ALL Random Model with both Brand and Temp as random factors

The Mixed Procedure

Model Information	
Data Set	PROJECT.EFF
Dependent Variable	Time
Covariance Structure	Variance Components
Estimation Method	Type 3
Residual Variance Method	Factor
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information		
Class	Levels	Values
Brand	2	name store
Temp	3	6 23 40

Dimensions	
Covariance Parameters	4
Columns in X	1
Columns in Z	11
Subjects	1
Max Obs per Subject	48

Number of Observations	
Number of Observations Read	48
Number of Observations Used	48
Number of Observations Not Used	0

| Type 3 Analysis of Variance								
Source	DF	Sum of Squares	Mean Square	Expected Mean Square	Error Term	Error DF	F Value	Pr > F
Temp	2	1654.736551	827.368276	Var(Residual) + 8 Var(Brand*Temp) + 16 Var(Temp)	MS(Brand*Temp)	2	7.14	0.1229
Brand	1	342.007154	342.007154	Var(Residual) + 8 Var(Brand*Temp) + 24 Var(Brand)	MS(Brand*Temp)	2	2.95	0.2280
Brand*Temp	2	231.851912	115.925956	Var(Residual) + 8 Var(Brand*Temp)	MS(Residual)	42	34.49	<.0001
Residual	42	141.168471	3.361154	Var(Residual)	.	.	.	.

ALL Random Model with both Brand and Temp as random factors

The Mixed Procedure

Covariance Parameter Estimates	
Cov Parm	Estimate
Temp	44.4651
Brand	9.4200
Brand*Temp	14.0706
Residual	3.3612

Fit Statistics	
-2 Res Log Likelihood	216.9
AIC (Smaller is Better)	224.9
AICC (Smaller is Better)	225.9
BIC (Smaller is Better)	221.3

Conditional Residuals for Time
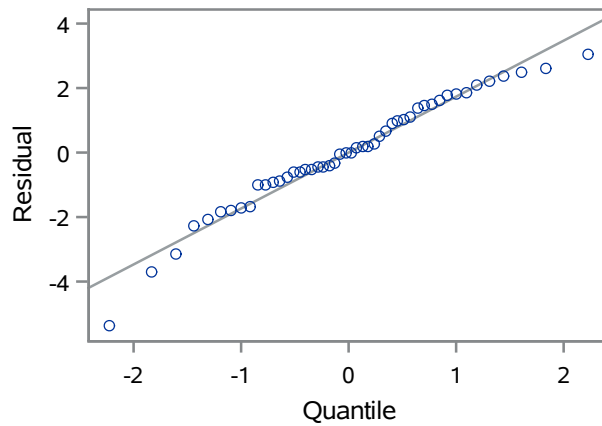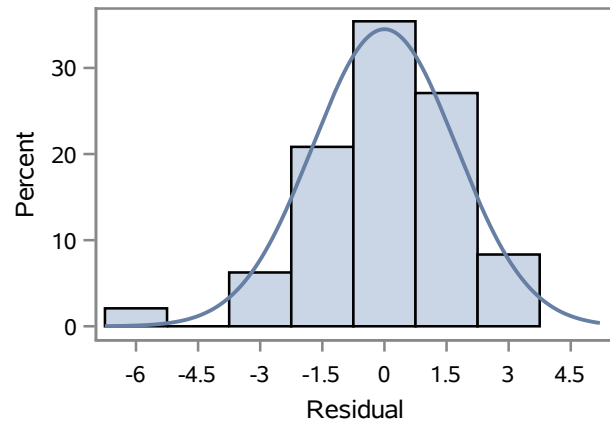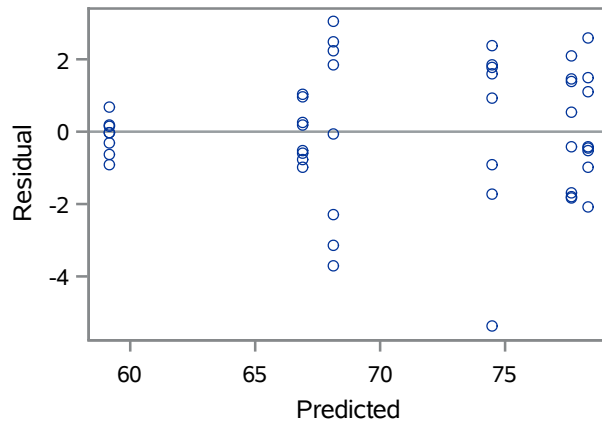
Residual Statistics	
Observations	48
Minimum	-5.378
Mean	11E-15
Maximum	3.0504
Std Dev	1.7347
Fit Statistics	
Objective	216.94
AIC	224.94
AICC	225.9
BIC	221.34

Mixed Model with Brand as random and Temp as fixed factors

The Mixed Procedure

Model Information	
Data Set	PROJECT.EFF
Dependent Variable	Time
Covariance Structure	Variance Components
Estimation Method	Type 3
Residual Variance Method	Factor
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information		
Class	Levels	Values
Brand	2	name store
Temp	3	6 23 40

Dimensions	
Covariance Parameters	3
Columns in X	4
Columns in Z	8
Subjects	1
Max Obs per Subject	48

Number of Observations	
Number of Observations Read	48
Number of Observations Used	48
Number of Observations Not Used	0

Type 3 Analysis of Variance									
Source	DF	Sum of Squares	Mean Square	Expected Mean Square	Error Term	Error DF	F Value	Pr > F
Temp	2	1654.736551	827.368276	Var(Residual) + 8 Var(Brand*Temp) + Q(Temp)	MS(Brand*Temp)	2	7.14	0.1229
Brand	1	342.007154	342.007154	Var(Residual) + 8 Var(Brand*Temp) + 24 Var(Brand)	MS(Brand*Temp)	2	2.95	0.2280
Brand*Temp	2	231.851912	115.925956	Var(Residual) + 8 Var(Brand*Temp)	MS(Residual)	42	34.49	<.0001
Residual	42	141.168471	3.361154	Var(Residual)	.	.	.	.

Mixed Model with Brand as random and Temp as fixed factors

The Mixed Procedure

Covariance Parameter Estimates	
Cov Parm	**Estimate**
Brand	9.4200
Brand*Temp	14.0706
Residual	3.3612

Fit Statistics	
-2 Res Log Likelihood	202.3
AIC (Smaller is Better)	208.3
AICC (Smaller is Better)	208.9
BIC (Smaller is Better)	204.4

Type 3 Tests of Fixed Effects				
Effect	**Num DF**	**Den DF**	**F Value**	**Pr > F**
Temp	2	2	7.14	0.1229

Conditional Residuals for Time
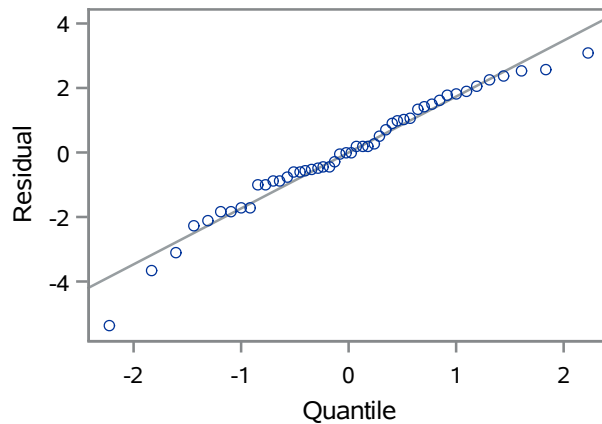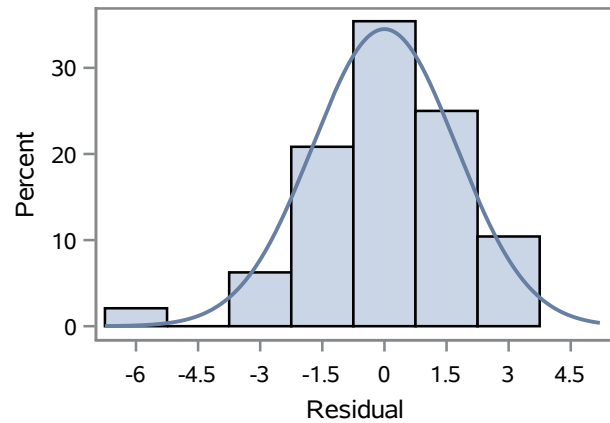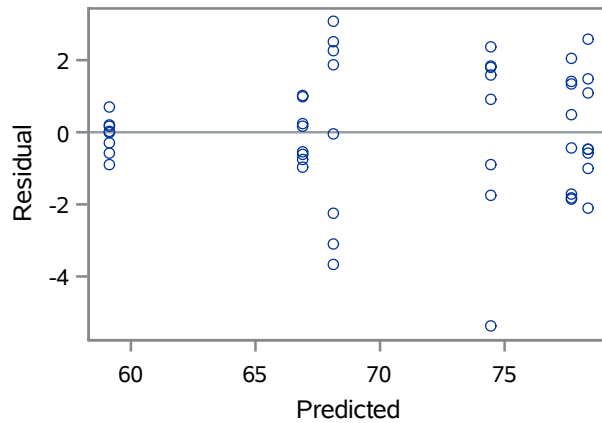
Residual Statistics	
Observations	48
Minimum	-5.378
Mean	58E-16
Maximum	3.0794
Std Dev	1.7345
Fit Statistics	
Objective	202.28
AIC	208.28
AICC	208.86
BIC	204.36

Mixed Model with Brand as fixed and Temp as random factors

The Mixed Procedure

Model Information	
Data Set	PROJECT.EFF
Dependent Variable	Time
Covariance Structure	Variance Components
Estimation Method	Type 3
Residual Variance Method	Factor
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Containment

Class Level Information		
Class	**Levels**	**Values**
Brand	2	name store
Temp	3	6 23 40

Dimensions	
Covariance Parameters	3
Columns in X	3
Columns in Z	9
Subjects	1
Max Obs per Subject	48

Number of Observations	
Number of Observations Read	48
Number of Observations Used	48
Number of Observations Not Used	0

Type 3 Analysis of Variance								
Source	**DF**	**Sum of Squares**	**Mean Square**	**Expected Mean Square**	**Error Term**	**Error DF**	**F Value**	**Pr > F**
Brand	1	342.007154	342.007154	Var(Residual) + 8 Var(Brand*Temp) + Q(Brand)	MS(Brand*Temp)	2	2.95	0.2280
Temp	2	1654.736551	827.368276	Var(Residual) + 8 Var(Brand*Temp) + 16 Var(Temp)	MS(Brand*Temp)	2	7.14	0.1229
Brand*Temp	2	231.851912	115.925956	Var(Residual) + 8 Var(Brand*Temp)	MS(Residual)	42	34.49	<.0001
Residual	42	141.168471	3.361154	Var(Residual)	.	.	.	.

Mixed Model with Brand as fixed and Temp as random factors

The Mixed Procedure

Covariance Parameter Estimates	
Cov Parm	Estimate
Temp	44.4651
Brand*Temp	14.0706
Residual	3.3612

Fit Statistics	
-2 Res Log Likelihood	210.8
AIC (Smaller is Better)	216.8
AICC (Smaller is Better)	217.3
BIC (Smaller is Better)	214.1

Type 3 Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
Brand	1	2	2.95	0.2280

Conditional Residuals for Time
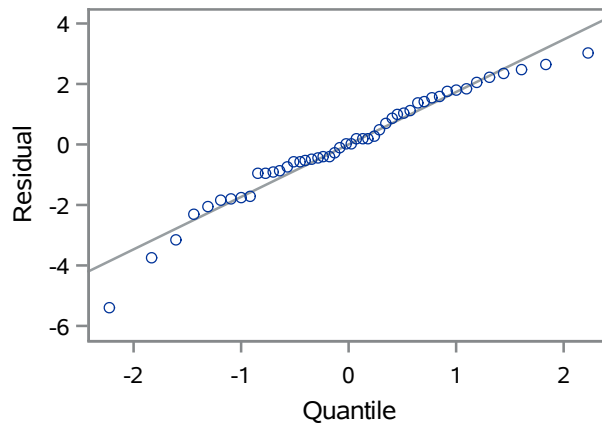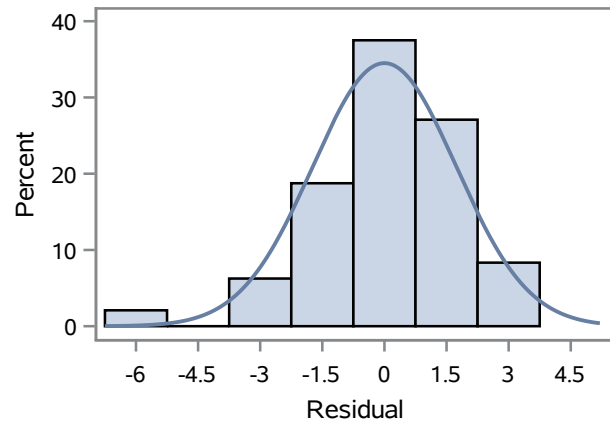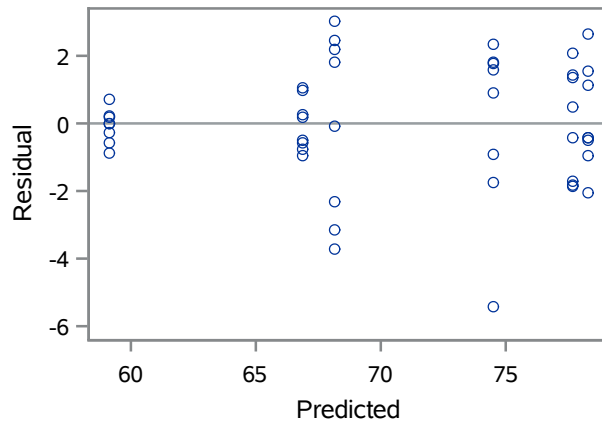
Residual Statistics	
Observations	48
Minimum	-5.405
Mean	21E-15
Maximum	3.0242
Std Dev	1.7344
Fit Statistics	
Objective	210.76
AIC	216.76
AICC	217.33
BIC	214.05

ALL Fixed Model with Stirred included in 3 factor interaction

The GLM Procedure

Class Level Information		
Class	**Levels**	**Values**
Stirred	2	no yes
Brand	2	name store
Temp	3	6 23 40

Number of Observations Read	48
Number of Observations Used	48

ALL Fixed Model with Stirred included in 3 factor interaction

The GLM Procedure

Dependent Variable: Time

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	11	2328.174357	211.652214	183.21	<.0001
Error	36	41.589732	1.155270		
Corrected Total	47	2369.764090			

R-Square	Coeff Var	Root MSE	Time Mean
0.982450	1.518698	1.074835	70.77346

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Stirred	1	69.887866	69.887866	60.49	<.0001
Brand	1	342.007154	342.007154	296.04	<.0001
Stirred*Brand	1	20.510041	20.510041	17.75	0.0002
Temp	2	1654.736551	827.368276	716.17	<.0001
Stirred*Temp	2	0.124706	0.062353	0.05	0.9475
Brand*Temp	2	231.851912	115.925956	100.35	<.0001
Stirred*Brand*Temp	2	9.056126	4.528063	3.92	0.0288

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Stirred	1	69.887866	69.887866	60.49	<.0001
Brand	1	342.007154	342.007154	296.04	<.0001
Stirred*Brand	1	20.510041	20.510041	17.75	0.0002
Temp	2	1654.736551	827.368276	716.17	<.0001
Stirred*Temp	2	0.124706	0.062353	0.05	0.9475
Brand*Temp	2	231.851912	115.925956	100.35	<.0001
Stirred*Brand*Temp	2	9.056126	4.528063	3.92	0.0288

ALL Fixed Model with Stirred included in 3 factor interaction

The GLM Procedure

Dependent Variable: Time

Fit Diagnostics for Time

Observations	48
Parameters	12
Error DF	36
MSE	1.1553
R-Square	0.9824
Adj R-Square	0.9771
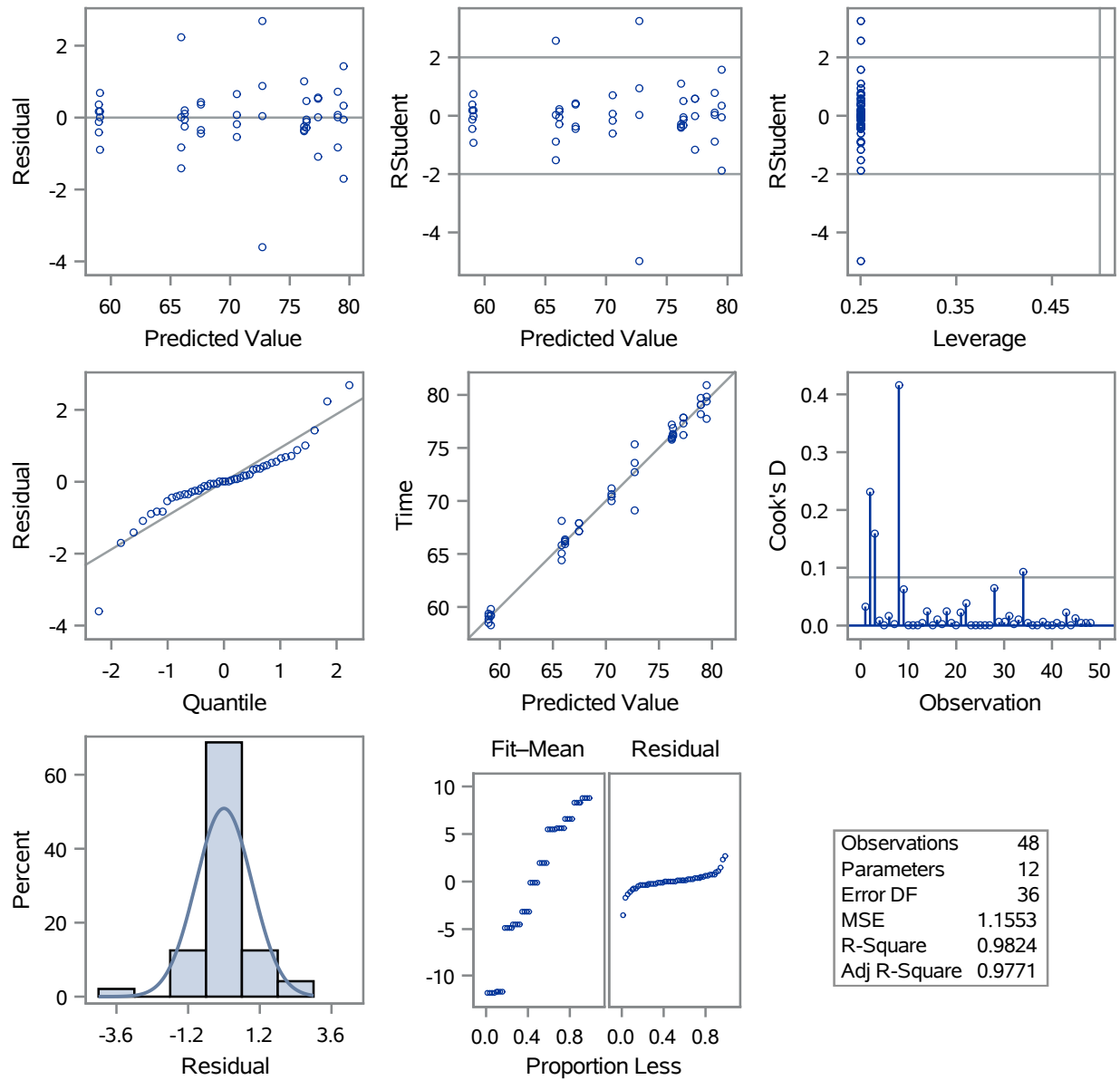
ALL Fixed Model with Stirred included in 3 factor interaction

The GLM Procedure
Least Squares Means

Stirred	Brand	Temp	Time LSMEAN
no	name	6	78.9906136
no	name	23	76.3635111
no	name	40	70.5551136
no	store	6	79.4923990
no	store	23	67.5155244
no	store	40	58.9634731
yes	name	6	76.2024132
yes	name	23	72.6914514
yes	name	40	65.8534342
yes	store	6	77.3370262
yes	store	23	66.1912581
yes	store	40	59.1252865

LS-Means for Stirred*Brand*Temp