

CONTENTS

Acknowledgments	xi
Foreword	xiii
1 Introduction and Overview	1
Purpose of the Book	1
Perspectives on Measurement in the Social Sciences	2
What Is Measurement?	2
Usefulness of Social Science Measures	3
Scaling of Latent Psychological Constructs	
With Multiple Items	4
Recent Trends in Scaling Latent	
Psychological Constructs	6
Latent Constructs	7
Theory and Validity	7
Importance of the Literature Review	8
Overview of Dimensionality, Reliability, and Validity	9
Dimensionality	9
Reliability	10
Construct Validity	11
Overview of Recommended Procedures and	
Steps in Scale Development	14
Step 1: Construct Definition and Content Domain	16
Step 2: Generating and Judging Measurement Items	16
Step 3: Designing and Conducting Studies to	
Develop and Refine the Scale	16
Step 4: Finalizing the Scale	16
Summary and Preview of the Text	17

2	Dimensionality	18
	Introduction	18
	Dimensionality of a Construct, Items, and a Set of Items	19
	Unidimensionality	19
	Multidimensionality	21
	Does Unidimensionality of a Set of Items Imply	
	Unidimensionality of the Items or the Construct?	23
	Relevance of Unidimensionality	26
	How to Assess Dimensionality of Constructs	27
	Exploratory Factor Analysis (EFA)	27
	Confirmatory Factor Analysis (CFA)	36
	Summary	39
	Appendix 2A: Computing Partial Correlations	40
3	Reliability	41
	Introduction	41
	The True-Score Model	41
	Relationship Between the True-Score Model	
	and the Factor Model	43
	Types of Reliability	43
	Test-Retest Reliability	44
	Alternative-Form Reliability	45
	Internal Consistency Methods	46
	Split-Half Reliability	47
	Coefficient Alpha (α)	49
	Coefficient Alpha Example	53
	Coefficient Alpha and Dimensionality	54
	Coefficient Alpha, Scale Length, Interitem	
	Correlation, and Item Redundancy	57
	Generalizability Theory	59
	G-Study Illustration	63
	Generalizability Coefficient	65
	Decision Studies	68
	Summary	69
4	Validity	71
	Overview of Construct Validity	71
	Translation Validity	72
	Face Validity	72

Content Validity	73
Criterion Validity	76
Predictive and Post-dictive Validity	76
Concurrent Validity	76
Convergent and Discriminant Validity	77
Known-Group Validity	80
Nomological Validity	82
Socially Desirable Response Bias	83
Summary	85
5 Steps 1 and 2: Construct Definition and Generating and Judging Measurement Items	88
Introduction	88
Step 1: Construct Definition and Content Domain	89
The Importance of Clear Construct Definition	89
The Importance of Theory, Literature Review, and Judging	90
The Focus on Effect Items Versus Formative Indicators	92
The Role of Theory in Specifying Dimensionality	93
Step 2: Generating and Judging Measurement Items	94
Domain Sampling	94
Generating an Item Pool	95
Item Sources	96
Item Writing	97
Number of Items in the Initial Pool	101
Judging Items for Content and Face Validity	102
Guidelines for Content and Face Validation	102
Applications of Steps 1 and 2	103
Summary	107
Appendix 5A	108
Appendix 5B	114
6 Step 3: Designing and Conducting Studies to Develop a Scale	115
Introduction	115
Pilot Testing	115
Example of a Pilot Test	117
Conducting Multiple Studies for Initial Development and Validation	118

Including Constructs for Assessing Validity	118
Initial Item Analysis: Exploratory	
Factor Analysis (EFA)	121
EFA Options	121
Number of Factors to Extract	122
Rotational Methods	124
Item Retention via EFA	125
Initial Item and Reliability Analysis	125
A Final Caveat	126
EFA and Item and Reliability Analyses Examples	
From the Literature	127
An Empirical Example of EFA	127
Reliability and Item-Based Statistics	131
Summary	141
7 Step 4: Finalizing a Scale	143
Introduction	143
EFA and Additional Item Analyses	143
EFA	144
Additional Item Analyses	144
Item-to-Total Correlations	144
Interitem Correlations	145
Scale Length Considerations	145
Confirmatory Factor Analysis (CFA)	147
Overview	147
Three Key Issues to Consider	148
Evaluating CFA Models	150
Model Convergence and an “Acceptable	
Range” of Parameter Estimates	150
Fit Indices	151
Significance of Parameter Estimates and	
Related Diagnostics	152
Standardized Residuals and Modification Indices	154
Measurement Invariance Across Samples	155
CFA Examples From the Literature	157
An Empirical Example of Evaluating a CFA Model	158
Additional Evaluations of Validity	161

Convergent and Discriminant Validity	162
Predictive and Concurrent Validity	163
Establishing Norms	164
Means and Standard Deviations	164
Known-Group Differences	166
Applying Generalizability Theory	166
Summary	169
Appendix 7A: LISREL Input and Output for Small Business Owners and Real Estate Salespeople Samples	171
Appendix 7B: LISREL Input for Multigroup Analyses: Full Measurement Invariance Model	182
8 Concluding Remarks	184
References	187
Author Index	195
Subject Index	199
About the Authors	205