

Dr Thomas Suesse

Title:

Mantel-Haenszel Estimators of Odds Ratios for Stratified Multiple Response Data

Abstract:

Surveys often contain qualitative variables for which respondents may select any number of the outcome categories. For instance, for the question “What type of contraceptive have you used?” with possible responses (oral, condom, lubricated condom, spermicide, and diaphragm), respondents would be instructed to select as many of the $c=5$ outcomes as apply. This situation is known as multiple responses and outcomes are referred to as items. For stratified multiple response data, we consider a model and a non-model based approach for the estimation of the common odds ratio, a summarising measure for the conditional association between a row variable and the multiple response variable, given a stratification variable, for three different sampling models. The model-based approach treats the c items as a c -dimensional binary response and then uses logit models directly for the marginal distribution of each item by applying the generalized estimating equation (GEE) (Liang and Zeger 1986) method. The non-model-based approach uses Mantel-Haenszel (1959) type estimators.