

# Analysis of Repeated Categorical Measurement Data

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1. Models for Matched Pairs
  - Comparing dependent proportions: McNemar test et al.
  - Conditional vs marginal models for binary matched pairs
  - Comparing margins of square contingency tables.
2. Marginal Models
  - Marginal logit models for repeated binary response
  - Maximum likelihood (ML) and weighted least squares (WLS)
  - Generalized estimating equations (GEE) approach
  - Cumulative logit modeling of repeated ordinal responses
  - Examples: Comparisons of drug and placebo over time.
3. Conditional Models: GLMs with Random Effects
  - Conditional logistic regression of clustered binary data
  - Generalized linear mixed models (GLMMs): ML fitting and inference
  - Logistic GLMMs for clustered binary data
  - GLMMs for ordinal data
  - Examples from Section 2 revisited
  - Multivariate GLMMs for multi-center clinical trials
  - Beta-binomial model for clustered binary data: Teratology study.