

JMP Output for Analysis of Pain Relief Experiment

Response: Relief

Explanatory: Drug, Acupuncture, Drug*Acupuncture

Nuisance: Pain tolerance (Block)

Summary of Fit

RSquare	0.973902
RSquare Adj	0.961474
Root Mean Square Error	0.120268
Mean of Response	1.15625
Observations (or Sum Wgts)	32

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	10	11.335000	1.13350	78.3654
Error	21	0.303750	0.01446	Prob > F
C. Total	31	11.638750		<.0001

Effect Tests

Source	DF	Sum of Squares	F Ratio	Prob > F
Drug	1	2.3112500	159.7901	<.0001
Acupuncture	1	3.3800000	233.6790	<.0001
Drug*Acupuncture	1	0.0450000	3.1111	0.0923
Block	7	5.5987500	55.2963	<.0001

Effect Details

Drug

Least Squares Means Table

Level	Least Sq Mean	Std Error	Mean
Codeine	1.4250000	0.03006689	1.42500
Placebo	0.8875000	0.03006689	0.88750

Acupuncture

Least Squares Means Table

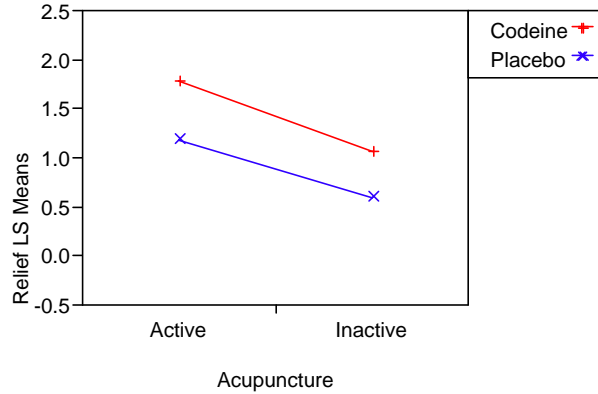
Level	Least Sq Mean	Std Error	Mean
Active	1.4812500	0.03006689	1.48125
Inactive	0.8312500	0.03006689	0.83125

Drug*Acupuncture

Least Squares Means Table

Level	Least Sq Mean	Std Error
Codeine,Active	1.7875000	0.04252100
Codeine,Inactive	1.0625000	0.04252100
Placebo,Active	1.1750000	0.04252100
Placebo,Inactive	0.6000000	0.04252100

LS Means Plot



LSMeans Differences Tukey HSD

$\alpha=0.050$ $Q=2.78733$ $HSD = 2.78733 * 0.06013 = 0.1676$

LSMean[i] By LSMean[j]

Mean[i]-Mean[j] Std Err Dif Lower CL Dif Upper CL Dif	Codeine,Active	Codeine,Inactive	Placebo,Active	Placebo,Inactive
Codeine,Active	0	0.725	0.6125	1.1875
	0	0.06013	0.06013	0.06013
	0	0.55739	0.44489	1.01989
	0	0.89261	0.78011	1.35511
Codeine,Inactive	-0.725	0	-0.1125	0.4625
	0.06013	0	0.06013	0.06013
	-0.8926	0	-0.2801	0.29489
	-0.5574	0	0.05511	0.63011
Placebo,Active	-0.6125	0.1125	0	0.575
	0.06013	0.06013	0	0.06013
	-0.7801	-0.0551	0	0.40739
	-0.4449	0.28011	0	0.74261
Placebo,Inactive	-1.1875	-0.4625	-0.575	0
	0.06013	0.06013	0.06013	0
	-1.3551	-0.6301	-0.7426	0
	-1.0199	-0.2949	-0.4074	0

Level		Least Sq Mean
Codeine,Active	A	1.7875000
Placebo,Active	B	1.1750000
Codeine,Inactive	B	1.0625000
Placebo,Inactive	C	0.6000000

Levels not connected by same letter are significantly different.

Block

Least Squares Means Table

Level	Least Sq Mean	Std Error	Mean
1	0.5750000	0.06013378	0.57500
2	0.7250000	0.06013378	0.72500
3	0.9000000	0.06013378	0.90000
4	0.8750000	0.06013378	0.87500
5	1.2500000	0.06013378	1.25000
6	1.5500000	0.06013378	1.55000
7	1.6500000	0.06013378	1.65000
8	1.7250000	0.06013378	1.72500

