

Assumptions in the ANOVA

There are several assumptions that are implied in the ANOVA and the mathematical model which may not always be true in data from experiments.

1. The error terms or residual effects, e_{ijk} , are independent from observation to observation and are randomly and normally distributed with zero mean and the same variance σ^2 . This can be expressed as $e_{ij} \sim N(0, \sigma^2)$.
2. Variances of different samples are homogeneous.
3. Variances and means of different samples are not correlated, i.e., are independent.
4. The main effects (block and treatment) are additive.