

# **Contents**

Preface ix

# PART ONE FUNCTIONS AND ORIGINS OF PSYCHOLOGICAL TESTING

#### 1 Nature and Use of Psychological Tests 2

Uses and Varieties of Psychological Tests 2
What Is a Psychological Test? 6
Why Control the Use of Psychological Tests? 11
Test Administration 15
Situational Factors that Affect Test Performance 19
Effects of Training on Test Performance 23
Sources of Information About Tests 27

#### 2 Historical Antecedents of Modern Testing 32

Early Interest in Classification and Training of Mentally Retarded Persons 33
The First Experimental Psychologists 34
Contributions of Francis Galton 34
Cattell and the Early "Mental Tests" 35
Binet and the Rise of Intelligence Tests 37
Group Testing 38
Aptitude Testing 39
Standardized Achievement Tests 41
Assessment of Personality 43
Emergence of Modern Testing In India 45

# PART TWO TECHNICAL AND METHODOLOGICAL PRINCIPLES

#### 3 Norms and the Meaning of Test Scores 48

Statistical Concepts 49
Developmental Norms 54
Within-Group Norms 57
Relativity of Norms 66
Computers and Interpretation of Test Scores 73
Domain-Referenced Test Interpretation 74
Minimum Qualifications and Cutoff Scores 75

## 4 Reliability 79

The Correlation Coefficient 80

Types of Reliability 86

Reliability of Speeded Tests 95

Dependence of Reliability Coefficients on the Sample Tested 99

Standard Error of Measurement 101

Standard Error of Measurement Testing and Cutoff Scores 105

Reliability Applied to Mastery Testing and Cutoff Scores 105

## 5 Validity: Basic Concepts 106

Evolving Concepts of Test Validity 107
Content-Description Procedures 107
Criterion-Prediction Procedures 111
Construct-Identification Procedures 117
Overview and Integration 126

## 6 Validity: Measurement and Interpretation 130

Validity Coefficient and Error of Estimate 131
Test Validity and Decision Theory 134
Combining Information from Different Tests 145
Use of Tests for Classification Decisions 148
Statistical Analyses of Test BIAS 152

#### 7 Item Analysis 160

Item Difficulty 161
Item Discrimination 163
Item BIAS 174
Cross-Validation 174
Differential Item Functioning 177
Explorations in Item Development 180

### PART THREE ABILITY TESTING

#### 8 Individual Tests 182

Stanford-Binet Intelligence Scale 183
The Wechsler Scales 186
The Kaufman Scales 192
Differential Ability Scales 195
Das-Naglieri Cognitive Assessment System 196
Other Tests 197

### 9 Tests for Special Populations 198

Infant and Preschool Testing 199
Standardised Tests of Early Childhood Development 201
Current Trends in Infant and Early Childhood Assessment 207

Comprehensive Assessment of Mentally Retarded Persons 209
Testing Persons with Physical Disabilities 215
Multicultural Testing 221

#### 10 Group Testing 229

Group Tests Versus Individual Tests 230
Adaptive Testing and Computer-Based Administration 232
Group Tests for Ability Testing 235
Measuring Multiple Aptitudes 238

#### 11 Nature of Intelligence 243

Meaning of an IQ 244
Heritability and Modifiability 246
Motivation and Intelligence 249
Factor Analysis of Intelligence 251
Theories of Trait Organization 257
Nature and Development of Traits 265

### 12 Psychological Issues in Ability Testing 270

Longitudinal Studies of Children's Intelligence 270
Intelligence in Early Childhood 273
Problems in the Testing of Adult Intelligence 276
Generational Changes in Intelligence Test Performance-A Perspective 282
Cultural Diversity in Ability Testing 285

# PART FOUR PERSONALITY TESTING

#### 13 Self-Report Personality Inventories 290

Content-Related Procedures 291
Empirical Criterion Keying 292
The Minnesota Multiphasic Personality Inventories 293
California Psychological Inventory 299
Personality Inventory for Children 301
Factor Analysis in Test Development 303
Personality Theory in Test Development 307
Test-Taking Attitudes and Response Biases 314
Traits, States, Persons, and Situations 319
Current Status of Personality Inventories 324

#### 14 Measuring Interests and Attitudes 325

Interest Inventories: Current Setting 326
The Strong Interest Inventory<sup>TM</sup>(SII) 328
Interest Inventories: Overview and Some Highlights 333
Some Significant Trends 338
Opinion Surveys and Attitude Scales 340
Locus of Control 343

## 15 Projective Techniques 345

Nature of Projective Techniques 346
Inkblot Techniques 346
Pictorial Techniques 354
Verbal Techniques 357
Autobiographical Memories 360
Performance Techniques 361
Evaluation of Projective Techniques 36

### 16 Other Assessment Techniques 374

Measures of Styles and Types 374
Situational Tests 381
Self-Concepts and Personal Constructs 384
Observer Reports 392
Biodata 399

# PART FIVE APPLICATIONS OF TESTING

#### 17 Major Contexts of Current Test Use 402

Educational Testing 402
Types of Educational Tests 409
Occupational Testing 417
Validation of Employment Tests 418
Occupational Use of Tests 423
Personality Testing in the Workplace 432
Test Use in Clinical and Counseling Psychology 435
Neuropsychological Assessment 440
Identifying Specific Learning Disabilities 443
Behavioral Assessment 448
Career Assessment 449
Clinical Judgment 452
The Role of Computers in Psychological Assessment 454

## 18 Ethical and Social Considerations in Testing 458

### **APPENDIXES**

- A. Alphabetical Listing of Tests and Other Assessment Tools 464
- B. Addresses of Test Publishers, Distributors, and Test-Related Organizations 468

References 474 Acknowledgments 595 Name Index 599 Subject Index 618