The Mantel-Haenszel test is a statistical method used to determine whether there is a significant association between two categorical variables while controlling for confounding variables. It is commonly used in epidemiology, clinical research, and social sciences to assess the strength of the association between two variables while adjusting for other factors that may influence the relationship.

The Mantel-Haenszel test involves calculating a weighted average of the odds ratios or relative risks from each stratum of a stratified sample. The weights are calculated based on the size of each stratum, and the test compares the weighted average to a null hypothesis that there is no association between the two variables.

The Mantel-Haenszel test is useful when there is a potential for confounding variables that may affect the relationship between the two variables of interest. By controlling for these variables, the Mantel-Haenszel test allows researchers to better understand the true relationship between the two variables.

One limitation of the Mantel-Haenszel test is that it assumes a linear relationship between the variables being studied, which may not always be the case. Additionally, the test is only appropriate for categorical variables, and may not be suitable for analyzing continuous variables or variables with more than two categories.