

The Mixed Procedure

Model Information	
Data Set	LIB.ANTIBIOTICS
Dependent Variable	Tetracycline
Covariance Structure	Unstructured
Subject Effect	place
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information		
Class	Levels	Values
place	2	Rural Urban
Sex	2	F M
Age	2	A Y
Breed	2	L X

Dimensions	
Covariance Parameters	7
Columns in X	7
Columns in Z per Subject	3
Subjects	2
Max Obs per Subject	81

Number of Observations	
Number of Observations Read	134
Number of Observations Used	134
Number of Observations Not Used	0

Iteration History				
Iteration	Evaluations	-2 Res Log Like	Criterion	
0	1	1085.362197		
1	1	1080.665136		0

Convergence criteria met but final Hessian is not positive definite.

Covariance Parameter Estimates		
Cov Parm	Subject	Estimate
UN(1,1)	place	25.4657
UN(2,1)	place	0
UN(2,2)	place	0.000011
UN(3,1)	place	0
UN(3,2)	place	0
UN(3,3)	place	0.000011
Residual		209

Fit Statistics	
-2 Res Log Likelihood	1080.7
AIC (Smaller is Better)	1094.7
AICC (Smaller is Better)	1095.6
BIC (Smaller is Better)	1085.5

Null Model Likelihood Ratio Test		
DF	Chi-Square	Pr > ChiSq
6	4.7	0.5832

Solution for Fixed Effects

Effect	Sex	Age	Breed	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept				9.2649	4.5673	0	2.03	.
Sex	F			-2.6916	2.5786	129	-1.04	0.2985
Sex	M			0	.	.	.	.
Age		A		1.8589	2.7219	129	0.68	0.4959
Age		Y		0	.	.	.	.
Breed			L	-0.1712	2.7554	129	-0.06	0.9506
Breed			X	0	.	.	.	.

Solution for Random Effects

Effect	place	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Intercept	Rural	-3.3363	3.7861	129	-0.88	0.3798
place	Rural	-1.44E-06	0.003313	129	0	0.9997
place	Rural	0	0.003313	129	0	1
Intercept	Urban	3.3363	3.7861	129	0.88	0.3798
place	Urban	0	0.003313	129	0	1
place	Urban	1.44E-06	0.003313	129	0	0.9997

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
Sex	1	129	1.09	0.2985
Age	1	129	0.47	0.4959
Breed	1	129	0	0.9506

The SAS System

The Mixed Procedure

Model Information

Data Set	LIB.ANTIBIOTICS
Dependent Variable	Betalactam
Covariance Structure	Unstructured
Subject Effect	place
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information

Class	Levels	Values
place	2	Rural Urban
Sex	2	F M
Age	2	A Y
Breed	2	L X

Dimensions

Covariance Parameters	7
Columns in X	7
Columns in Z per Subject	3
Subjects	2
Max Obs per Subject	81

Number of Observations

Number of Observations Read	134
Number of Observations Used	134

Number of Observations Not Used

0

Iteration History

Iteration	Evaluations	-2 Res Log Like	Criterion
0	1	1102.751728	
1	1	998.387682	0

Convergence criteria met but final Hessian is not positive definite.

Covariance Parameter Estimates

Cov Parm	Subject	Estimate
UN(1,1)	place	326.61
UN(2,1)	place	0
UN(2,2)	place	5.69E-06
UN(3,1)	place	0
UN(3,2)	place	0
UN(3,3)	place	5.69E-06
Residual		108.39

Fit Statistics

-2 Res Log Likelihood	998.4
AIC (Smaller is Better)	1012.4
AICC (Smaller is Better)	1013.3
BIC (Smaller is Better)	1003.2

Null Model Likelihood Ratio Test

DF	Chi-Square	Pr > ChiSq
6	104.36	<.0001

Solution for Fixed Effects

Effect	Sex	Age	Breed	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept				16.4637	12.9455	0	1.27	.
Sex	F			-4.7682	1.857	129	-2.57	0.0114
Sex	M			0	.	.	.	.
Age		A		4.6739	1.9671	129	2.38	0.019
Age		Y		0	.	.	.	.
Breed			L	-1.1083	1.9885	129	-0.56	0.5782
Breed			X	0	.	.	.	.

Solution for Random Effects

Effect	place	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Intercept	Rural	-12.742	12.8159	129	-0.99	0.322
place	Rural	-2.22E-07	0.002386	129	0	0.9999
place	Rural	0	0.002386	129	0	1
Intercept	Urban	12.742	12.8159	129	0.99	0.322
place	Urban	0	0.002386	129	0	1
place	Urban	2.22E-07	0.002386	129	0	0.9999

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
Sex	1	129	6.59	0.0114
Age	1	129	5.65	0.019
Breed	1	129	0.31	0.5782

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Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information		
Class	Levels	Values
place	2	Rural Urban
Sex	2	F M
Age	2	A Y
Breed	2	L X

Dimensions	
Covariance Parameters	7
Columns in X	5
Columns in Z per Subject	3
Subjects	2
Max Obs per Subject	81

Number of Observations	
Number of Observations Read	134
Number of Observations Used	134
Number of Observations Not Used	0

Iteration History				
Iteration	Evaluations	-2 Res Log Like	Criterion	
0	1	1108.360575		
1	1	1001.909066		0

Convergence criteria met but final Hessian is not positive definite.

Covariance Parameter Estimates		
Cov Parm	Subject	Estimate
UN(1,1)	place	321.36
UN(2,1)	place	0
UN(2,2)	place	5.66E-06
UN(3,1)	place	0
UN(3,2)	place	0
UN(3,3)	place	5.66E-06
Residual		107.83

Fit Statistics	
-2 Res Log Likelihood	1001.9
AIC (Smaller is Better)	1015.9
AICC (Smaller is Better)	1016.8
BIC (Smaller is Better)	1006.8

Null Model Likelihood Ratio Test		
DF	Chi-Square	Pr > ChiSq
6	106.45	<.0001

Solution for Fixed Effects

Effect	Sex	Age	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept			15.8817	12.8007	0	1.24	
Sex	F		-4.928	1.83	130	-2.69	0.008
Sex	M		0				
Age		A	4.5499	1.9494	130	2.33	0.0211
Age		Y	0				

Solution for Random Effects

Effect	place	Estimate	Std Err Pred	DF	t Value	Pr > |t|
Intercept	Rural	-12.6401	12.7117	130	-0.99	0.3219
place	Rural	-2.23E-07	0.002379	130	0	0.9999
place	Rural	0	0.002379	130	0	1
Intercept	Urban	12.6401	12.7117	130	0.99	0.3219
place	Urban	0	0.002379	130	0	1
place	Urban	2.23E-07	0.002379	130	0	0.9999

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
Sex	1	130	7.25	0.008
Age	1	130	5.45	0.0211