

Analysis of Variance: Treatment by Subject and Hoyt Reliability

The Within Subjects Analysis of Variance involves the repeated measurement of the same unit of observation. These repeated observations are arranged as variables (columns) in the Main Form grid for the cases (grid rows.) If only two measures are administered, you will probably use the matched pairs (dependent) t-test method. When more than two measures are administered, you may use the repeated measures ANOVA method to test the equality of treatment level means in the population sampled. Since within subjects analysis is a part of the Hoyt Intraclass reliability estimation procedure, you may use this procedure to complete the analysis (see the Measurement procedures under the Analyses menu on the Main Form.)

Figure 1 Hoyt Reliability by ANOVA

The output from an example analysis is shown below:

Within Subjects ANOVA Results.

Data File = C:\Projects\Delphi\OS4\ABRData.tex

SOURCE	DF	SS	MS	F	Prob. > F
SUBJECTS	11	181.000	330.500		
WITHIN SUBJECTS	36	1077.000	29.917		
TREATMENTS	3	991.500	330.500	127.561	0.000
RESIDUAL	33	85.500	2.591		
TOTAL	47	1258.000	26.766		

TREATMENT (COLUMN) MEANS AND STANDARD DEVIATIONS

VARIABLE	MEAN	STD.DEV.
C1	16.500	2.067
C2	11.500	2.431
C3	7.750	2.417
C4	4.250	2.864

Mean of all scores = 10.000 with standard deviation = 5.174

RELIABILITY ESTIMATES

TYPE OF ESTIMATE	VALUE
Unadjusted total reliability	-0.818
Unadjusted item reliability	-0.127
Adjusted total (Cronbach)	0.843
Adjusted item reliability	0.572

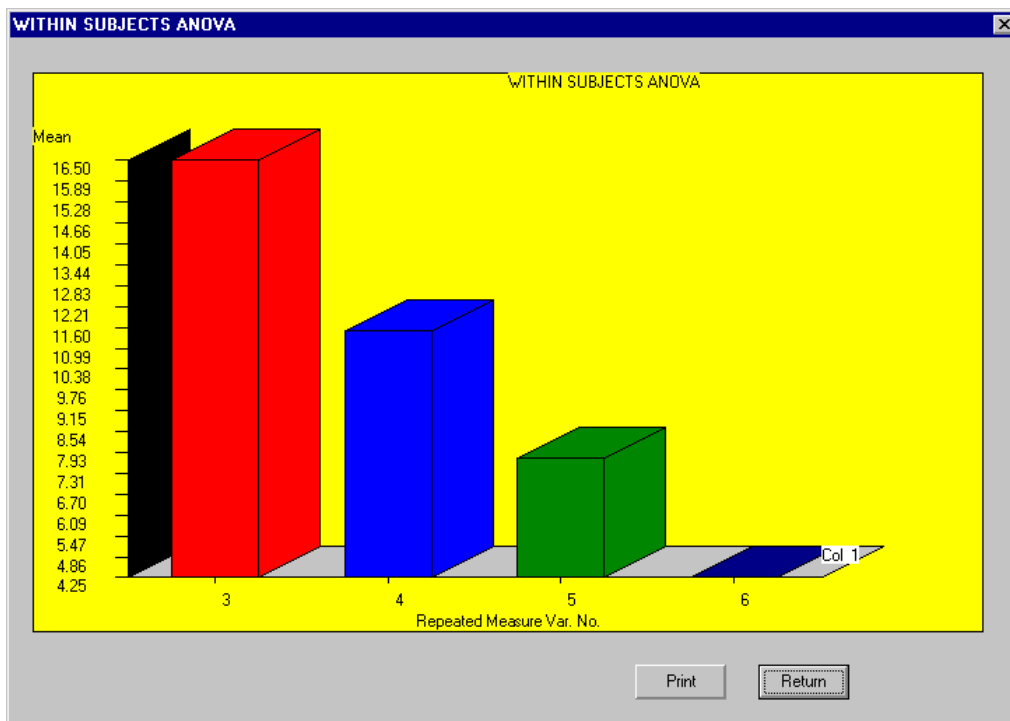


Figure 2 Within Subjects ANOVA Plot