Contents

Preface to the second edition *page* ix

Preface to the first edition xi

1. Introduction 1
   1.1. *Interaction and behavior sequences* 1
   1.2. *Alternatives to systematic observation* 2
   1.3. *Systematic observation defined* 3
   1.4. *A nonsequential example: Parten's study of children's play* 4
   1.5. *Social process and sequential analysis* 6
   1.6. *Another nonsequential example: Smith's study of parallel play* 7
   1.7. *A sequential example: Bakeman and Brownlee's study of parallel play* 8
   1.8. *Hypothesis-generating research* 12
   1.9. *Summary: Systematic is not always sequential* 13

2. Developing a coding scheme 15
   2.1. *Introduction* 15
   2.2. *What is the question?* 16
   2.3. *Physically versus socially based coding schemes* 17
   2.4. *Detectors versus informants* 22
   2.5. *The fallacy of equating objectivity with physically based schemes* 22
   2.6. *Keeping it simple* 23
   2.7. *Splitting and lumping* 24
   2.8. *Mutually exclusive and exhaustive codes* 26

2.9. *The evolution of a coding system* 27
2.10. *Example 1: Interaction of prehatched chickens* 28
2.11. *Example 2: Children's conversations* 30
2.12. *Example 3: Baby behavior codes* 33
2.13. *Example 4: Children's object struggles* 34
2.14. *Example 5: Monkeys' activities* 35
2.15. *Summary* 36

3. Recording behavioral sequences 38
3.1. *Recording units: Events vs. intervals* 38
3.2. *Momentary versus duration events* 38
3.3. *Continuous versus intermittent recording* 39
3.4. *Coding events* 40
3.5. *Recording onset and offset times* 43
3.6. *Timing pattern changes* 45
3.7. *Coding intervals* 46
3.8. *Cross-classifying events* 49
3.9. *Nonsequential considerations: Time sampling* 50
3.10. *The pleasures of pencil and paper* 52
3.11. *Why use electronics?* 52
3.12. *Summary* 55

4. Assessing observer agreement 56
4.1. *Why bother?* 56
4.2. *Reliability versus agreement* 59
4.3. *The problem with agreement percentages* 60
4.4. *The advantages of Cohen's kappa* 62
4.5. *Agreement about unitizing* 68
4.6. *Agreement about codes: Examples using Cohen's kappa* 71
4.7. *Generalizability theory* 75
4.8. *Unreliability as a research variable* 79
4.9. *Summary* 80

5. Representing observational data 81
5.1. *Representing versus recording* 81
5.2. *Event sequences* 82

5.3. *State sequences* 83
5.4. *Timed-event sequences* 84
5.5. *Interval sequences* 85
5.6. *Cross-classified events* 87
5.7. *Transforming representations* 88
5.8. *Summary* 90

6. Analyzing sequential data: First steps 91
6.1. *Describing versus modeling* 91
6.2. *Rates and frequencies* 92
6.3. *Probabilities and percentages* 93
6.4. *Mean event durations* 94
6.5. *Transitional probabilities: An introduction* 95
6.6. *Summary* 99

7. Analyzing event sequences 100
7.1. *Describing particular sequences: Basic methods* 100
7.2. *Determining significance of particular chains* 101
7.3. *Transitional probabilities revisited* 103
7.4. *Computing z scores and testing significance* 108
7.5. *Classic lag sequential methods* 111
7.6. *Log-linear approaches to lag-sequential analysis* 116
7.7. *Computing Yule's Q or phi and testing for individual differences* 127
7.8. *Summary* 132

8. Issues in sequential analysis 136
8.1. *Independence* 136
8.2. *Stationarity* 138
8.3. *Describing general orderliness* 139
8.4. *Individual versus pooled data* 141
8.5. *How many data points are enough?* 144
8.6. *The type I error problem* 147
8.7. *Summary* 148

9. Analyzing time sequences 150
9.1. *The tyranny of time* 150
9.2. *Taking time into account* 151
9.3. *Micro to macro* 153
9.4. *Time-series analysis* 154
9.5. *Autocorrelation and time-series analysis* 167
9.6. *Summary* 175

10. Analyzing cross-classified events 177
10.1. *Describing cross-classified events* 177
10.2. *Log-linear models: A simple example* 179
10.3. *Summary* 182

11. Epilogue 184
11.1. *Kepler and Brahe* 184
11.2. *Soskin and John on marital interaction* 185
11.3. *Marital interaction research since 1963* 188

Appendix 194
A Pascal program to compute kappa and weighted kappa 194

References 198

Index 205