

Multiple Regression & Beyond: An Introduction to Multiple Regression and Structural Equation Modeling (2nd edition)

Preface

All chapters have been revised, and four chapters added.

Part I: Multiple Regression

Chapter 1: Simple (bivariate) regression

Chapter 2: Multiple regression: Introduction

Chapter 3: Multiple regression: More detail

Chapter 4: Three and more independent variables

Chapter 5: Three Types of MR

Chapter 6: Analysis of categorical variables

Chapter 7: Categorical & continuous variables

Chapter 8: Continuous variables: Interactions & curves

Chapter 9: Multiple regression: Summary, further study, and problems

Chapter 10: Related methods: Logistic regression and multilevel modeling

This is a brief introduction to these two methods, from a MR orientation. The primary emphasis is on understanding the methods based on what students have learned about MR. Printout from SPSS is also explained.

Part II: Beyond Multiple Regression: Structural Equation Modeling

Chapter 11: Path modeling: Structural equation modeling with measured variables

Chapter 12: Path analysis: Dangers and assumptions

Chapter 13: Analyzing path models using SEM programs

Chapter 14: Error: The scourge of research

Chapter 15: Confirmatory factor analysis I

Chapter 16: Putting it all together: Introduction to latent variable SEM

Chapter 17: Latent variable models: More advanced topics.

As with the first edition, this chapter covers the topics of correlated errors and multi-group SEM. Latent variable panel models are introduced. It also revisits the dangers and assumptions of SEM.

Chapter 18: Latent means in SEM

This chapter introduces the topic of mean structures in SEM, understanding of which is required for the next three chapters and which has increasingly become a part of introductory classes in SEM. The chapter uses a research example to illustrate two methods of incorporating mean structures in SEM: MIMIC-type models and multi-group mean and covariance structure models.

Chapter 19: Confirmatory factor analysis II: Invariance and latent means

Now that latent means have been introduced, this chapter revisits CFA, with the addition of latent means. The topic of invariance testing across groups, hinted at in previous chapters, is covered in more depth.

Chapter 20: Latent growth models

Longitudinal models and data have been covered in several places in the text. Here latent growth models are introduced as a method of more directly studying the process of change.

Chapter 21: Summary: Path analysis, CFA, SEM, mean structures, and latent growth models

Similar to Chapter 17 from the 1st edition, with the new material summarized as well.

Appendices.

I have moved much of the material that was in appendices to a website I will develop and maintain.

Appendix A: Data files.

This is a much shorter version of the current appendix A (no listing of variables), with a reference to the website for more detail.

Appendices B: Review of basic statistics concepts (revised version of Appendix E from 1st edition).

Appendix C: Partial and semipartial correlation (revised version of Appendix D from 1st edition).

Appendix D: Symbols Used in the Book

Appendix E: Useful Formulae

There were two other Appendices in the 1st edition, one on sample output from general statistics programs and one on sample output from SEM programs. I plan to move this content to the web, where it can be updated more regularly.

Website (under development)

This will include supplementary material (e.g., some alternative coding methods for chapter 7). It will also include sample computer output for each chapter. For Part II I currently have sample input and output for every chapter using both Amos and Mplus. I plan to add other programs, as people request them and as time permits.