

Contents

Preface.....	7
Chapter 1: Mokken Scale Analysis: Core Issues.....	9
1.1 Overview.....	9
1.2 Guttman Scaling.....	11
1.3 Mokken Scale Analysis.....	13
1.4 Comparison with the Rasch Model.....	20
1.5 Comparison with the Classical Test Theory.....	22
1.6 Mokken Scale Analysis for Polytomous Items.....	24
1.7 Reliability.....	27
1.8 Summary.....	28
Chapter 2: Mokken Scale Analysis: Advanced Issues.....	30
2.1 Overview.....	30
2.2 Scalability Coefficients.....	30
2.3 Automated Item Selection Procedure (AISP).....	36
2.4 Monotonicity.....	42
2.5 Invariant Item Ordering (IIO).....	45
2.6 Sample Size in MSA.....	51
2.7 Contribution of MSA to Test Validation.....	53
2.8 Criticism of Mokken Scale Analysis.....	56
2.9 Summary.....	58
Chapter 3: <i>mokken</i> Package Tutorial.....	60
3.1 Overview.....	60
3.2 Automated Item Selection Procedure (AISP).....	60
3.3 Scalability Coefficients.....	65
3.4 Monotonicity.....	69
3.5 Invariant Item Ordering (IIO).....	71
3.6 Nonintersection of ISRFs.....	76
3.7 Reliability.....	80
3.8 Identifying Outliers.....	80
3.9 Two-Level MSA.....	82

Chapter 4: Application of MSA to a Dichotomous Test84

4.1 Overview84

4.2 Analysis.....84

4.3 Comparison with the Rasch Model88

Chapter 5: Application of MSA to Polytomous Items95

5.1 Overview95

5.2 Data Source and Material.....95

5.3 Analysis.....96

Chapter 6: Application of MSA to a Partial Credit Test.....103

6.1 Overview103

6.2 Introduction.....103

6.3 Seven-Point Scale (Sample 1)104

6.4 Twenty-One-Point Scale (Sample 1).....119

6.5 Seven-Point Scale (Sample 2).....132

6.6 Twenty-One-Point Scale (Sample 2).....134

6.7 Discussion137

Chapter 7: Application of MSA to Rater-Mediated Performance Assessment139

7.1 Overview139

7.2 MSA for Performance Assessment139

7.3 Analysis of Essay Writing.....143

Chapter 8: Application of MSA to Two-Level Data.....150

8.1 Overview150

8.2 Introduction.....150

8.3 Two-Level Mokken Scale Analysis155

8.4 Analyses and Results155

Bibliography158

About the Author168