA	Family	PA1	3
		PA2	5
		PA3	4
		PA5	4
	Population	PA	16
Pc	Family	Pc2	3
		Pc3	3
		Pc5	2
		Pc6	3
	Population	Pc	11
Sn	Family	Sn1	5
		Sn2	3
		Sn4	2
		Sn5	4
	Population	Sn	14

Tests of Between-Subjects Effects

Dependent Variable: inverseloggrowth

Population	Source		Type III Sum of Squares	df	Mean Square	F
Gb	Intercept	Hypothesis	.624	1	.624	2315.072
		Error	.000	1	.000 ^a	
	Family(Population)	Hypothesis	.000	1	.000	.803
		Error	.003	8	.000 ^b	
Md	Intercept	Hypothesis	.444	1	.444	475.530
		Error	.002	2.020	.001 ^c	
	Family(Population)	Hypothesis	.002	2	.001	8.184
		Error	.001	5	.000 ^b	
Mr	Intercept	Hypothesis	.953	1	.953	3949.167
		Error	.001	4.507	.000 ^d	
	Family(Population)	Hypothesis	.001	4	.000	1.347
		Error	.003	14	.000 ^b	
PA	Intercept	Hypothesis	.975	1	.975	3458.396
		Error	.001	3.050	.000 ^e	
	Family(Population)	Hypothesis	.001	3	.000	2.712
		Error	.001	12	.000 ^b	
Pc	Intercept	Hypothesis	.690	1	.690	3029.361
		Error	.001	3.186	.000 ^f	
	Family(Population)	Hypothesis	.001	3	.000	.741
		Error	.002	7	.000 ^b	
Sn	Intercept	Hypothesis	.681	1	.681	2599.167
		Error	.001	3.543	.000 ^g	
	Family(Population)	Hypothesis	.001	3	.000	.963
		Error	.003	10	.000 ^b	

Tests of Between-Subjects Effects

Dependent Variable: inverseloggrowth

Population	Source		Sig.
Gb	Intercept	Hypothesis	.013
		Error	
	Family(Population)	Hypothesis	.396
		Error	
Md	Intercept	Hypothesis	.002
		Error	
	Family(Population)	Hypothesis	.026
		Error	
Mr	Intercept	Hypothesis	.000
		Error	
	Family(Population)	Hypothesis	.301
		Error	
PA	Intercept	Hypothesis	.000
		Error	
	Family(Population)	Hypothesis	.092
		Error	
Pc	Intercept	Hypothesis	.000
		Error	
	Family(Population)	Hypothesis	.561
		Error	
Sn	Intercept	Hypothesis	.000
		Error	
	Family(Population)	Hypothesis	.447
		Error	

- a. MS(Family(Population))
- b. MS(Error)
- c. .960 MS(Family(Population)) + .040 MS(Error)
- d. .923 MS(Family(Population)) + .077 MS(Error)
- e. .978 MS(Family(Population)) + .022 MS(Error)
- f. .978 MS(Family(Population)) + .022 MS(Error)
- g. .922 MS(Family(Population)) + .078 MS(Error)

Expected Mean Squares^{a,b}

Population	Source	Variance Component		
		Var(Family (Population))	Var(Error)	Quadratic Term
Gb	Intercept	5.000	1.000	Intercept
	Family(Population)	5.000	1.000	
	Error	.000	1.000	
Md	Intercept	2.400	1.000	Intercept
	Family(Population)	2.500	1.000	
	Error	.000	1.000	
Mr	Intercept	3.448	1.000	Intercept
	Family(Population)	3.737	1.000	
	Error	.000	1.000	
PA	Intercept	3.871	1.000	Intercept
	Family(Population)	3.958	1.000	
	Error	.000	1.000	
Pc	Intercept	2.667	1.000	Intercept
	Family(Population)	2.727	1.000	
	Error	.000	1.000	
Sn	Intercept	3.117	1.000	Intercept
	Family(Population)	3.381	1.000	
	Error	.000	1.000	

a. For each source, the expected mean square equals the sum of the coefficients in the cells times the variance components, plus a quadratic term involving effects in the Quadratic Term cell.

b. Expected Mean Squares are based on the Type III Sums of Squares.

```
GLM inversesqrtage BY Family Population WITH growthrate3mm
/random Family Population
/design Family(Population) growthrate3mm
```

General Linear Model

Notes

Output Created		10-JUN-2021 11:31:50
Comments		
Input	Data	\\Client\C\$\Users\Carina\Documents\Master's figure dataset\Donnedata.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	Population
	N of Rows in Working Data File	94
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 inversesqrtage BY Family Population WITH growthrate3mm /random Family Population /design Family(Population) growthrate3mm.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.02

Warnings

No valid cases were found in split file Population =

Between-Subjects Factors

Population			N
Gb	Family	Gb4	5
		Gb5	4
	Population	Gb	9
Md	Family	Md1	2
		Md2	3
		Md3	2
	Population	Md	7
Mr	Family	Mr1	2
		Mr2	3
		Mr3	4
		Mr4	4
		Mr5	4
	Population	Mr	17
PA	Family	PA1	3
		PA2	5
		PA3	4
		PA5	4
	Population	PA	16
Pc	Family	Pc2	3
		Pc3	3
		Pc5	2
		Pc6	3
	Population	Pc	11
Sn	Family	Sn1	5
		Sn2	3
		Sn4	2
		Sn5	3
	Population	Sn	13

Tests of Between-Subjects Effects

Dependent Variable: inversesqrtage

Population	Source		Type III Sum of Squares	df	Mean Square	F
Gb	Intercept	Hypothesis	.003	1	.003	74.504
		Error	.000	5.953	4.449E-5 ^a	
	Family(Population)	Hypothesis	.000	1	.000	4.678
		Error	.000	6	3.436E-5 ^b	
	growthrate3mm	Hypothesis	5.701E-6	1	5.701E-6	.166
		Error	.000	6	3.436E-5 ^b	
Md	Intercept	Hypothesis	.000	1	.000	21.653
		Error	2.586E-5	3.373	7.668E-6 ^c	
	Family(Population)	Hypothesis	2.547E-5	2	1.273E-5	1.703
		Error	2.244E-5	3	7.478E-6 ^b	
	growthrate3mm	Hypothesis	.000	1	.000	28.501
		Error	2.244E-5	3	7.478E-6 ^b	
Mr	Intercept	Hypothesis	.002	1	.002	135.594
		Error	.000	12.813	1.365E-5 ^d	
	Family(Population)	Hypothesis	.000	4	3.346E-5	2.584
		Error	.000	11	1.295E-5 ^b	
	growthrate3mm	Hypothesis	2.850E-5	1	2.850E-5	2.202
		Error	.000	11	1.295E-5 ^b	
PA	Intercept	Hypothesis	.000	1	.000	8.841
		Error	.001	11.407	5.425E-5 ^e	
	Family(Population)	Hypothesis	.000	3	5.011E-5	.922
		Error	.001	11	5.434E-5 ^b	
	growthrate3mm	Hypothesis	.000	1	.000	5.486
		Error	.001	11	5.434E-5 ^b	
Pc	Intercept	Hypothesis	.001	1	.001	184.423
		Error	6.321E-5	8.292	7.623E-6 ^f	
	Family(Population)	Hypothesis	.000	3	3.664E-5	5.733
		Error	3.835E-5	6	6.392E-6 ^b	
	growthrate3mm	Hypothesis	.000	1	.000	19.446
		Error	3.835E-5	6	6.392E-6 ^b	
Sn	Intercept	Hypothesis	.001	1	.001	27.625
		Error	.000	8.532	4.226E-5 ^g	

Tests of Between-Subjects Effects

Dependent Variable: inversesqrtage

Population	Source		Sig.
Gb	Intercept	Hypothesis	.000
		Error	
	Family(Population)	Hypothesis	.074
		Error	
	growthrate3mm	Hypothesis	.698
		Error	
Md	Intercept	Hypothesis	.014
		Error	
	Family(Population)	Hypothesis	.321
		Error	
	growthrate3mm	Hypothesis	.013
		Error	
Mr	Intercept	Hypothesis	.000
		Error	
	Family(Population)	Hypothesis	.096
		Error	
	growthrate3mm	Hypothesis	.166
		Error	
PA	Intercept	Hypothesis	.012
		Error	
	Family(Population)	Hypothesis	.462
		Error	
	growthrate3mm	Hypothesis	.039
		Error	
Pc	Intercept	Hypothesis	.000
		Error	
	Family(Population)	Hypothesis	.034
		Error	
	growthrate3mm	Hypothesis	.005
		Error	
Sn	Intercept	Hypothesis	.001
		Error	

Tests of Between-Subjects Effects

Dependent Variable: inversesqrtage

Population	Source		Type III Sum of Squares	df	Mean Square	F
	Family(Population)	Hypothesis	8.138E-5	3	2.713E-5	.630
		Error	.000	8	4.308E-5 ^b	
	growthrate3mm	Hypothesis	.000	1	.000	10.487
		Error	.000	8	4.308E-5 ^b	

Tests of Between-Subjects Effects

Dependent Variable: inversesqrtage

Population	Source		Sig.
	Family(Population)	Hypothesis	.616
		Error	
	growthrate3mm	Hypothesis	.012
		Error	

- a. .080 MS(Family(Population)) + .920 MS(Error)
- b. MS(Error)
- c. .036 MS(Family(Population)) + .964 MS(Error)
- d. .034 MS(Family(Population)) + .966 MS(Error)
- e. .020 MS(Family(Population)) + .980 MS(Error)
- f. .041 MS(Family(Population)) + .959 MS(Error)
- g. .052 MS(Family(Population)) + .948 MS(Error)

Expected Mean Squares^{a,b}

Population	Source	Variance Component		
		Var(Family (Population))	Var(Error)	Quadratic Term
Gb	Intercept	.330	1.000	Intercept
	Family(Population)	4.112	1.000	
	growthrate3mm	.000	1.000	growthrate3mm
	Error	.000	1.000	
Md	Intercept	.049	1.000	Intercept
	Family(Population)	1.366	1.000	
	growthrate3mm	.000	1.000	growthrate3mm
	Error	.000	1.000	
Mr	Intercept	.106	1.000	Intercept
	Family(Population)	3.104	1.000	
	growthrate3mm	.000	1.000	growthrate3mm
	Error	.000	1.000	
PA	Intercept	.069	1.000	Intercept
	Family(Population)	3.439	1.000	
	growthrate3mm	.000	1.000	growthrate3mm
	Error	.000	1.000	
Pc	Intercept	.102	1.000	Intercept
	Family(Population)	2.504	1.000	
	growthrate3mm	.000	1.000	growthrate3mm
	Error	.000	1.000	
Sn	Intercept	.147	1.000	Intercept
	Family(Population)	2.842	1.000	
	growthrate3mm	.000	1.000	growthrate3mm
	Error	.000	1.000	

a. For each source, the expected mean square equals the sum of the coefficients in the cells times the variance components, plus a quadratic term involving effects in the Quadratic Term cell.

b. Expected Mean Squares are based on the Type III Sums of Squares.

```
GLM Finallength BY Family Population WITH growthrate3mm
/random Family Population
/design Family(Population) growthrate3mm
```

General Linear Model

Notes

Output Created		10-JUN-2021 11:32:45
Comments		
Input	Data	\\Client\C\$\Users\Carina\Documents\Master's figure dataset\Donnedata.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	Population
	N of Rows in Working Data File	93
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 Finallength BY Family Population WITH growthrate3mm /random Family Population /design Family(Population) growthrate3mm.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.02

Warnings

No valid cases were found in split file Population =

Between-Subjects Factors

Population			N
Gb	Family	Gb4	5
		Gb5	4
	Population	Gb	9
Md	Family	Md1	2
		Md2	3
		Md3	2
	Population	Md	7
Mr	Family	Mr1	2
		Mr2	3
		Mr3	4
		Mr4	4
		Mr5	4
	Population	Mr	17
PA	Family	PA1	3
		PA2	5
		PA3	4
		PA5	4
	Population	PA	16
Pc	Family	Pc2	3
		Pc3	3
		Pc5	2
		Pc6	2
	Population	Pc	10
Sn	Family	Sn1	5
		Sn2	3
		Sn5	2
	Population	Sn	10

Tests of Between-Subjects Effects

Dependent Variable: Finallength

Population	Source		Type III Sum of Squares	df	Mean Square	F
Gb	Intercept	Hypothesis	18.390	1	18.390	99.318
		Error	1.251	6.757	.185 ^a	
	Family(Population)	Hypothesis	.177	1	.177	.951
		Error	1.115	6	.186 ^b	
	growthrate3mm	Hypothesis	.105	1	.105	.563
		Error	1.115	6	.186 ^b	
Md	Intercept	Hypothesis	2.006	1	2.006	125.073
		Error	.057	3.532	.016 ^c	
	Family(Population)	Hypothesis	.638	2	.319	67.452
		Error	.014	3	.005 ^b	
	growthrate3mm	Hypothesis	.276	1	.276	58.307
		Error	.014	3	.005 ^b	
Mr	Intercept	Hypothesis	15.494	1	15.494	869.724
		Error	.262	14.684	.018 ^d	
	Family(Population)	Hypothesis	.420	4	.105	7.125
		Error	.162	11	.015 ^b	
	growthrate3mm	Hypothesis	.311	1	.311	21.102
		Error	.162	11	.015 ^b	
PA	Intercept	Hypothesis	3.128	1	3.128	26.330
		Error	1.329	11.188	.119 ^e	
	Family(Population)	Hypothesis	.151	3	.050	.419
		Error	1.322	11	.120 ^b	
	growthrate3mm	Hypothesis	.834	1	.834	6.942
		Error	1.322	11	.120 ^b	
Pc	Intercept	Hypothesis	.559	1	.559	3.311
		Error	.869	5.148	.169 ^f	
	Family(Population)	Hypothesis	.396	3	.132	.780
		Error	.848	5	.170 ^b	
	growthrate3mm	Hypothesis	1.240	1	1.240	7.314
		Error	.848	5	.170 ^b	
Sn	Intercept	Hypothesis	8.547	1	8.547	68.524
		Error	.903	7.237	.125 ^g	

Tests of Between-Subjects Effects

Dependent Variable: Finallength

Population	Source		Sig.
Gb	Intercept	Hypothesis	.000
		Error	
	Family(Population)	Hypothesis	.367
		Error	
	growthrate3mm	Hypothesis	.482
		Error	
Md	Intercept	Hypothesis	.001
		Error	
	Family(Population)	Hypothesis	.003
		Error	
	growthrate3mm	Hypothesis	.005
		Error	
Mr	Intercept	Hypothesis	.000
		Error	
	Family(Population)	Hypothesis	.004
		Error	
	growthrate3mm	Hypothesis	.001
		Error	
PA	Intercept	Hypothesis	.000
		Error	
	Family(Population)	Hypothesis	.743
		Error	
	growthrate3mm	Hypothesis	.023
		Error	
Pc	Intercept	Hypothesis	.127
		Error	
	Family(Population)	Hypothesis	.554
		Error	
	growthrate3mm	Hypothesis	.043
		Error	
Sn	Intercept	Hypothesis	.000
		Error	

Tests of Between-Subjects Effects

Dependent Variable: Finallength

Population	Source	Type III Sum of Squares	df	Mean Square	F
	Family(Population)	Hypothesis	.454	2	.227
		Error	.709	6	.118 ^b
	growthrate3mm	Hypothesis	.013	1	.013
		Error	.709	6	.118 ^b

Tests of Between-Subjects Effects

Dependent Variable: Finallength

Population	Source	Sig.
	Family(Population)	Hypothesis
		Error
	growthrate3mm	Hypothesis
		Error

- a. .080 MS(Family(Population)) + .920 MS(Error)
- b. MS(Error)
- c. .036 MS(Family(Population)) + .964 MS(Error)
- d. .034 MS(Family(Population)) + .966 MS(Error)
- e. .020 MS(Family(Population)) + .980 MS(Error)
- f. .019 MS(Family(Population)) + .981 MS(Error)
- g. .060 MS(Family(Population)) + .940 MS(Error)

Expected Mean Squares^{a,b}

Population	Source	Variance Component		
		Var(Family (Population))	Var(Error)	Quadratic Term
Gb	Intercept	.330	1.000	Intercept
	Family(Population)	4.112	1.000	
	growthrate3mm	.000	1.000	growthrate3m m
	Error	.000	1.000	
Md	Intercept	.049	1.000	Intercept
	Family(Population)	1.366	1.000	
	growthrate3mm	.000	1.000	growthrate3m m
	Error	.000	1.000	
Mr	Intercept	.106	1.000	Intercept
	Family(Population)	3.104	1.000	
	growthrate3mm	.000	1.000	growthrate3m m
	Error	.000	1.000	
PA	Intercept	.069	1.000	Intercept
	Family(Population)	3.439	1.000	
	growthrate3mm	.000	1.000	growthrate3m m
	Error	.000	1.000	
Pc	Intercept	.043	1.000	Intercept
	Family(Population)	2.287	1.000	
	growthrate3mm	.000	1.000	growthrate3m m
	Error	.000	1.000	
Sn	Intercept	.159	1.000	Intercept
	Family(Population)	2.651	1.000	
	growthrate3mm	.000	1.000	growthrate3m m
	Error	.000	1.000	

a. For each source, the expected mean square equals the sum of the coefficients in the cells times the variance components, plus a quadratic term involving effects in the Quadratic Term cell.

b. Expected Mean Squares are based on the Type III Sums of Squares.