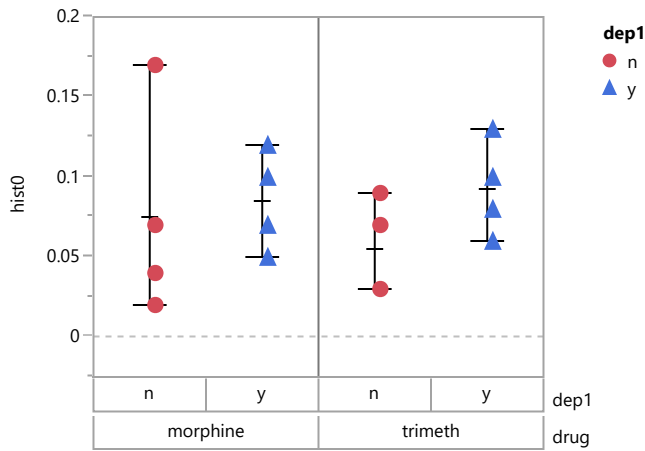


- JMP Sample Data Dogs.jmp
- Cole and Grizzle (1966) Sixteen Dogs. Biometrics 22 810. A multivariate with repeated measures example. The 4 loghist columns are responses (Y), drug and depl are effects (Xs). See Chapter on Multivariate Fitting in User's Guide.

Compare hist0 - Check for bias in starting values, i.e., "pre" values

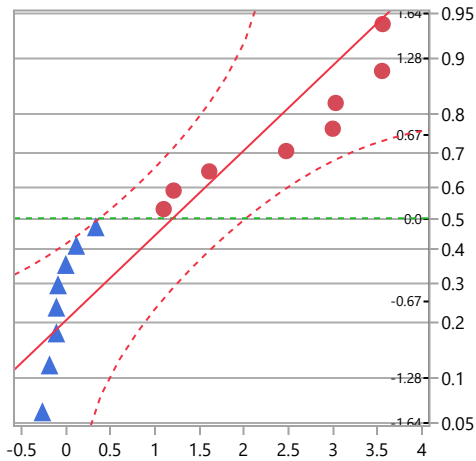
Variability Chart for hist0



- $diff = LogHist1 - LogHist0$, i.e., post - pre
- A 1-factor paired test, typically, tests if the difference is zero. So find the difference and look at the distribution, test if it look like random variation about zero.
- Another is to graph post (LogHist1) - pre (LogHist0), and determine if the points look like random variation about the line $Y=X$. This is one with Fit Y by X, and request a paired test.

Distributions Test if $diff = LogHist1 - LogHist0$ is a random normal distribution about zero. Mean = 1.202 and p-value 0.0049

diff



Summary Statistics

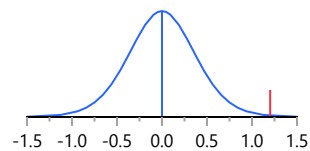
Mean	1.2019523
Std Dev	1.4583631
Std Err Mean	0.3645908
Upper 95% Mean	1.9790592
Lower 95% Mean	0.4248454
N	16

Test Mean

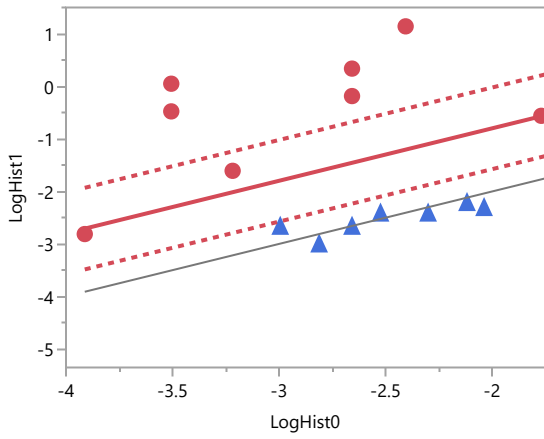
Hypothesized Value	0
Actual Estimate	1.20195
DF	15
Std Dev	1.45836

t Test

Test Statistic	3.2967
Prob > t	0.0049*
Prob > t	0.0024*
Prob < t	0.9976



Bivariate Fit of LogHist1 By LogHist0 paired test



--- Paired t Test for LogHist1 - LogHist0

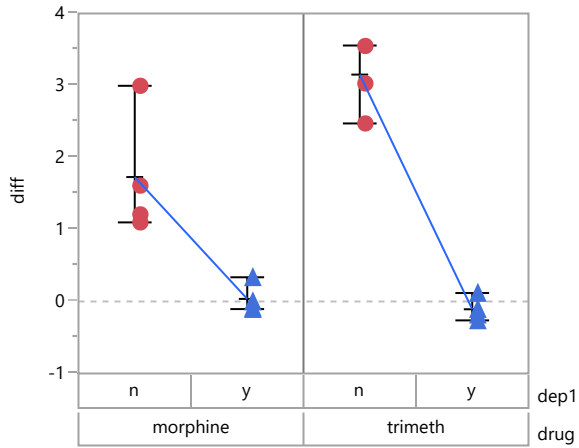
Paired t Test for LogHist1 - LogHist0

LogHist1 - LogHist0			
Mean Difference	1.201952	Prob > t	0.0049*
Std Error Dif	0.364591	Prob > t	0.0024*
t Ratio	3.296716	Prob < t	0.9976
DF	15		

- Note both methods return the same result.
- Of course, this data set has other factors so the above analyses were shown as an example. Maybe your two experiments represent another factor.
- diff can be analyzed as Fit Model with drug and dep1 as factors, or as LogHist1 vs. drug and dep1 as factors and LogHist0 as a covariable.
- But first look at the data. Additional graphs and analyses are below.

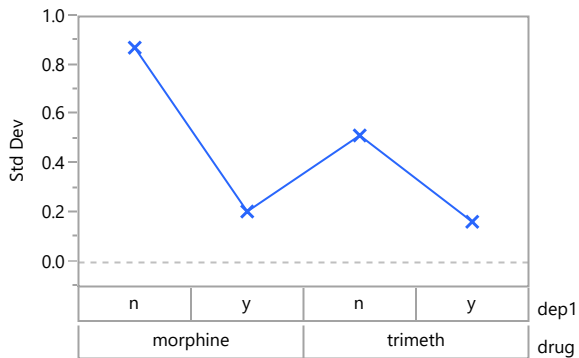
Variability diff vs. drug and dep1 post-pre is near zero when dep1 = y

Variability Chart for diff



Variability Summary for diff

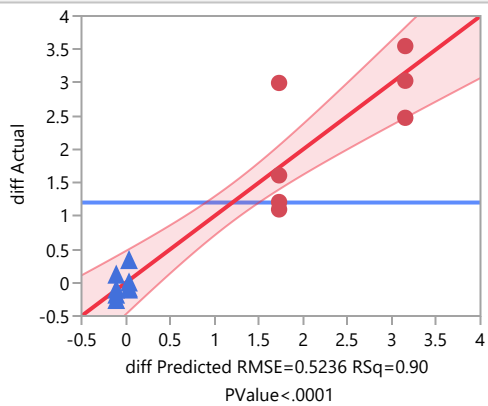
	Mean	Std Dev	Std Err		Lower 95%	Upper 95%	Minimum	Maximum	Range	Median	Observations
			Mean	Std Err							
diff	1.201952	1.458363	0.364591	0.424845	1.979059	-0.26236	3.555348	3.817712	0.717542	16	
drug[morphine]	0.882215	1.078413	0.381276	-0.01936	1.783791	-0.10536	2.995732	3.101093	0.717542	8	
drug[trimeth]	1.521689	1.777873	0.628573	0.035351	3.008028	-0.26236	3.555348	3.817712	1.295357	8	
drug[morphine] dep1[n]	1.728405	0.872892	0.436446	0.339439	3.117371	1.098612	2.995732	1.89712	1.409638	4	
drug[morphine] dep1[y]	0.036025	0.205503	0.102751	-0.29098	0.363026	-0.10536	0.336472	0.441833	-0.04351	4	
drug[trimeth] dep1[n]	3.151445	0.51532	0.25766	2.331456	3.971433	2.47293	3.555348	1.082418	3.28875	4	
drug[trimeth] dep1[y]	-0.10807	0.163643	0.081821	-0.36846	0.152326	-0.26236	0.117783	0.380147	-0.14384	4	



Response diff vs. drug and dep1, main effects and interaction

Whole Model

Actual by Predicted Plot



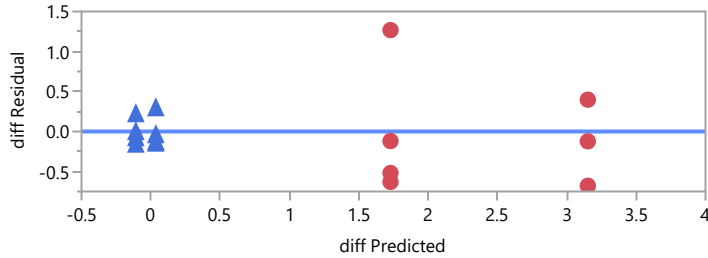
Response diff vs. drug and dep1, maine effects and interaction

Whole Model

Effect Summary

Source	LogWorth	PValue
dep1	6.186	0.00000
drug*dep1	1.950	0.01121
drug	1.509	0.03100 ^

Residual by Predicted Plot



Summary of Fit

RSquare	0.896888
RSquare Adj	0.87111
Root Mean Square Error	0.523571
Mean of Response	1.201952
Observations (or Sum Wgts)	16

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio
Model	3	28.612829	9.53761	34.7928
Error	12	3.289516	0.27413	Prob > F
C. Total	15	31.902345		<.0001*

Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob > t
Intercept	1.2019523	0.130893	9.18	<.0001*
drug[morphine]	-0.319737	0.130893	-2.44	0.0310*
dep1[n]	1.2379727	0.130893	9.46	<.0001*
drug[morphine]*dep1[n]	-0.391783	0.130893	-2.99	0.0112*