

## Series Editor's Note

The topic of missing data is one that has been neglected for many years. I think many of us followed the advice (perhaps apocryphal) of R. A. Fisher of what to do with missing data: "The best solution to handle missing data is to have none." Missing data were present in every study but researchers tended to act as though they had complete data. All of this has changed. There are three related developments in statistics that have moved the topic of missing data out of the repressed unconscious to a topic of focused conscious interest.

First, statisticians—most notably Rubin, Little, and Shaffer—have developed a classification scheme for missing data. We now have the tools to diagnose and correct our analyses for missing data. No longer do we have to pretend that our data are complete.

Second, in a not unrelated development, researchers have begun to think that differences in design are really differences in missing data. So, for instance, the way a between-subjects design differs from a within-subjects design (i.e., a repeated-measures design) is not so much that they are different types of design; rather, a between-subjects design is the same as a within-subjects design with a measurement missing for each person. A related idea is to analyze data from very different types of groups as if there were missing data. As an example, data from one-child families can be analyzed with data from two-child families if we treat the measurements of the second child as "missing" in the one-child families.

Third, statistical methods have been developed to estimate models with missing data. As one example, growth-curve analysis (i.e., measuring change in individuals) can be conducted even for subjects who have only a single measurement. Additionally, structural equation models can be estimated, even if some of the people do not have measurements on all of the variables.

Although conceptual frameworks and analytic methods have been developed by statisticians, these methodologies have not yet been fully absorbed by applied data analysts. This book represents the first attempt to provide practitioners with an introduction to this topic. It provides some of the technical details and references to advanced sources. An important and useful focus is on conceptual and design issues. Moreover, the authors clearly emphasize the difficulties created by missing data and provide the reader with strategies for anticipating and reducing, if not eliminating, the problem. With this book, we can now acknowledge that we have missing data, we can determine how much harm the missing data cause, and, finally, we can perform the analyses that we wish to perform, after making our missing data adjustments.

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