

# CONTENTS

## Editor's Introduction 5

1. Relationships in Crosstabulations 8
2. The Log-Linear Model 11
  - A. Specifying Models 11
    - Saturated Models 12
    - Nonsaturated Models 17
  - B. Fitting Marginals 19
    - Generating Expected Frequencies 22
  - C. Analyzing Odds 24
3. Testing for Fit 30
  - A. How To Evaluate Models Fitted to Data 30
  - B. Comparisons of Different Models of the Same Data 31
    - Independence Hypothesis 32
    - Equal Marginal Distributions Hypothesis 33
  - C. More Complex Models: Polytomous Variables 33
  - D. More Complex Hypotheses 37
  - E. An Analog to Multiple  $R^2$  for Large Samples 40
4. Applications to Substantive Problems 42
  - A. Causal Models for Log-Linear Models 42
  - B. Analyzing Change Over Time 47
    - Comparative Cross-Sections 47
    - Two-Wave Panels 48
    - Markov Chain Models 54
    - Age, Period, and Cohort Models 57
5. Special Techniques with Log-Linear Models 63
  - A. What To Do About Zero Cells 63
  - B. Fixing Start Values 65
  - C. Analyzing Ordered Data 67
  - D. Collapsing Polytomous Variables 70
  - E. Nonhierarchical Models 72
6. Conclusions 76
- References 77