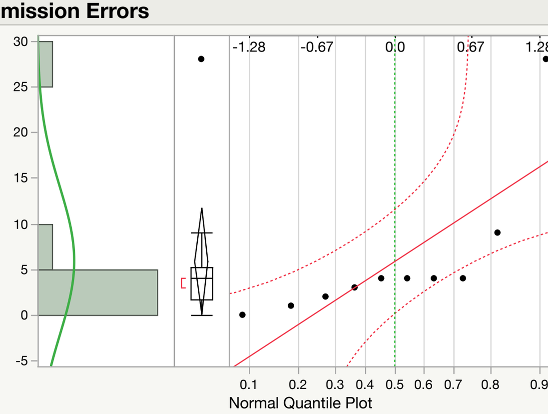
Distributions Treatment=control, Time=post

Omission Errors



Compare Distributions

Distribution		AICc	BIC	-2*LogLikelihood
Normal		75.004744	73.895628	69.290458

Quantiles

100.0%	maximum	28
99.5%		28
97.5%		28
90.0%		26.1
75.0%	quartile	5.25
50.0%	median	4
25.0%	quartile	1.75
10.0%		0.1
2.5%		0
0.5%		0
0.0%	minimum	0

Summary Statistics

Mean	5.9
Std Dev	8.1301906
Std Err Mean	2.570992
Upper 95% Mean	11.715988
Lower 95% Mean	0.084012
N	10

Fitted Normal Distribution

Parameter		Estimate	Std Error	Lower 95%	Upper 95%
Location	μ	5.9	2.570992	0.8609482	10.939052
Dispersion	σ	8.1301906	0.6915537	6.8817289	9.8518309

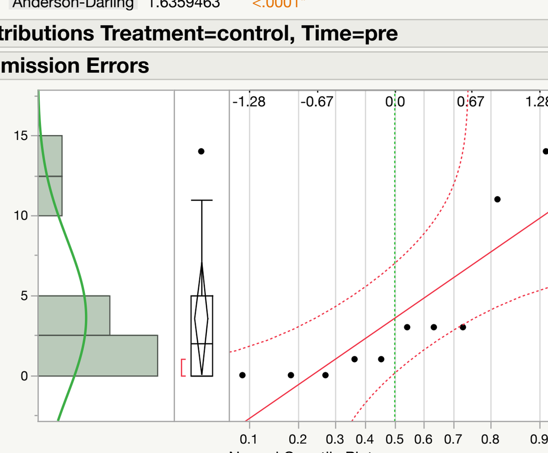
Measures	
-2*LogLikelihood	69.290458
AICc	75.004744
BIC	73.895628

Goodness-of-Fit Test

	A2	Prob > A2
Anderson-Darling	1.6359463	<.0001*

Distributions Treatment=control, Time=pre

Omission Errors



Compare Distributions

Distribution		AICc	BIC	-2*LogLikelihood
Normal		64.892096	63.782981	59.17781

Quantiles

100.0%	maximum	14
99.5%		14
97.5%		14
90.0%		13.7
75.0%	quartile	5
50.0%	median	2
25.0%	quartile	0
10.0%		0
2.5%		0
0.5%		0
0.0%	minimum	0

Summary Statistics

Mean	3.6
Std Dev	4.9035135
Std Err Mean	1.5506271
Upper 95% Mean	7.1077622
Lower 95% Mean	0.0922378
N	10

Fitted Normal Distribution

Parameter		Estimate	Std Error	Lower 95%	Upper 95%
Location	μ	3.6	1.5506271	0.5608267	6.6391733
Dispersion	σ	4.9035135	0.5370679	3.9561949	5.9418761

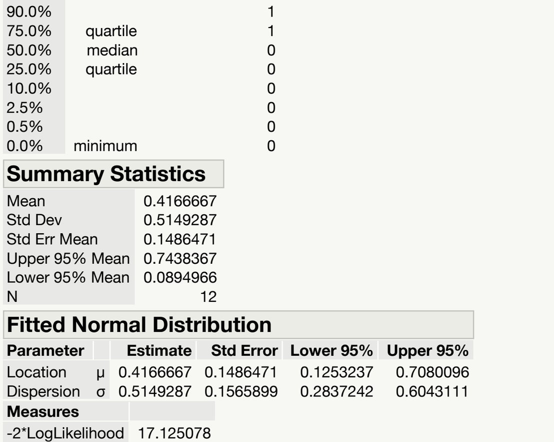
Measures	
-2*LogLikelihood	59.17781
AICc	64.892096
BIC	63.782981

Goodness-of-Fit Test

	A2	Prob > A2
Anderson-Darling	1.1818386	0.0040*

Distributions Treatment=treatment, Time=post

Omission Errors



Compare Distributions

Distribution		AICc	BIC	-2*LogLikelihood
Normal		22.458412	22.094892	17.125078

Quantiles

100.0%	maximum	1
99.5%		1
97.5%		1
90.0%		1
75.0%	quartile	1
50.0%	median	0
25.0%	quartile	0
10.0%		0
2.5%		0
0.5%		0
0.0%	minimum	0

Summary Statistics

Mean	0.4166667
Std Dev	0.5149287
Std Err Mean	0.1486471
Upper 95% Mean	0.7438367
Lower 95% Mean	0.0894966
N	12

Fitted Normal Distribution

Parameter		Estimate	Std Error	Lower 95%	Upper 95%
Location	μ	0.4166667	0.1486471	0.1253237	0.7080096
Dispersion	σ	0.5149287	0.1565899	0.2837242	0.6043111

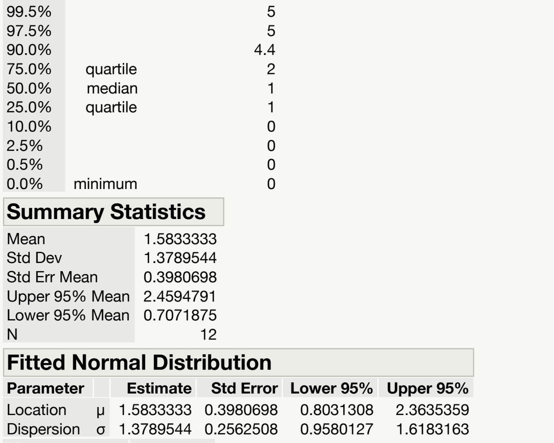
Measures	
-2*LogLikelihood	17.125078
AICc	22.458412
BIC	22.094892

Goodness-of-Fit Test

	A2	Prob > A2
Anderson-Darling	2.0782142	<.0001*

Distributions Treatment=treatment, Time=pre

Omission Errors



Compare Distributions

Distribution		AICc	BIC	-2*LogLikelihood
Normal		46.09967	45.73615	40.766337

Quantiles

100.0%	maximum	5
99.5%		5
97.5%		5
90.0%		4.4
75.0%	quartile	2
50.0%	median	1
25.0%	quartile	1
10.0%		0
2.5%		0
0.5%		0
0.0%	minimum	0

Summary Statistics

Mean	1.5833333
Std Dev	1.3789544
Std Err Mean	0.3980698
Upper 95% Mean	2.4594791
Lower 95% Mean	0.7071875
N	12

Fitted Normal Distribution

Parameter		Estimate	Std Error	Lower 95%	Upper 95%
Location	μ	1.5833333	0.3980698	0.8031308	2.3635359
Dispersion	σ	1.3789544	0.2562508	0.9580127	1.6183163

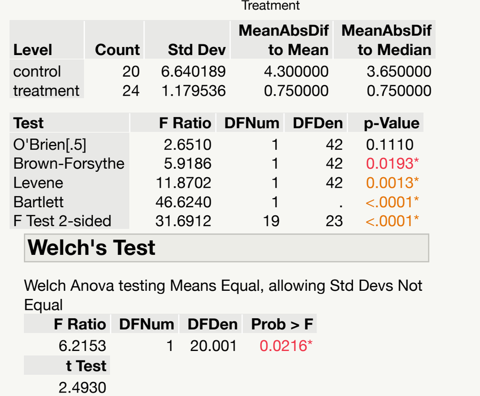
Measures	
-2*LogLikelihood	40.766337
AICc	46.09967
BIC	45.73615

Goodness-of-Fit Test

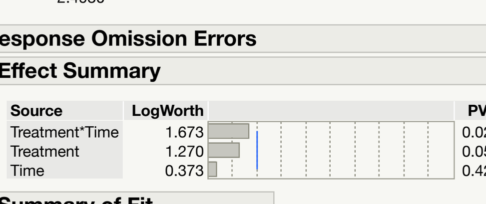
	A2	Prob > A2
Anderson-Darling	0.7506205	0.0290*

Fit Group

Oneway Analysis of Omission Errors By Treatment



Tests that the Variances are Equal



Level	Count	Std Dev	MeanAbsDif to Mean	MeanAbsDif to Median
control	20	6.640189	4.300000	3.650000
treatment	24	1.179536	0.750000	0.750000

Test	F Ratio	DFNum	DFDen	p-Value
O'Brien[.5]	2.6510	1	42	0.1110
Brown-Forsythe	5.9186	1	42	0.0193*
Levene	11.8702	1	42	0.0013*
Bartlett	46.6240	1	.	<.0001*
F Test 2-sided	31.6912	19	23	<.0001*

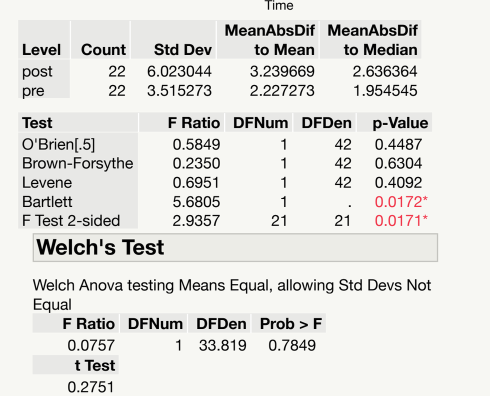
Welch's Test

Welch Anova testing Means Equal, allowing Std Devs Not Equal

F Ratio	DFNum	DFDen	Prob > F
6.2153	1	20.001	0.0216*

t Test
2.4930

Oneway Analysis of Omission Errors By Time



Tests that the Variances are Equal

Level	Count	Std Dev	MeanAbsDif to Mean	MeanAbsDif to Median
post	22	6.023044	3.239669	2.636364
pre	22	3.515273	2.227273	1.954545

Test	F Ratio	DFNum	DFDen	p-Value
O'Brien[.5]	0.5849	1	42	0.4487
Brown-Forsythe	0.2350	1	42	0.6304
Levene	0.6951	1	42	0.4092
Bartlett	5.6805	1	.	0.0172*
F Test 2-sided	2.9357	21	21	0.0171*

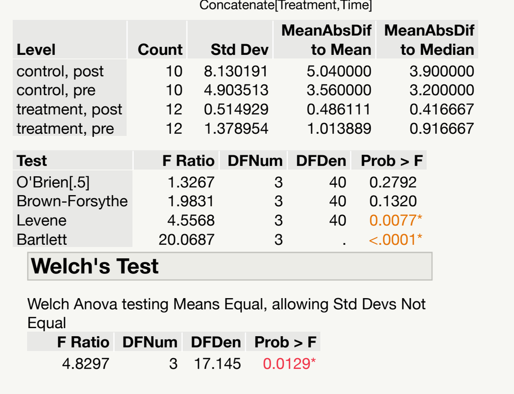
Welch's Test

Welch Anova testing Means Equal, allowing Std Devs Not Equal

F Ratio	DFNum	DFDen	Prob > F
0.0757	1	33.819	0.7849

t Test
0.2751

Oneway Analysis of Omission Errors By Concatenate[Treatment,Time]



Tests that the Variances are Equal

Level	Count	Std Dev	MeanAbsDif to Mean	MeanAbsDif to Median
control, post	10	8.130191	5.040000	3.900000
control, pre	10	4.903513	3.560000	3.200000
treatment, post	12	0.514929	0.486111	0.416667
treatment, pre	12	1.378954	1.013889	0.916667

Test	F Ratio	DFNum	DFDen	Prob > F
O'Brien[.5]	1.3267	3	40	0.2792
Brown-Forsythe	1.9831	3	40	0.1320
Levene	4.5568	3	40	0.0077*
Bartlett	20.0687	3	.	<.0001*

Welch's Test

Welch Anova testing Means Equal, allowing Std Devs Not Equal

F Ratio	DFNum	DFDen	Prob > F
4.8297	3	17.145	0.0129*

Response Omission Errors

Effect Summary

Source	LogWorth	PValue
Treatment*Time	1.673	0.02123
Treatment	1.270	0.05373
Time	0.373	0.42338

Summary of Fit

RSquare	0.882768
RSquare Adj	0.873975
Root Mean Square Error	2.290015
Mean of Response	2.704545
Observations (or Sum Wgts)	44

Parameter Estimates

Term	Estimate	Std Error	DFDen	t Ratio	Prob>|t|
Intercept	2.875	0.914738	20	3.14	0.0051*
Treatment[control]	1.875	0.914738	20	2.05	0.0537
Time[post]	0.2833333	0.346668	20	0.82	0.4234
Treatment[control]*Time[post]	0.8666667	0.346668	20	2.50	0.0212*

Random Effect Predictions

Term	BLUP	Std Error	DFDen	t Ratio	Prob>|t|
Treatment[control]:Subject ID[7]	4.4959603	1.893238	38.34	2.37	0.0227*
Treatment[control]:Subject ID[9]	-1.070467	1.893238	38.34	-0.57	0.5751
Treatment[control]:Subject ID[13]	-1.498653	1.893238	38.34	-0.79	0.4335
Treatment[control]:Subject ID[16]	-1.92684	1.893238	38.34	-1.02	0.3152
Treatment[control]:Subject ID[19]	-3.2114	1.893238	38.34	-1.70	0.0979
Treatment[control]:Subject ID[20]	-2.355027	1.893238	38.34	-1.24	0.2211
Treatment[control]:Subject ID[21]	-1.070467	1.893238	38.34	-0.57	0.5751
Treatment[control]:Subject ID[23]	-3.639587	1.893238	38.34	-1.92	0.0620
Treatment[control]:Subject ID[26]	-3.639587	1.893238	38.34	-1.92	0.0620
Treatment[control]:Subject ID[29]	13.916068	1.893238	38.34	7.35	<.0001*
Treatment[treatment]:Subject ID[1]	-1.67e-16	1.833359	39.52	-0.00	1.0000
Treatment[treatment]:Subject ID[2]	-1.67e-16	1.833359	39.52	-0.00	1.0000
Treatment[treatment]:Subject ID[3]	0.4281867	1.833359	39.52	0.23	0.8165
Treatment[treatment]:Subject ID[6]	-0.428187	1.833359	39.52	-0.23	0.8165
Treatment[treatment]:Subject ID[8]	-0.428187	1.833359	39.52	-0.23	0.8165
Treatment[treatment]:Subject ID[10]	-1.67e-16	1.833359	39.52	-0.00	1.0000
Treatment[treatment]:Subject ID[12]	-1.67e-16	1.833359	39.52	-0.00	1.0000
Treatment[treatment]:Subject ID[14]	1.2845601	1.833359	39.52	0.70	0.4876
Treatment[treatment]:Subject ID[22]	-1.67e-16	1.833359	39.52	-0.00	1.0000
Treatment[treatment]:Subject ID[24]	-0.856373	1.833359	39.52	-0.47	0.6430
Treatment[treatment]:Subject ID[25]	0.4281867	1.833359	39.52	0.23	0.8165
Treatment[treatment]:Subject ID[30]	-0.428187	1.833359	39.52	-0.23	0.8165
Treatment[control]:Subject ID[7]*Time[post]	0	0	.	.	.
Treatment[control]:Subject ID[7]*Time[pre]	0	0	.	.	.
Treatment[control]:Subject ID[9]*Time[post]	0	0	.	.	.
Treatment[control]:Subject ID[9]*Time[pre]	0	0	.	.	.
Treatment[control]:Subject ID[13]*Time[post]	0	0	.	.	.
Treatment[control]:Subject ID[13]*Time[pre]	0	0	.	.	.
Treatment[control]:Subject ID[16]*Time[post]	0	0	.	.	.
Treatment[control]:Subject ID[16]*Time[pre]	0	0	.	.	.
Treatment[control]:Subject ID[19]*Time[post]	0	0	.	.	.
Treatment[control]:Subject ID[19]*Time[pre]	0	0	.	.	.
Treatment[control]:Subject ID[20]*Time[post]	0	0	.	.	.
Treatment[control]:Subject ID[20]*Time[pre]	0	0	.	.	.
Treatment[control]:Subject ID[21]*Time[post]	0	0	.	.	.
Treatment[control]:Subject ID[21]*Time[pre]	0	0	.	.	.
Treatment[control]:Subject ID[23]*Time[post]	0	0	.	.	.
Treatment[control]:Subject ID[23]*Time[pre]	0	0	.	.	.
Treatment[control]:Subject ID[26]*Time[post]	0	0	.	.	.
Treatment[control]:Subject ID[26]*Time[pre]	0	0	.	.	.
Treatment[control]:Subject ID[29]*Time[post]	0	0	.	.	.
Treatment[control]:Subject ID[29]*Time[pre]	0	0	.	.	.
Treatment[treatment]:Subject ID[1]*Time[post]	0	0	.	.	.
Treatment[treatment]:Subject ID[1]*Time[pre]	0	0	.	.	.
Treatment[treatment]:Subject ID[2]*Time[post]	0	0	.	.	.
Treatment[treatment]:Subject ID[2]*Time[pre]	0	0	.	.	.
Treatment[treatment]:Subject ID[3]*Time[post]	0	0	.	.	.
Treatment[treatment]:Subject ID[3]*Time[pre]	0	0	.	.	.
Treatment[treatment]:Subject ID[6]*Time[post]	0	0	.	.	.
Treatment[treatment]:Subject ID[6]*Time[pre]	0	0	.	.	.
Treatment[treatment]:Subject ID[8]*Time[post]	0	0	.	.	.
Treatment[treatment]:Subject ID[8]*Time[pre]	0	0	.	.	.
Treatment[treatment]:Subject ID[10]*Time[post]	0	0	.	.	.
Treatment[treatment]:Subject ID[10]*Time[pre]	0	0	.	.	.
Treatment[treatment]:Subject ID[12]*Time[post]	0	0	.	.	.
Treatment[treatment]:Subject ID[12]*Time[pre]	0	0	.	.	.
Treatment[treatment]:Subject ID[14]*Time[post]	0	0	.	.	.
Treatment[treatment]:Subject ID[14]*Time[pre]	0	0	.	.	.
Treatment[treatment]:Subject ID[22]*Time[post]	0	0	.	.	.
Treatment[treatment]:Subject ID[22]*Time[pre]	0	0	.	.	.
Treatment[treatment]:Subject ID[24]*Time[post]	0	0	.	.	.
Treatment[treatment]:Subject ID[24]*Time[pre]	0	0	.	.	.
Treatment[treatment]:Subject ID[25]*Time[post]	0	0	.	.	.
Treatment[treatment]:Subject ID[25]*Time[pre]	0	0	.	.	.
Treatment[treatment]:Subject ID[30]*Time[post]	0	0	.	.	.
Treatment[treatment]:Subject ID[30]*Time[pre]	0	0	.	.	.

REML Variance Component Estimates

Random Effect	Var Ratio	Var Component	Std Error	95% Lower	95% Upper	Wald p-Value	Pct
Subject ID[Treatment]	2.981249	15.634167	5.832375	4.2029217	27.065412	0.0073*	
Subject ID*Time[Treatment]		5.2441667	1.6583511	3.069492	10.935853	<.0001*	
Total		20.878333	5.832375	12.909253	39.418567		

-2 LogLikelihood = 233.7306639

Note: Total is the sum of the positive variance components.

Total including negative estimates = 20.878333

Covariance Matrix of Variance Component Estimates

Random Effect	Subject ID[Treatment]	Subject ID*Time[Treatment]
Subject ID[Treatment]	34.016599	-1.375064
Subject ID*Time[Treatment]	-1.375064	2.7501284

Residual is confounded with Subject ID*Time[Treatment] and has been removed.

Iterations

Iter	-2LogLike	Norm Gradient	Parameters		
0	250.18372	56.568542	0	0	20.878333
1	233.73066	3.139e-14	15.634167	0	5.2441667

Iterations Converged in the Gradient

Fixed Effect Tests

Source	Nparm	DF	DFDen	F Ratio	Prob > F
Treatment	1	1	20	4.2015	0.0537
Time	1	1	20	0.6680	0.4234
Treatment*Time	1	1	20	6.2499	0.0212*

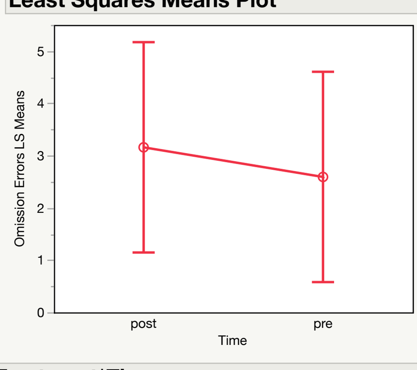
Effect Details

Treatment

Least Squares Means Table

Level	Least Sq Mean	Std Error
control	4.7500000	1.3511569
treatment	1.0000000	1.2334319

Least Squares Means Plot

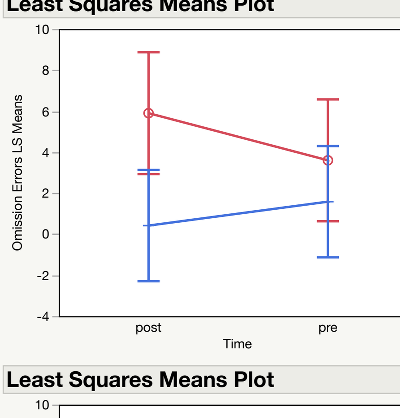


Time

Least Squares Means Table

Level	Least Sq Mean	Std Error
post	3.1583333	0.97822472
pre	2.5916667	0.97822472

Least Squares Means Plot

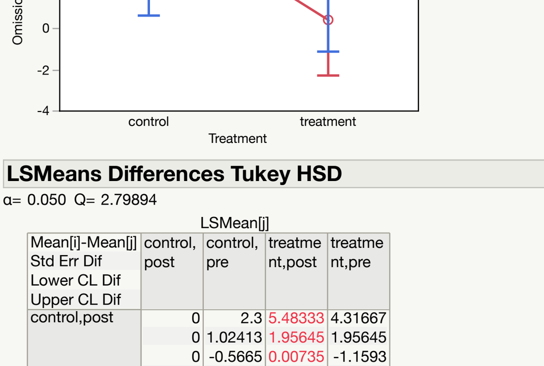


Treatment*Time

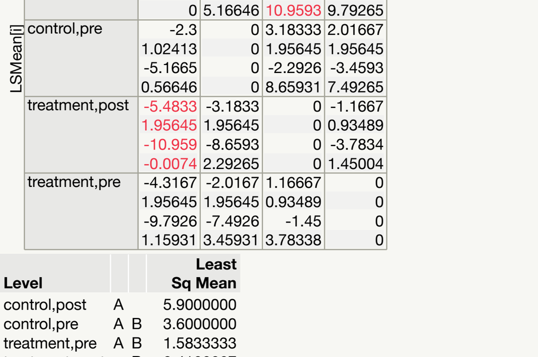
Least Squares Means Table

Level	Least Sq Mean	Std Error
control,post	5.9000000	1.4449337
control,pre	3.6000000	1.4449337
treatment,post	0.4166667	1.3190379
treatment,pre	1.5833333	1.3190379

Least Squares Means Plot



Least Squares Means Plot



LSMeans Differences Tukey HSD

α= 0.050 Q= 2.79894

LSMean[j] (columns) by LSMean[i] (rows); cells: Mean[i]-Mean[j] / Std Err Dif / Lower CL Dif / Upper CL Dif

LSMean[i]		control, post	control, pre	treatment, post	treatment, pre
control,post	Mean[i]-Mean[j]	0	2.3	5.48333	4.31667
	Std Err Dif	0	1.02413	1.95645	1.95645
	Lower CL Dif	0	-0.5665	0.00735	-1.1593
	Upper CL Dif	0	5.16646	10.9593	9.79265
control,pre	Mean[i]-Mean[j]	-2.3	0	3.18333	2.01667
	Std Err Dif	1.02413	0	1.95645	1.95645
	Lower CL Dif	-5.1665	0	-2.2926	-3.4593
	Upper CL Dif	0.56646	0	8.65931	7.49265
treatment,post	Mean[i]-Mean[j]	-5.4833	-3.1833	0	-1.1667
	Std Err Dif	1.95645	1.95645	0	0.93489
	Lower CL Dif	-10.959	-8.6593	0	-3.7834
	Upper CL Dif	-0.0074	2.29265	0	1.45004
treatment,pre	Mean[i]-Mean[j]	-4.3167	-2.0167	1.16667	0
	Std Err Dif	1.95645	1.95645	0.93489	0
	Lower CL Dif	-9.7926	-7.4926	-1.45	0
	Upper CL Dif	1.15931	3.45931	3.78338	0

Level			Least Sq Mean
control,post	A		5.9000000
control,pre	A	B	3.6000000
treatment,pre	A	B	1.5833333
treatment,post		B	0.4166667

Levels not connected by same letter are significantly different.

Level	- Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
control,post	treatment,post	5.483333	1.956449	0.00735	10.95931	0.0496*
control,post	treatment,pre	4.316667	1.956449	-1.15931	9.79265	0.1556
control,pre	treatment,post	3.183333	1.956449	-2.29265	8.65931	0.3867
control,post	control,pre	2.300000	1.024126	-0.56646	5.16646	0.1451
control,pre	treatment,pre	2.016667	1.956449	-3.45931	7.49265	0.7337
treatment,pre	treatment,post	1.166667	0.934895	-1.45004	3.78338	0.6050

Subject ID[Treatment]

Least Squares Means Table

Level	Least Sq Mean	Std Error
[control]7	9.245960	1.5110071
[control]9	3.679533	1.5110071
[control]13	3.251347	1.5110071
[control]16	2.823160	1.5110071
[control]19	1.538600	1.5110071
[control]20	2.394973	1.5110071
[control]21	3.679533	1.5110071
[control]23	1.110413	1.5110071
[control]26	1.110413	1.5110071
[control]29	18.666068	1.5110071
[treatment]1	1.000000	1.5089287
[treatment]2	1.000000	1.5089287
[treatment]3	1.428187	1.5089287
[treatment]6	0.571813	1.5089287
[treatment]8	0.571813	1.5089287
[treatment]10	1.000000	1.5089287
[treatment]12	1.000000	1.5089287
[treatment]14	2.284560	1.5089287
[treatment]22	1.000000	1.5089287
[treatment]24	0.143627	1.5089287
[treatment]25	1.428187	1.5089287
[treatment]30	0.571813	1.5089287

Subject ID*Time[Treatment]

Least Squares Means Table

Level	Least Sq Mean	Std Error
[control]7,post	10.39596	1.5954156
[control]7,pre	8.09596	1.5954156
[control]9,post	4.82953	1.5954156
[control]9,pre	2.52953	1.5954156
[control]13,post	4.40135	1.5954156
[control]13,pre	2.10135	1.5954156
[control]16,post	3.97316	1.5954156
[control]16,pre	1.67316	1.5954156
[control]19,post	2.68860	1.5954156
[control]19,pre	0.38860	1.5954156
[control]20,post	3.54497	1.5954156
[control]20,pre	1.24497	1.5954156
[control]21,post	4.82953	1.5954156
[control]21,pre	2.52953	1.5954156
[control]23,post	2.26041	1.5954156
[control]23,pre	-0.03959	1.5954156
[control]26,post	2.26041	1.5954156
[control]26,pre	-0.03959	1.5954156
[control]29,post	19.81607	1.5954156
[control]29,pre	17.51607	1.5954156
[treatment]1,post	0.41667	1.5796749
[treatment]1,pre	1.58333	1.5796749
[treatment]2,post	0.41667	1.5796749
[treatment]2,pre	1.58333	1.5796749
[treatment]3,post	0.84485	1.5796749
[treatment]3,pre	2.01152	1.5796749
[treatment]6,post	-0.01152	1.5796749
[treatment]6,pre	1.15515	1.5796749
[treatment]8,post	-0.01152	1.5796749
[treatment]8,pre	1.15515	1.5796749
[treatment]10,post	0.41667	1.5796749
[treatment]10,pre	1.58333	1.5796749
[treatment]12,post	0.41667	1.5796749
[treatment]12,pre	1.58333	1.5796749
[treatment]14,post	1.70123	1.5796749
[treatment]14,pre	2.86789	1.5796749
[treatment]22,post	0.41667	1.5796749
[treatment]22,pre	1.58333	1.5796749
[treatment]24,post	-0.43971	1.5796749
[treatment]24,pre	0.72696	1.5796749
[treatment]25,post	0.84485	1.5796749
[treatment]25,pre	2.01152	1.5796749
[treatment]30,post	-0.01152	1.5796749
[treatment]30,pre	1.15515	1.5796749