

## Evaluating Homogeneity of Variances

For a one-way analysis of variance, several formal statistical tests were developed to evaluate the homogeneity of the variances. Among the tests that are available in PROC GLM are tests developed by Bartlett, Brown, and Forsythe, Levene, and O'Brien. It should be noted that Bartlett's test should be used only if the data is normally distributed, and the default Levene's test is considered to be the standard test. Plots of residuals versus predicted values can be used to visually examine whether the variances appear to be the same for different groups. Descriptive statistics can be calculated for each group and the variances can be compared to determine the relative magnitude of the variances in relation to each other. For additional details about Bartlett's and Levene's tests, click the Information button.