"I couldn't find a raw data for the design", but the following are the tests that could be run in spss: A 2x2 factorial analysis of variance be applied to the posttest scores, with scores on the pretest being disregarded.The analysis of covariance, assuming a respectable correlation between the covariate and the dependent variable, is a more powerful statistical procedure than is the analysis of variance.The analysis of covariance will not be affected by this change in posttest scores (attributable to exposure of randomly selected participants to the pretest), for the covariance analysis will compare O2 versus O4 (after adjustment for differences between O1 and O3), and not each group's posttest mean with its pretest mean.Appling to the data of the first two groups of the Solomon design will reveal a significant treatment effect whereas the two-way ANOVA of the posttest scores from all four groups will result in a non-significant treatment effect.In addition, since the added sensitivity of the covariance, analysis is achieved without an increase in the probability of a Type I Error (assuming that alpha remains constant in both analyses).This two-way ANOVA will yield three F-ratios, one for the treatment main effect, one for the main effect of pretesting, and one for the pretest-treatment interaction.

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