General Linear Model

Notes

Output Created		02-MAY-2024 15:47:25
Comments		
Input	Data	I:\VETMED\WE16\04Forschung\02_Projekte\ENVIRE_2022\04_Daten\Aleksandra\Cefotaxim_2024-05-02.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	32
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 @0 @1 @2 @3 @4 @5 @6 @7 BY Temp straw resistant /WSFACTOR=day 8 Polynomial /METHOD=SSTYPE(3) /SAVE=SRESID /PLOT=PROFILE(day*Temp day*straw day*resistant) TYPE=LINE ERRORBAR=CI MEANREFERENCE=NO YAXIS=AUTO /PRINT=PARAMETER /CRITERIA=ALPHA(.05) /DESIGN= Temp straw resistant.
Resources	Processor Time	00:00:00,81
	Elapsed Time	00:00:00,54
Variables Created or Modified	SRE_26	Studentized Residual for @0
	SRE_27	Studentized Residual for @1
	SRE_28	Studentized Residual for @2
	SRE_29	Studentized Residual for @3
	SRE_30	Studentized Residual for @4
	SRE_31	Studentized Residual for @5
	SRE_32	Studentized Residual for @6
	SRE_33	Studentized Residual for @7

Within-Subjects Factors

Measure:MEASURE_1

day	Dependent Variable
1	@0
2	@1
3	@2
4	@3
5	@4
6	@5
7	@6
8	@7

Between-Subjects Factors

		N
Temp	30	10
	37	6
straw	0	7
	1	9
resistant	0	9
	1	7

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.
day	Pillai's Trace	,983	49,927[b]	7,000	6,000	<,001
	Wilks' Lambda	,017	49,927[b]	7,000	6,000	<,001
	Hotelling's Trace	58,248	49,927[b]	7,000	6,000	<,001
	Roy's Largest Root	58,248	49,927[b]	7,000	6,000	<,001
day * Temp	Pillai's Trace	,930	11,415[b]	7,000	6,000	,004
	Wilks' Lambda	,070	11,415[b]	7,000	6,000	,004
	Hotelling's Trace	13,318	11,415[b]	7,000	6,000	,004
	Roy's Largest Root	13,318	11,415[b]	7,000	6,000	,004
day * straw	Pillai's Trace	,798	3,388[b]	7,000	6,000	,079
	Wilks' Lambda	,202	3,388[b]	7,000	6,000	,079
	Hotelling's Trace	3,953	3,388[b]	7,000	6,000	,079
	Roy's Largest Root	3,953	3,388[b]	7,000	6,000	,079
day * resistant	Pillai's Trace	,594	1,253[b]	7,000	6,000	,400
	Wilks' Lambda	,406	1,253[b]	7,000	6,000	,400
	Hotelling's Trace	1,462	1,253[b]	7,000	6,000	,400
	Roy's Largest Root	1,462	1,253[b]	7,000	6,000	,400

a. Design: Intercept + Temp + straw + resistant Within Subjects Design: day

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	Huynh-Feldt	Lower-bound
day	,000	75,663	27	<,001	,422	,715	,143

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

a. Design: Intercept + Temp + straw + resistant Within Subjects Design: day

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	Sig.
day	Sphericity Assumed	149,264	7	21,323	61,492	<,001
	Greenhouse-Geisser	149,264	2,954	50,521	61,492	<,001

Measure:MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
	Huynh-Feldt	149,264	5,005	29,824	61,492	<,001
	Lower-bound	149,264	1,000	149,264	61,492	<,001
day * Temp	Sphericity Assumed	30,181	7	4,312	12,434	<,001
	Greenhouse-Geisser	30,181	2,954	10,215	12,434	<,001
	Huynh-Feldt	30,181	5,005	6,030	12,434	<,001
	Lower-bound	30,181	1,000	30,181	12,434	,004
day * straw	Sphericity Assumed	2,765	7	,395	1,139	,347
	Greenhouse-Geisser	2,765	2,954	,936	1,139	,346
	Huynh-Feldt	2,765	5,005	,553	1,139	,350
	Lower-bound	2,765	1,000	2,765	1,139	,307
day * resistant	Sphericity Assumed	7,573	7	1,082	3,120	,006
	Greenhouse-Geisser	7,573	2,954	2,563	3,120	,039
	Huynh-Feldt	7,573	5,005	1,513	3,120	,014
	Lower-bound	7,573	1,000	7,573	3,120	,103
Error(day)	Sphericity Assumed	29,129	84	,347		
	Greenhouse-Geisser	29,129	35,454	,822		
	Huynh-Feldt	29,129	60,058	,485		
	Lower-bound	29,129	12,000	2,427		

Tests of Within-Subjects Contrasts

Measure:MEASURE_1

Source	day	Type III Sum of Squares	df	Mean Square	F	Sig.
day	Linear	122,919	1	122,919	133,614	<,001
	Quadratic	13,804	1	13,804	26,581	<,001
	Cubic	6,686	1	6,686	20,974	<,001
	Order 4	,262	1	,262	1,161	,302
	Order 5	4,997	1	4,997	17,189	,001
	Order 6	,450	1	,450	5,600	,036
	Order 7	,146	1	,146	2,009	,182
day * Temp	Linear	25,981	1	25,981	28,241	<,001
	Quadratic	,903	1	,903	1,739	,212
	Cubic	,012	1	,012	,036	,852
	Order 4	2,021	1	2,021	8,953	,011
	Order 5	1,221	1	1,221	4,199	,063
	Order 6	,019	1	,019	,234	,638
	Order 7	,026	1	,026	,356	,562
day * straw	Linear	,006	1	,006	,007	,936
	Quadratic	1,527	1	1,527	2,941	,112
	Cubic	,002	1	,002	,006	,940
	Order 4	,507	1	,507	2,248	,160
	Order 5	,012	1	,012	,041	,842
	Order 6	,552	1	,552	6,867	,022
	Order 7	,159	1	,159	2,190	,165
day * resistant	Linear	,547	1	,547	,595	,455
	Quadratic	6,592	1	6,592	12,694	,004
	Cubic	,154	1	,154	,484	,500
	Order 4	,171	1	,171	,755	,402
	Order 5	,040	1	,040	,139	,716
	Order 6	,011	1	,011	,138	,717
	Order 7	,058	1	,058	,794	,390
Error(day)	Linear	11,039	12	,920		
	Quadratic	6,232	12	,519		

Measure:MEASURE_1

Source	day	Type III Sum of Squares	df	Mean Square	F	Sig.
	Cubic	3,825	12	,319		
	Order 4	2,709	12	,226		
	Order 5	3,488	12	,291		
	Order 6	,964	12	,080		
	Order 7	,871	12	,073		

Tests of Between-Subjects Effects

Measure:MEASURE_1
Transformed Variable
Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	3965,788	1	3965,788	1984,414	<,001
Temp	20,085	1	20,085	10,050	,008
straw	7,543	1	7,543	3,774	,076
resistant	57,227	1	57,227	28,635	<,001
Error	23,982	12	1,998		

Parameter Estimates

Dependent Variable	Parameter	B	Std. Error	t	Sig.	95% Confidence Interval Lower Bound	Upper Bound
@0	Intercept	6,163	,251	24,509	<,001	5,615	6,711
	[Temp=30]	-,450	,259	-1,734	,109	-1,015	,115
	[Temp=37]	0[a]	.	.	.	.	.
	[straw=0]	,254	,252	1,007	,334	-,295	,803
	[straw=1]	0[a]	.	.	.	.	.
	[resistant=0]	,814	,250	3,257	,007	,269	1,358
	[resistant=1]	0[a]	.	.	.	.	.
@1	Intercept	6,618	,390	16,971	<,001	5,769	7,468
	[Temp=30]	-,042	,402	-,104	,919	-,918	,835
	[Temp=37]	0[a]	.	.	.	.	.
	[straw=0]	,434	,391	1,110	,289	-,418	1,286
	[straw=1]	0[a]	.	.	.	.	.
	[resistant=0]	1,398	,387	3,609	,004	,554	2,243
	[resistant=1]	0[a]	.	.	.	.	.
@2	Intercept	5,613	,369	15,193	<,001	4,808	6,418
	[Temp=30]	,304	,381	,798	,440	-,526	1,135
	[Temp=37]	0[a]	.	.	.	.	.
	[straw=0]	,294	,370	,795	,442	-,512	1,101
	[straw=1]	0[a]	.	.	.	.	.
	[resistant=0]	1,751	,367	4,771	<,001	,951	2,551
	[resistant=1]	0[a]	.	.	.	.	.
@3	Intercept	4,576	,365	12,544	<,001	3,781	5,371
	[Temp=30]	,411	,376	1,093	,296	-,409	1,231
	[Temp=37]	0[a]	.	.	.	.	.
	[straw=0]	1,091	,366	2,984	,011	,294	1,887
	[straw=1]	0[a]	.	.	.	.	.
	[resistant=0]	2,021	,362	5,576	<,001	1,231	2,811

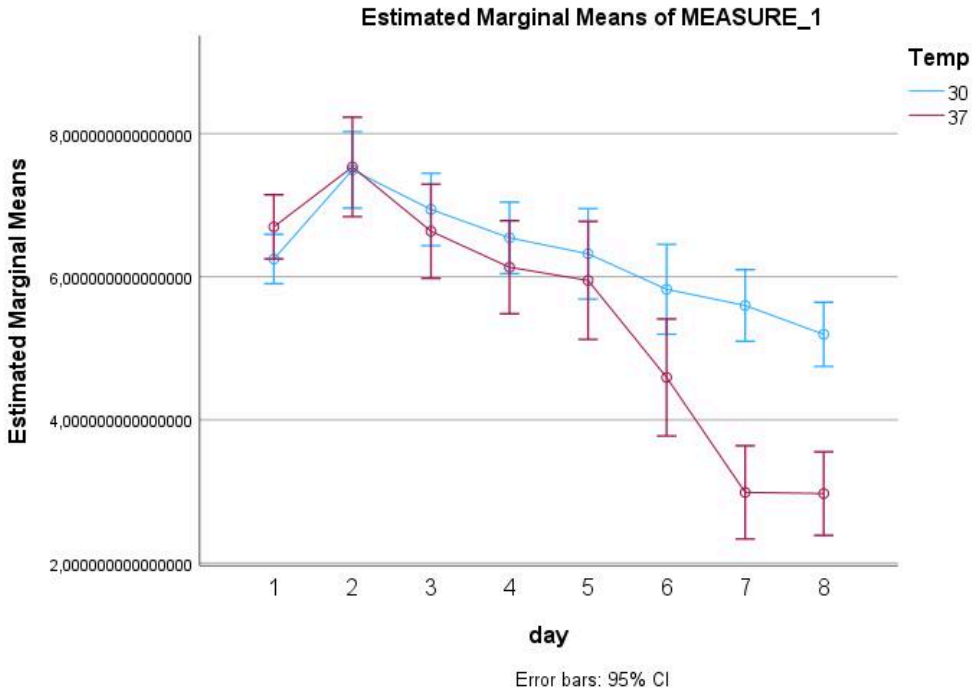
a. This parameter is set to zero because it is redundant.

Dependent Variable	Parameter	B	Std. Error	t	Sig.	95% Confidence Interval Lower Bound	Upper Bound
	[resistant=1]	0[a]	.	.	.	.	.
@4	Intercept	4,601	,462	9,950	<,001	3,593	5,608
	[Temp=30]	,372	,477	,779	,451	-,668	1,411
	[Temp=37]	0[a]	.	.	.	.	.
	[straw=0]	,885	,463	1,911	,080	-,124	1,895
	[straw=1]	0[a]	.	.	.	.	.
	[resistant=0]	1,810	,459	3,940	,002	,809	2,811
	[resistant=1]	0[a]	.	.	.	.	.
@5	Intercept	3,568	,458	7,786	<,001	2,570	4,567
	[Temp=30]	1,232	,473	2,605	,023	,201	2,262
	[Temp=37]	0[a]	.	.	.	.	.
	[straw=0]	,482	,459	1,049	,315	-,519	1,482
	[straw=1]	0[a]	.	.	.	.	.
	[resistant=0]	1,568	,455	3,443	,005	,576	2,560
	[resistant=1]	0[a]	.	.	.	.	.
@6	Intercept	2,401	,366	6,562	<,001	1,604	3,198
	[Temp=30]	2,612	,377	6,922	<,001	1,790	3,435
	[Temp=37]	0[a]	.	.	.	.	.
	[straw=0]	,313	,367	,853	,410	-,486	1,112
	[straw=1]	0[a]	.	.	.	.	.
	[resistant=0]	,858	,363	2,360	,036	,066	1,650
	[resistant=1]	0[a]	.	.	.	.	.
@7	Intercept	2,555	,327	7,804	<,001	1,841	3,268
	[Temp=30]	2,225	,338	6,589	<,001	1,490	2,961
	[Temp=37]	0[a]	.	.	.	.	.
	[straw=0]	,215	,328	,655	,525	-,500	,930
	[straw=1]	0[a]	.	.	.	.	.
	[resistant=0]	,615	,325	1,891	,083	-,093	1,324
	[resistant=1]	0[a]	.	.	.	.	.

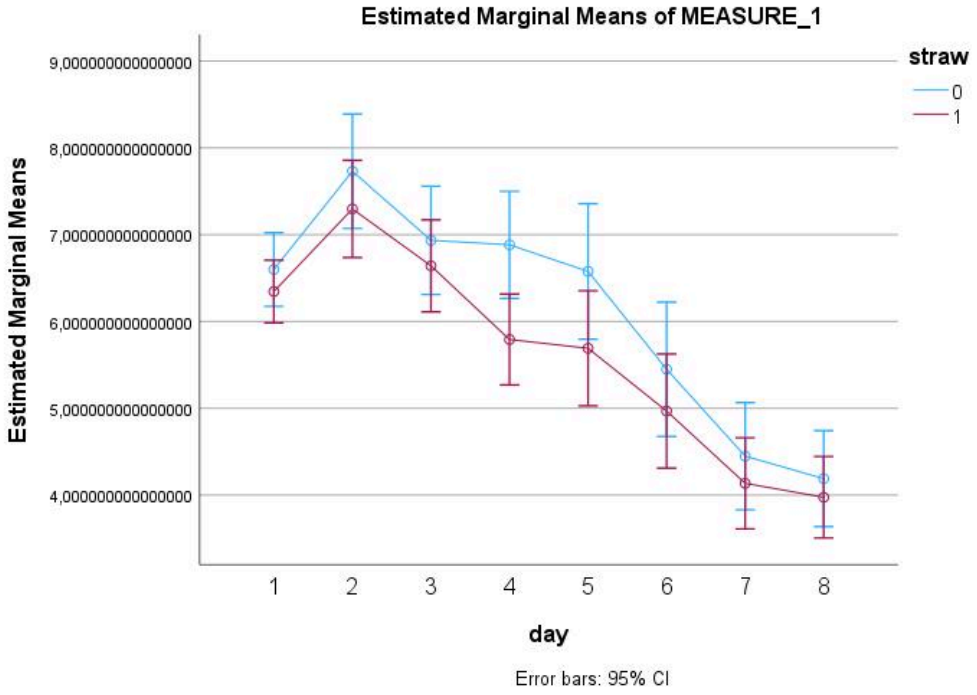
a. This parameter is set to zero because it is redundant.

Profile Plots

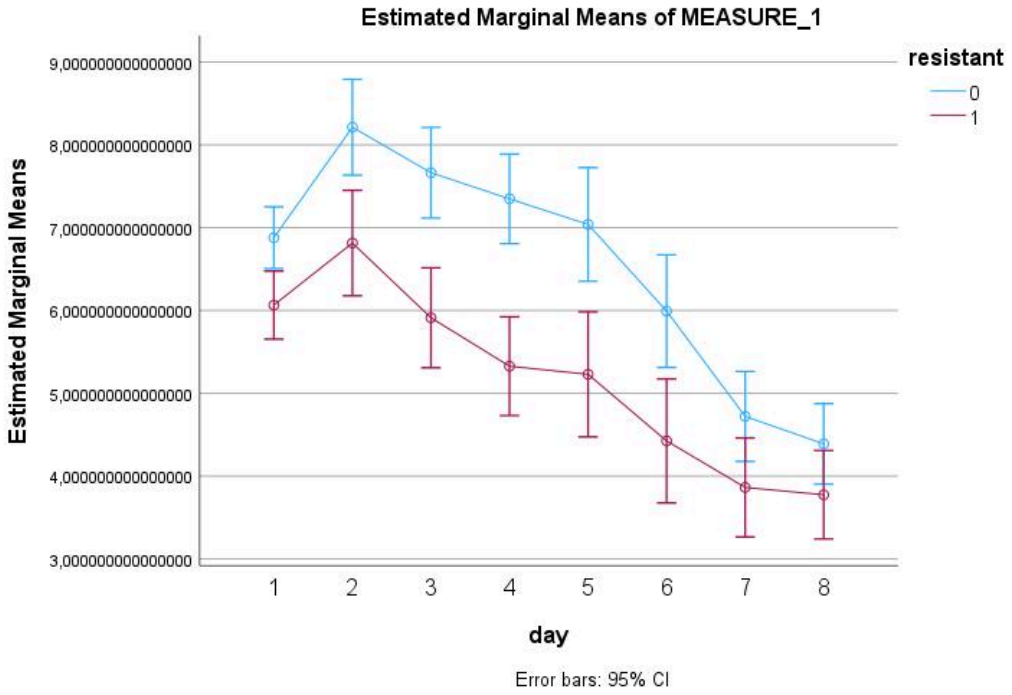
day * Temp
Estimated Marginal Means of MEASURE_1



day * straw
Estimated Marginal Means of MEASURE_1



day * resistant
Estimated Marginal Means of MEASURE_1

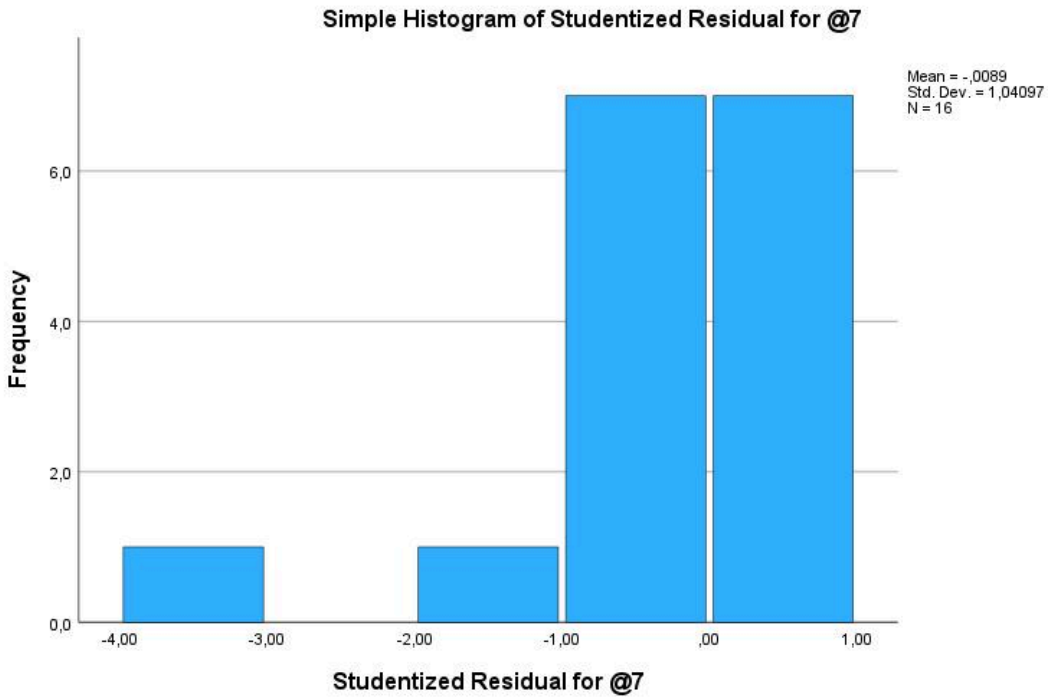


GGraph

Notes

Output Created		02-MAY-2024 15:47:57
Comments		
Input	Data	I:\VETMED\WE16\04Forschung\02_Projekte\ENVIRE_2022\04_Daten\Aleksandra\Cefotaxim_2024-05-02.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	32
Syntax		GGRAPH /GRAPHDATASET NAME="graphdataset" VARIABLES=SRE_33 MISSING=LISTWISE REPORTMISSING=NO /GRAPHSPEC SOURCE=INLINE. BEGIN GPL GUIDE: axis(dim(1), label("Studentized Residual for @7")) GUIDE: axis(dim(2), label("Frequency")) GUIDE: text.title(label("Simple Histogram of Studentized Residual for @7")) ELEMENT: interval(position(summary.count(bin.rect(SRE_33))), shape.interior(shape.square)) END GPL.
Resources	Processor Time	00:00:01,67
	Elapsed Time	00:00:00,44

Graph
Simple Histogram of Studentized Residual for @7

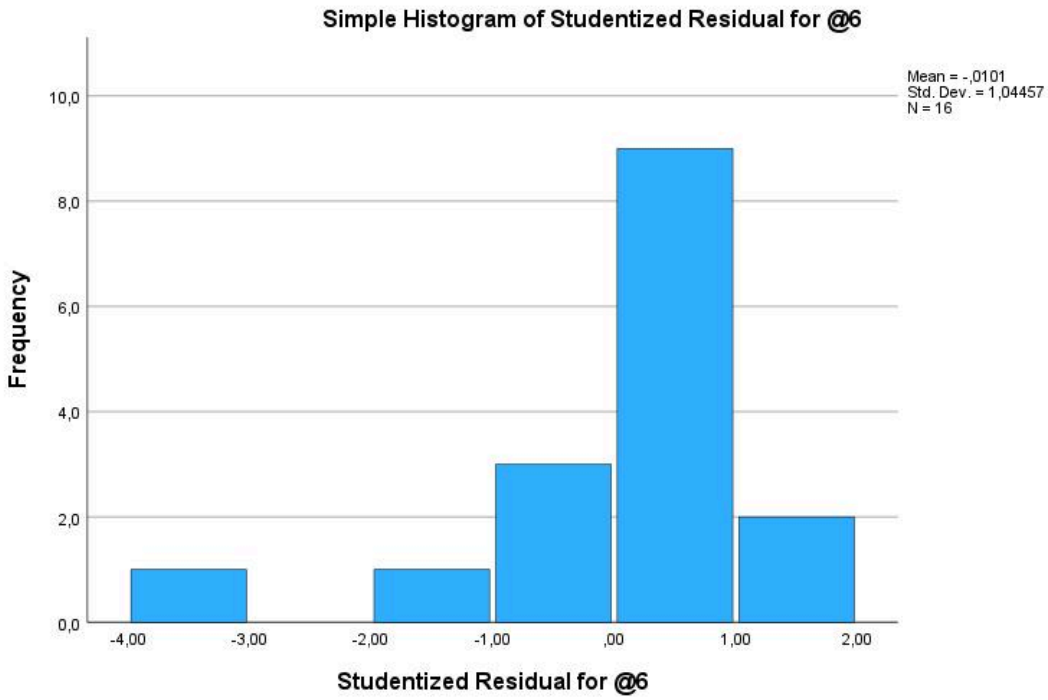


GGraph

Notes

Output Created		02-MAY-2024 15:48:14
Comments		
Input	Data	I:\VETMED\WE16\04Forschung\02_Projekte\ENVIRE_2022\04_Daten\Aleksandra\Cefotaxim_2024-05-02.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	32
Syntax		GGRAPH /GRAPHDATASET NAME="graphdataset" VARIABLES=SRE_32 MISSING=LISTWISE REPORTMISSING=NO /GRAPHSPEC SOURCE=INLINE. BEGIN GPL GUIDE: axis(dim(1), label("Studentized Residual for @6")) GUIDE: axis(dim(2), label("Frequency")) GUIDE: text.title(label("Simple Histogram of Studentized Residual for @6")) ELEMENT: interval(position(summary.count(bin.rect(SRE_32))), shape.interior(shape.square)) END GPL.
Resources	Processor Time	00:00:00,23
	Elapsed Time	00:00:00,16

Graph
Simple Histogram of Studentized Residual for @6

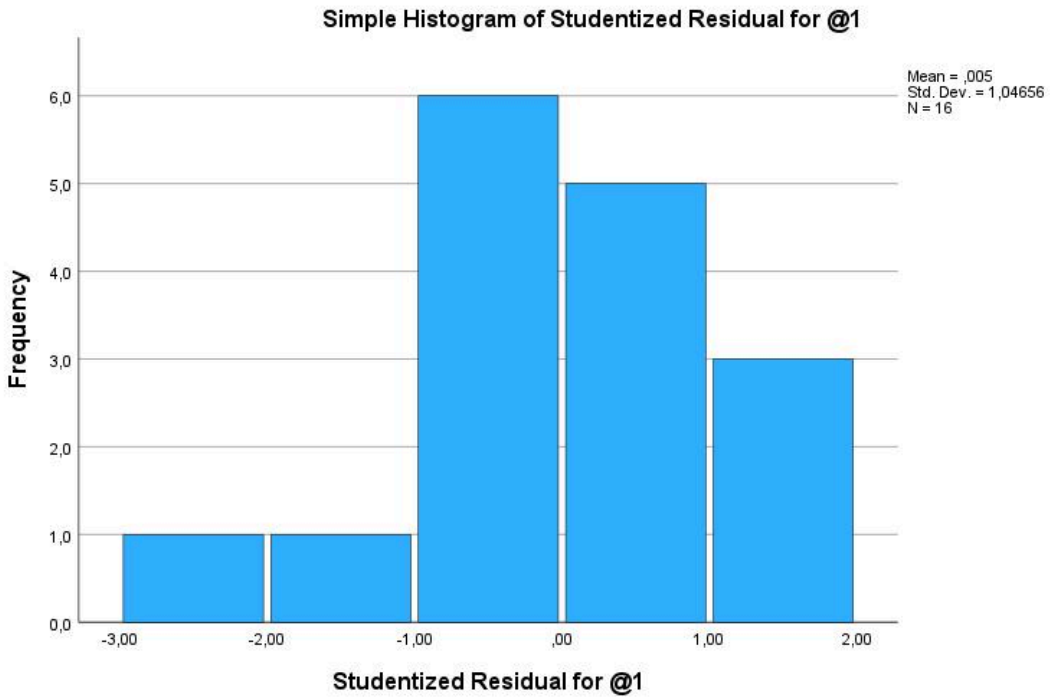


GGraph

Notes

Output Created		02-MAY-2024 15:48:28
Comments		
Input	Data	I:\VETMED\WE16\04Forschung\02_Projekte\ENVIRE_2022\04_Daten\Aleksandra\Cefotaxim_2024-05-02.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	32
Syntax		GGRAPH /GRAPHDATASET NAME="graphdataset" VARIABLES=SRE_27 MISSING=LISTWISE REPORTMISSING=NO /GRAPHSPEC SOURCE=INLINE. BEGIN GPL GUIDE: axis(dim(1), label("Studentized Residual for @1")) GUIDE: axis(dim(2), label("Frequency")) GUIDE: text.title(label("Simple Histogram of Studentized Residual for @1")) ELEMENT: interval(position(summary.count(bin.rect(SRE_27))), shape.interior(shape.square)) END GPL.
Resources	Processor Time	00:00:00,16
	Elapsed Time	00:00:00,16

Graph
Simple Histogram of Studentized Residual for @1

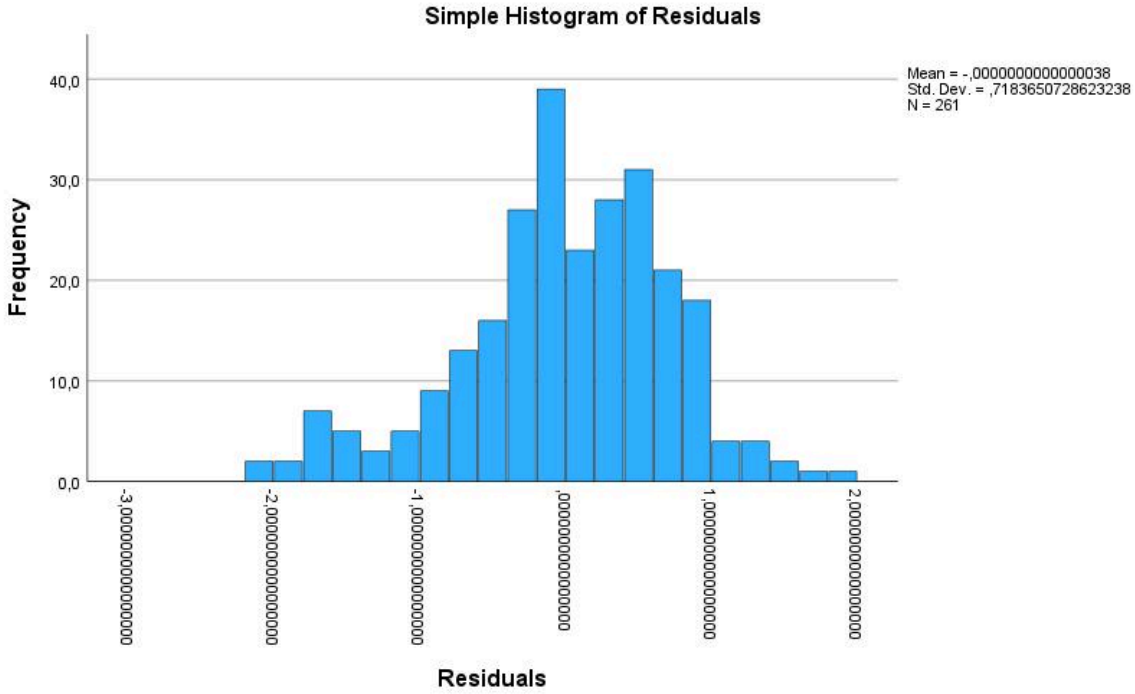


GGraph

Notes

Output Created		02-MAY-2024 15:52:03
Comments		
Input	Data	I:\VETMED\WE16\04Forschung\02_Projekte\ENVIRE_2022\04_Daten\Aleksandra\Cefotaxim_trans_2024-05-02.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	448
Syntax		GGRAPH /GRAPHDATASET NAME="graphdataset" VARIABLES=RESID_2 MISSING=LISTWISE REPORTMISSING=NO /GRAPHSPEC SOURCE=INLINE. BEGIN GPL GUIDE: axis(dim(1), label("Residuals")) GUIDE: axis(dim(2), label("Frequency")) GUIDE: text.title(label("Simple Histogram of Residuals")) ELEMENT: interval(position(summary.count(bin.rect(RESID_2))), shape.interior(shape.square)) END GPL.
Resources	Processor Time	00:00:00,17
	Elapsed Time	00:00:00,15

Graph
Simple Histogram of Residuals



Mixed Model Analysis

Notes

Output Created		02-MAY-2024 15:53:02
Comments		
Input	Data	I:\VETMED\WE16\04Forschung\02_Projekte\ENVIRE_2022\04_Daten\Aleksandra\Cefotaxim_trans_2024-05-02.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	448
Missing Value Handling	Definition of Missing	User-defined missing values are treated as valid data.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Weight Handling		not applicable
Syntax		MIXED day BY Temp straw resistant Index1 /CRITERIA=DFMETHOD(SATTERTHWAITE) CIN(95) MXITER(100) MXSTEP(10) SCORING(1) SINGULAR(0.000000000001) HCONVERGE(0.00000001, RELATIVE) LCONVERGE(0, ABSOLUTE) PCONVERGE(0, ABSOLUTE) /FIXED=Temp straw resistant Index1 | SSTYPE(3) /METHOD=REML /RANDOM=INTERCEPT | SUBJECT(id) COVTYPE(VC) /RANDOM=INTERCEPT | SUBJECT(Trial) COVTYPE(VC) /SAVE=PRED RESID.
Resources	Processor Time	00:00:00,17
	Elapsed Time	00:00:00,15
Variables Created	PRED_1	Predicted Values
	RESID_1	Residuals

Model Dimension[a]

		Number of Levels	Covariance Structure	Number of Parameters	Subject Variables
Fixed Effects	Intercept	1		1	
	Temp	2		1	
	straw	2		1	
	resistant	2		1	
	Index1	14		13	
Random Effects	Intercept	1	Variance Components	1	id
	Intercept	1	Variance Components	1	Trial
Residual				1	
Total		23		20	

a. Dependent Variable: day.

Information Criteria[a]

-2 Restricted Log Likelihood	654,07624662
Akaike's Information Criterion (AIC)	660,07624662
Hurvich and Tsai's Criterion (AICC)	660,17624662
Bozdogan's Criterion (CAIC)	673,56775129
Schwarz's Bayesian Criterion (BIC)	670,56775129

The information criteria are displayed in smaller-is-better form.

a. Dependent Variable: day.

Coefficients of Determination

Pseudo-R Square Measures	Marginal	,705
	Conditional	,807

Intraclass Correlation Coefficients

Overall ICCs	Adjusted	,345
	Conditional	,102
SUBJECT = id ICC	Adjusted	,186
	Conditional	,055
SUBJECT = Trial ICC	Adjusted	,160
	Conditional	,047

Fixed Effects

Type III Tests of Fixed Effects[a]

Source	Numerator df	Denominator df	F	Sig.
Intercept	1	3,208	504,741	<,001
Temp	1	27,121	14,158	<,001
straw	1	24,538	,198	,660
resistant	1	24,616	92,026	<,001

a. Dependent Variable: day.

Source	Numerator df	Denominator df	F	Sig.
Index1	13	220,845	45,062	<,001

a. Dependent Variable: day.

Covariance Parameters

Estimates of Covariance Parameters[a]

Parameter		Estimate	Std. Error
Residual		,597	,057
Intercept [subject = id]	Variance	,169	,071
Intercept [subject = Trial]	Variance	,145	,146

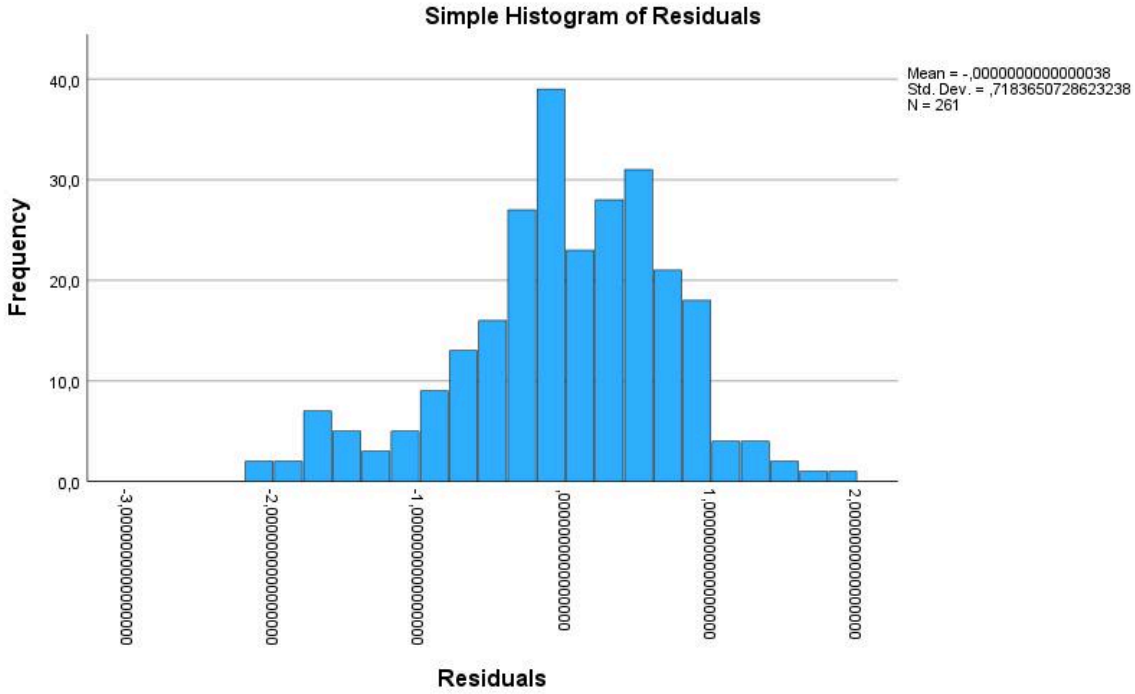
a. Dependent Variable: day.

GGraph

Notes

Output Created		02-MAY-2024 15:53:20
Comments		
Input	Data	I:\VETMED\WE16\04Forschung\02_Projekte\ENVIRE_2022\04_Daten\Aleksandra\Cefotaxim_trans_2024-05-02.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	448
Syntax		GGRAPH /GRAPHDATASET NAME="graphdataset" VARIABLES=RESID_1 MISSING=LISTWISE REPORTMISSING=NO /GRAPHSPEC SOURCE=INLINE. BEGIN GPL GUIDE: axis(dim(1), label("Residuals")) GUIDE: axis(dim(2), label("Frequency")) GUIDE: text.title(label("Simple Histogram of Residuals")) ELEMENT: interval(position(summary.count(bin.rect(RESID_1))), shape.interior(shape.square)) END GPL.
Resources	Processor Time	00:00:00,17
	Elapsed Time	00:00:00,15

Graph
Simple Histogram of Residuals



GGraph

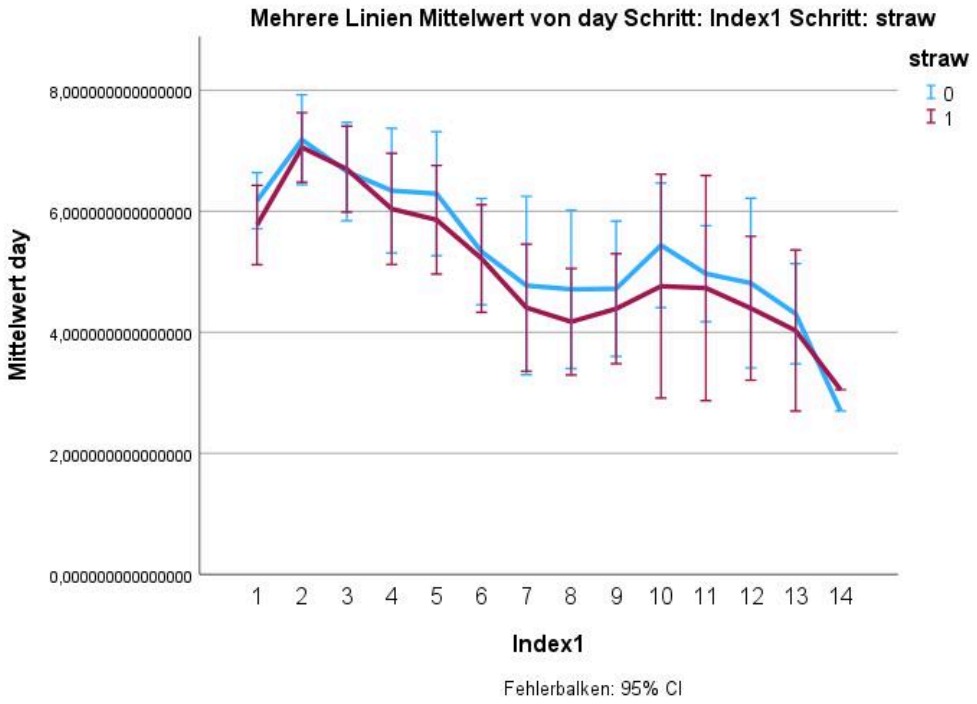
Hinweise

Ausgabe erstellt		03-JUN-2024 10:30:23
Kommentare		
Eingabe	Daten	I:\VETMED\WE16\04Forschung\02_Projekte\ENVIRE_2022\04_Daten\Aleksandra\Cefotaxim_trans_2024-05-02.sav
	Aktiver Datensatz	DataSet2
	Filter	<keine>
	Gewichtung	<keine>
	Aufgeteilte Datei	<keine>
	Anzahl der Zeilen in der Arbeitsdatei	448
Syntax		GGRAPH /GRAPHDATASET NAME="graphdataset" VARIABLES=Index1 MEANCI(day, 95)[name="MEAN_day" LOW="MEAN_day_LOW" HIGH="MEAN_day_HIGH"] straw MISSING=LISTWISE REPORTMISSING=NO /GRAPHSPEC SOURCE=INLINE. BEGIN GPL DATA: LOW=col(source(s), name("MEAN_day_LOW")) DATA: HIGH=col(source(s), name("MEAN_day_HIGH")) GUIDE: axis(dim(1), label("Index1")) GUIDE: axis(dim(2), label("Mittelwert day")) GUIDE: legend(aesthetic(aesthetic.color.interior), label("straw")) GUIDE: text.title(label("Mehrere Linien Mittelwert von day Schritt: Index1 Schritt: straw")) GUIDE: text.footnote(label("Fehlerbalken: 95% CI")) SCALE: linear(dim(2), include(0)) ELEMENT: line(position(Index1*MEAN_day), color.interior(straw), missing.wings()) ELEMENT: interval(position(region.spread.range(Index1*(LOW+HIGH))), shape.interior(shape.ibeam), color.interior(straw)) END GPL.
Ressourcen	Prozessorzeit	00:00:04,83
	Verstrichene Zeit	00:00:02,45

[DataSet2] I:\VETMED\WE16\04Forschung\02_Projekte\ENVIRE_2022\04_Daten\Aleksandra\Cefotaxim_trans_2024-05-02.sav

Diagramm

Mehrere Linien Mittelwert von day Schritt: Index1 Schritt: straw

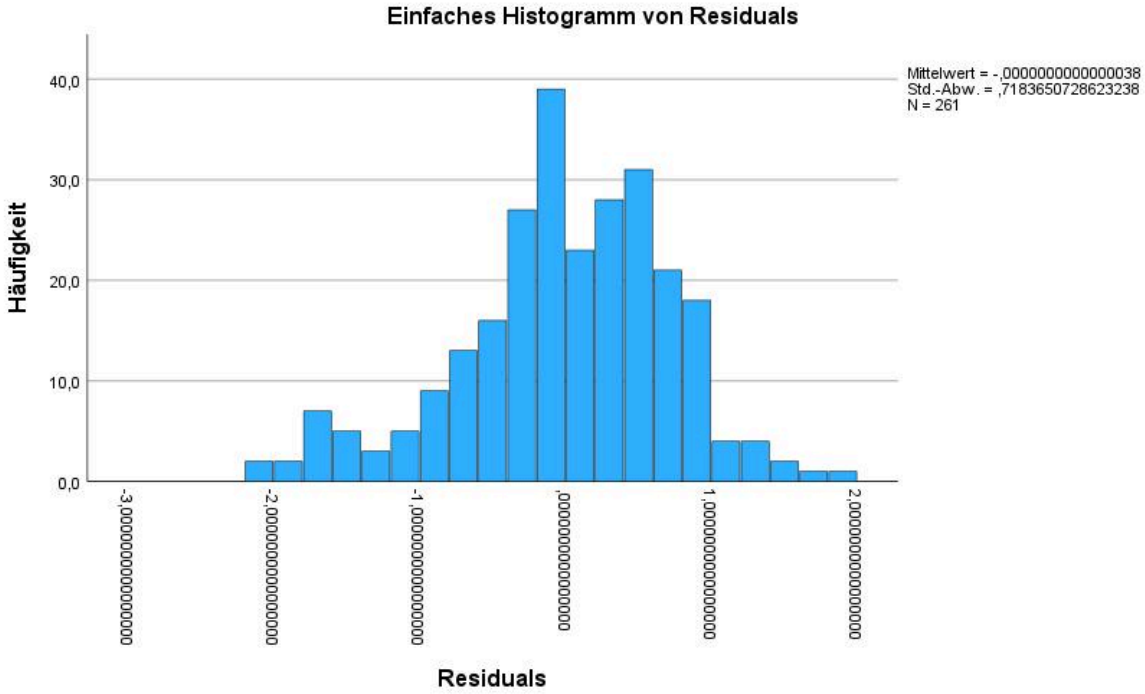


GGraph

Hinweise

Ausgabe erstellt		03-JUN-2024 10:39:24
Kommentare		
Eingabe	Daten	I:\VETMED\WE16\04Forschung\02_Projekte\ENVIRE_2022\04_Daten\Aleksandra\Cefotaxim_trans_2024-05-02.sav
	Aktiver Datensatz	DataSet2
	Filter	<keine>
	Gewichtung	<keine>
	Aufgeteilte Datei	<keine>
	Anzahl der Zeilen in der Arbeitsdatei	448
Syntax		GGRAPH /GRAPHDATASET NAME="graphdataset" VARIABLES=RESID_1 MISSING=LISTWISE REPORTMISSING=NO /GRAPHSPEC SOURCE=INLINE. BEGIN GPL GUIDE: axis(dim(1), label("Residuals")) GUIDE: axis(dim(2), label("Häufigkeit")) GUIDE: text.title(label("Einfaches Histogramm von Residuals")) ELEMENT: interval(position(summary.count(bin.rect(RESID_1))), shape.interior(shape.square)) END GPL.
Ressourcen	Prozessorzeit	00:00:00,86
	Verstrichene Zeit	00:00:00,22

Diagramm
Einfaches Histogramm von Residuals


Einfaches Histogramm von Residuals
Mittelwert = -,0000000000000038
Std.-Abw. = ,7183650728623238
N = 261
Häufigkeit
40,0
30,0
20,0
10,0
0,0
-3,000000000000000
-2,000000000000000
-1,000000000000000
,000000000000000
1,000000000000000
2,000000000000000
Residuals