BRIEF CONTENTS

Preface

Part 1
1 The World of Psychological Testing 3
2 Sources of Information About Tests 32
3 Test Norms 47
4 Reliability 86
5 Validity 119
6 Test Development and Item Analysis 155
7 Fairness and Bias 187

Part 2
8 Cognitive Abilities: Individual Tests 205
9 Cognitive Abilities: Group Tests 246
10 Neuropsychological Assessment 279
11 Achievement Tests 307
12 Objective Personality Tests 333
13 Clinical Instruments and Methods 360
14 Projective Techniques 394
15 Interests and Attitudes 417
16 Ethical and Legal Issues 439

Appendices
A. Test Reviewing and Selection 467
B. How to Build a (Simple) Test 473
C. Contact Information for Major Test Publishers 479
D. Sample Data Sets 480
E. Answers to Selected Exercises 481
Glossary 485
References 501
Name Index 523
Subject Index 529
CONTENTS

Preface iii

Part 1

1 The World of Psychological Testing, 3

Introduction, 3
Major Categories of Tests, 4
Some Additional Ways to Categorize Tests, 6
Uses and Users of Tests, 8
Major Issues: Assumptions and Questions, 10
Basic Assumptions, 10
Fundamental Questions, 12
The Differential Perspective, 13
The Historical Perspective, 13
Remote Background: Up to 1840, 14
Setting the Stage: 1840–1880, 15
The Roots: 1880–1915, 17
The Flowering: 1915–1940, 19
Consolidation: 1940–1965, 21
Just Yesterday: 1965–2000, 22
And Now: 2000–Present, 23
Major Forces, 24
The Scientific Impulse, 24
Concern for the Individual, 24
Practical Applications, 25
Statistical Methodology, 25
The Rise of Clinical Psychology, 25
Computers, 25
By Way of Definition, 28
Summary, 29
Key Terms, 30
Exercises, 30

2 Sources of Information About Tests, 32

Two Common Problems Requiring Information About Tests, 32
A Test’s Introductory Kit, 33
Comprehensive Lists of Tests, 34
3 TEST NORMS, 47

Purpose of Norms, 47
Review of Statistics: Part 1, 48
Variables, 48
Types of Scales, 49
Organization of Raw Data, 50
Central Tendency, 51
Variability, 52
z-Scores, 53
Shapes of Distributions, 54
The Raw Score, 55
The Special Case of Theta (θ), 56
Types of Norms, 57
Percentile Ranks and Percentiles, 59
Standard Scores, 63
Developmental Norms, 69
Examples of Norm Tables, 72
Interpretive Reports and Norms, 72
Innovative Ways to Interpret Test Performance, 74
What to Read?, 74
Ready or Not?, 75
Depressed or Not?, 75
What Job for You?, 75
Conclusion, 75
Norm Groups, 76
National Norms, 76
International Norms, 76
Convenience Norm Groups, 76
User Norms, 77
Subgroup Norms, 77
Local Norms, 77
Institutional Norms, 78
Criterion-Referenced Interpretation, 79
The Standardization Group: Determining Its Usefulness, 80

Summary, 83
Key Terms, 84
Exercises, 84

4 RELIABILITY, 86

Introduction, 86
Four Important Distinctions, 87
  Bivariate Distribution and Correlation Coefficients, 88
  Regression Line, 90
  Factors Affecting Correlation Coefficients, 92
Major Sources of Unreliability, 96
  Test Scoring, 96
  Test Content, 98
  Test Administration Conditions, 98
  Personal Conditions, 99
Conceptual Framework: True Score Theory, 99
Methods of Determining Reliability, 101
  Test–Retest Reliability, 101
  Inter-Scorer Reliability, 102
  Alternate Form Reliability, 103
  Internal Consistency Reliability, 104
  Split-Half Reliability, 104
  Kuder–Richardson Formulas, 105
  Coefficient Alpha, 106
  Three Important Conclusions, 108
  The Standard Error of Measurement, 108
  Confidence Bands, 109
  Appropriate Units for SEM, 109
  Standard Errors: Three Types, 110
  Some Special Issues in Reliability, 111
Reliability in Item Response Theory, 113
Generalizability Theory, 114
Factors Affecting Reliability Coefficients, 115
How High Should Reliability Be?, 115
Summary, 116
Key Terms, 117
Exercises, 117
# 5 Validity, 119

Introduction, 119
- Refining the Definition of Validity, 120
- Construct Underrepresentation and Construct-Irrelevant Variance, 121
- The Basic Issue, 122
- The Traditional and Newer Classifications of Types of Validity Evidence, 123
- The Issue of Face Validity, 124

**Content Validity**, 124
- Application to Achievement Tests, 124
- Instructional Validity, 126
- Application to Employment Tests, 127
- Content Validity in Other Areas, 128
- Problems with Content Validity, 128

**Criterion-Related Validity**, 129
- External, Realistic Criterion, 130
- Contrasted Groups, 132
- Correlations with Other Tests, 133
- Special Considerations for Interpreting Criterion-Related Validity, 134
- The Reliability–Validity Relationship, 135
- Combining Information from Different Tests, 138

**Decision Theory: Basic Concepts and Terms**, 141
- Hits, False Positives, and False Negatives, 142
- Base Rate, 143
- Sensitivity and Specificity, 144

**Construct Validity**, 145
- Internal Structure, 146
- Factor Analysis, 146
- Response Processes, 148
- Effect of Experimental Variables, 148
- Developmental Changes, 149

**Consequential Validity**, 149
- Test Bias as Part of Validity, 150
- The Practical Concerns, 151
  - Integrating the Evidence, 151
  - In the Final Analysis: A Relative Standard, 152

**Summary**, 152
Key Terms, 153
Exercises, 153

# 6 Test Development and Item Analysis, 155

Introduction, 155
- Defining the Test’s Purpose, 156
- Preliminary Design Issues, 157
- Origin of New Tests, 158
- Item Preparation, 159
Types of Test Items, 160
   Selected-Response Items, 160
   Scoring Selected-Response Items, 162
   Constructed-Response Items, 162
   Scoring Constructed-Response Items, 163
The Pros and Cons of Selected-Response versus Constructed-Response Items, 166
Suggestions for Writing Selected-Response Items, 167
Suggestions for Writing Constructed-Response Items, 167
Some Practical Considerations in Writing Items, 168
Technology-based Innovations in Item Structure, 169
Item Analysis, 169
   Item Tryout, 170
   Item Statistics, 170
   Item Difficulty, 171
   Item Discrimination, 171
   Examples of Item Statistics, 172
   Item Statistics in Item Response Theory, 174
   Factor Analysis as an Item Analysis Technique, 177
   Item Selection, 178
   Computer-Adaptive Testing, 181
Standardization and Ancillary Research Programs, 183
Preparation of Final Materials and Publication, 184
Summary, 185
Key Terms, 185
Exercises, 185

7 Fairness and Bias, 187
   Fairness: Gaining Perspective, 187
   Methods of Studying Test Fairness, 190
      Panel Review, 191
      Differential Item Functioning, 192
      Differential Prediction, 194
      Measurement Invariance, 196
   Accommodations and Modifications, 197
      Research on Accommodations, 198
      Some Tentative Conclusions About Test Fairness, 199
   Summary, 200
   Key Terms, 201
   Exercises, 201

Part 2

8 Cognitive Abilities: Individual Tests, 205
   Some Cases, 205
   Introduction to Cognitive Ability Tests, 206
CONTENTS

9 COGNITIVE ABILITIES: GROUP TESTS, 246

Some Cases, 246
Uses of Group-Administered Cognitive Ability Tests, 247
Common Characteristics of Group Cognitive Ability Tests, 248
Cognitive Ability Tests in School Testing Programs, 250
  Otis-Lennon School Ability Test, 250
College Admissions Tests, 257
  The SAT, 257
  The ACT, 259
Graduate and Professional School Selection, 264
  Graduate Record Examinations: General Test, 265
Military and Business Selection Tests, 269
  Armed Services Vocational Aptitude Battery, 270
  Wonderlic Personnel Test, 272
10 NEUROPSYCHOLOGICAL ASSESSMENT, 279

Case Examples, 279
Focus on the Brain: The Road to Clinical Neuropsychology, 280
Two Main Approaches to Neuropsychological Assessment, 284
Fixed Battery Approach, 284
  Luria-Nebraska Neuropsychological Battery, 284
  Halstead-Reitan Neuropsychological Test Battery, 285
Flexible Battery Approach, 287
  Mental Status, 288
  Intelligence, 289
  Achievement, 289
  Attention/Concentration, 289
  Language, 290
  Visuospatial/Perceptual, 291
  Memory, 292
  Motor Functioning, 294
  Executive Functions, 295
  Personality/Psychological State, 296
Supplementary Information, 298
  Medical History, 299
  Psychiatric History, 299
  Psychosocial History, 299
  School Records, 300
  Collateral Information, 300
  Behavioral Observations, 300
Case Examples Revisited, 301
Summary, 305
Key Terms, 305
Exercises, 306

11 ACHIEVEMENT TESTS, 307

Introduction, 307
  The Ability-Achievement Continuum, 308
  The Psychologist’s Interface with Achievement Tests, 308
  A Broad Classification of Achievement Tests, 309
  A Typical School Testing Program, 310
  The Accountability Movement and Standards-Based Education, 310
  Trends in Achievement Testing in the Schools, 311
Achievement Batteries, 312
  Stanford Achievement Test, 312
  Typical Uses and Special Features, 314
  Achievement Batteries at the College Level, 315
Single-Area Achievement Tests, 316
  Examples, 316
  Typical Uses and Special Features, 318
Licensing and Certification Tests, 318
  Examples, 319
  Typical Uses and Special Features, 319
A Primer on Establishing Cutoff Scores, 320
State, National, and International Achievement Tests, 321
  State Testing Programs, 321
  A National Testing Program: NAEP, 322
  International Testing Programs: TIMSS, PIRLS, PISA, and PIAAC, 322
  Special Features, 323
Individually Administered Achievement Tests, 323
  Examples, 324
  Typical Uses and Special Features, 326
Curriculum Based Measures, 327
  General Characteristics, 327
  Examples, 327
  Interpretation, 328
12 Objective Personality Tests, 333
Introduction, 333
  Uses of Objective Personality Tests, 334
  A Functional Classification of Objective Personality Tests, 335
  Comprehensive Inventories: Common Characteristics, 336
  Specific Domain Tests: Common Characteristics, 338
The Special Problems of Response Sets and Faking, 339
Strategies for Dealing with Response Sets and Faking, 340
Major Approaches to Personality Test Development, 343
  Content Method, 343
  Criterion-Keying Approach, 344
  Factor Analysis, 346
  Theory-Driven Approach, 346
  Combined Approaches, 347
Examples of Comprehensive Inventories, 347
  The Edwards Personal Preference Schedule (EPPS): An Example of a Theory-Based Test, 348
The NEO Personality Inventory-3: An Example of a Factor-Analytic Test, 349
IPIP: Build Your Own Personality Inventory, 352

Specific Domain Tests, 353
  Piers-Harris Children’s Self-Concept Scale, 353
  Measures Within Positive Psychology, 355
  An Example: Subjective Well-Being, 356

Trends in the Development and Use of Objective Personality Tests, 357

Summary, 358
Key Terms, 359
Exercises, 359

13 CLINICAL INSTRUMENTS AND METHODS, 360

Introduction, 360

The Clinical Interview as Assessment Technique, 361
  Unstructured, Semistructured, and Structured Interviews, 361
  The DSM and ICD, 362
  Categorical versus Dimensional Approaches, 362
  Structured Clinical Interview for DSM-IV Axis I Disorders, 363
  The Employment Interview: A Sidebar, 364

Examples of Comprehensive Self-Report Inventories, 365
  The Minnesota Multiphasic Personality Inventory (MMPI), 365
  MMPI-2 RF (Restructured Form), 372
  The Millon Clinical Multiaxial Inventory (MCMI) and the Millon Family, 373
  Personality Assessment Inventory (PAI), 376
  Symptom Checklist-90-R, 378

Examples of Specific Domain Tests, 380
  The Beck Depression Inventory (BDI), 380
  The Eating Disorder Inventory (EDI), 381
  State-Trait Anxiety Inventory, 384

Behavior Rating Scales, 385
  Multiscore Systems, 386
  Single-Area Scales, 387

Behavioral Assessment, 387
  Direct or Naturalistic Observation, 388
  Analogue Behavioral Observation, 388
  Behavioral Interviewing, 389
  Self-Monitoring and Self-Report, 389
  Cognitive-Behavioral Assessment, 390
  Physiological Measures, 390
  Concluding Comments on Behavioral Assessment Methods, 390

Trends in the Development and Use of Clinical Instruments, 391

Summary, 392
Key Terms, 392
Exercises, 393
14 Projective Techniques, 394

General Characteristics of Projective Techniques and the Projective Hypothesis, 394
Uses of Projective Techniques, 395
  Indicators for the Use of Projectives, 397
  Administration and Scoring of Projective Techniques:
    A Forewarning, 397
The Rorschach Inkblot Test, 398
  The Materials, 399
  Administration and Scoring, 400
  The Coding System, 402
  Sequence of Scores and Structural Summary, 404
  Evaluation of the Rorschach, 404
  Rorschach Performance Assessment System (R-PAS), 405
Thematic Apperception Test (TAT), 406
Rotter Incomplete Sentences Blank (RISB), 408
Human Figure Drawings, 411
The Future of Projective Techniques, 413
  Training of Psychologists, 413
  Emergence of Managed Care, 413
  Objective Scoring, Norm-Referenced Interpretation, and Psychometric Quality, 414
Summary, 415
Key Terms, 415
Exercises, 415

15 Interests and Attitudes, 417

Introduction, 417
Orientation to Career Interest Testing, 418
  Strong and Kuder, 418
  Traditional Approaches, 418
  Uses of Career Interest Tests, 419
    A Forewarning on Names, 420
  Holland Themes and the RIASEC Codes, 421
Strong Interest Inventory, 422
Kuder Career Interests Assessments, 427
Self-Directed Search (SDS), 428
Some Generalizations About Career Interest Measures, 431
Attitude Measures, 432
  Likert Scales, 433
  Thurstone Scales, 435
  Guttman Scales, 436
  Public Opinion Polls and Consumer Research, 437
Summary, 437
Key Terms, 438
Exercises, 438

16 ETHICAL AND LEGAL ISSUES, 439

Ethics versus Law, 439
Ethical Issues, 440
  Background on Professional Ethics, 440
  Sources of Ethical Principles for Testing, 441
Generalizations About Ethical Use of Tests, 444
  Competence, 444
  Informed Consent, 444
  Knowledge of Results, 445
  Confidentiality, 445
  Test Security, 445
  Test Development and Publication, 445
  Automated Scoring/Interpretation Systems, 446
  Unqualified Persons, 446
  Test User Qualifications, 446
Legal Issues, 447
  Areas of Application: An Overview, 448
  Definition of Laws, 448
  Laws Related to Testing, 449
  The Fourteenth Amendment, 450
  The Handicapped/Disabled in Education:
    P.L. 94–142 and IDEA, 452
  FERPA and HIPAA, 453
  EEOC Guidelines, 454
  ESEA, NCLB, and ESSA, 456
Illustrative Court Cases, 456
  Griggs v. Duke Power, 457
  Debra P. v. Turlington and GI Forum v. TEA, 458
  Karraker v. Rent-A-Center, 460
  Atkins v. Virginia and Hall v. Florida, 460
  New Haven Firefighters Case, 461
Forensic Application of Tests, 461
  Two Legal Terms, 462
  Three Areas of Special Concern, 462
  And Beyond, 463
Some Generalizations About the Interface of Testing and the Law, 463
Summary, 464
Key Terms, 465
Exercises, 465
<table>
<thead>
<tr>
<th>Appendix</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Test Reviewing and Selection</td>
<td>467</td>
</tr>
<tr>
<td>B</td>
<td>How to Build a (Simple) Test</td>
<td>473</td>
</tr>
<tr>
<td>C</td>
<td>Contact Information for Major Test Publishers</td>
<td>479</td>
</tr>
<tr>
<td>D</td>
<td>Sample Data Sets</td>
<td>480</td>
</tr>
<tr>
<td>E</td>
<td>Answers to Selected Exercises</td>
<td>481</td>
</tr>
<tr>
<td></td>
<td>Glossary</td>
<td>485</td>
</tr>
<tr>
<td></td>
<td>References</td>
<td>501</td>
</tr>
<tr>
<td></td>
<td>Name Index</td>
<td>523</td>
</tr>
<tr>
<td></td>
<td>Subject Index</td>
<td>529</td>
</tr>
</tbody>
</table>