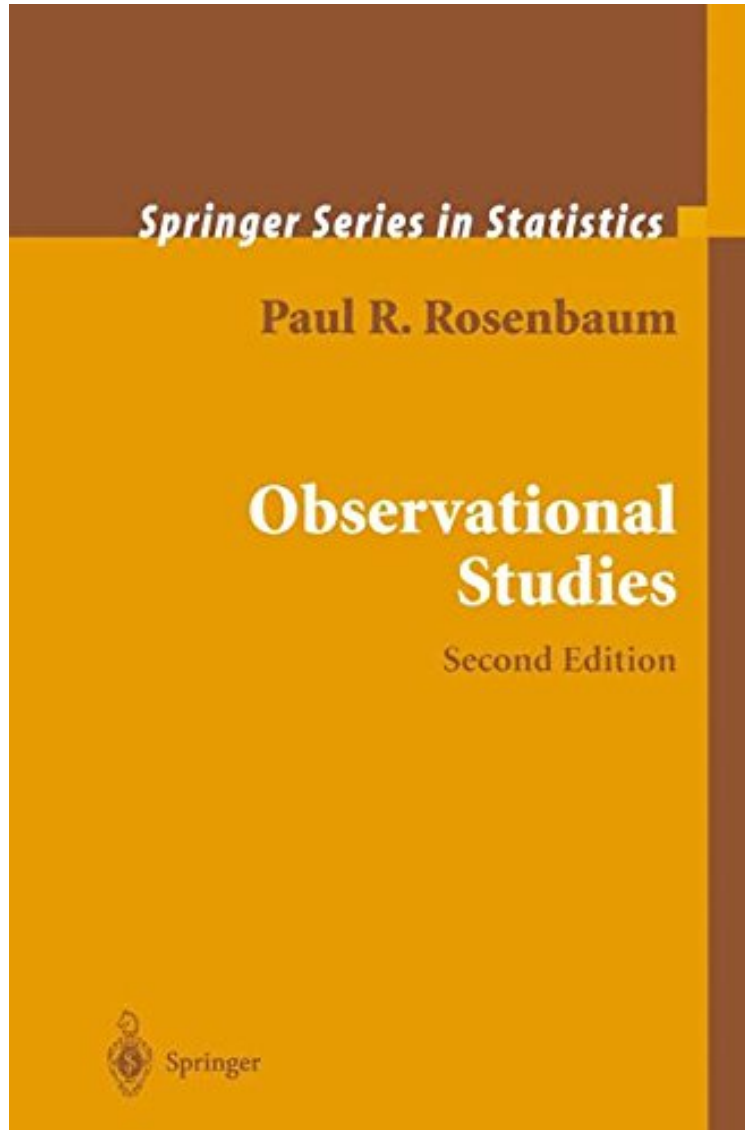


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## Observational Studies (Springer Series in Statistics)

*Paul R. Rosenbaum*

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**Paul R. Rosenbaum : Observational Studies (Springer Series in Statistics)** before purchasing it in order to gage whether or not it would be worth my time, and all praised Observational Studies (Springer Series in Statistics):

0 of 0 people found the following review helpful. Five StarsBy V. ReinhardtOrders placed for others, no complaints31 of 32 people found the following review helpful. best book on observational studiesBy Michael R. ChernickMany years ago the famous statistician Ronald Aylmer Fisher criticized analyses that linked lung cancer to smoking. He argued that these studies had hidden biases because they were not controlled experiments. He proposed that smokers

could be different from non-smokers because of a genetic propensity to desire cigarettes and that this genetic trait could be correlated with a higher incidence of lung cancer. Thus it would be possible to see a higher frequency of lung cancer among smokers because of this genetic trait rather than because the smoking itself causes the cancer. As far-fetched as this argument may seem to us today, it is based on sound statistical principles and points out some of the potential problems that occur with observational studies. Although randomized control trials are the best way to determine differences in treatment effects, they are not always practical or ethical. It would be wrong to randomly choose subjects and force some of them to smoke. Getting around issues of bias in observational studies was first addressed by Cochran who published a book on the subject in 1983. Rosenbaum came out with his own book in 1995 and this second edition expands and updates that popular text. In Chapter 1 he presents examples of observational studies and raises many important issues. Chapter 2 explains the principles of randomized controlled experiments. In Chapter 3 he covers overt bias and some of the basic methods to adjust for it. The sensitivity of observational studies to hidden biases is covered in Chapter 4. This book is well written, authoritative and contains numerous references and examples. It also includes a chapter on how to plan an observational study. Such studies are very important to epidemiologists who want to discover the cause of an epidemic or a disease. With large data base it is possible to remove or adjust biases by matching subjects using propensity scores. Rosenbaum effectively describes how propensity scoring and stratification can be used to make observational studies behave more like randomized control trials. 14 of 15 people found the following review helpful. Premier book on this topic By Camber From what I can tell, this is the premier book on observational studies, and Paul Rosenbaum is clearly an expert on the topic. The book is written at essentially three levels: (a) qualitative discussions, (b) key statistical models and methods, and (c) more advanced and specialized topics, typically involving more advanced mathematics. Readers with a modest background in statistics (like me) will benefit from reading the book at the first level, but the second level will be tough going and the third level will be mostly out of reach. Therefore, I think the target audience for this book is mainly people with a strong background in statistics, which would include advanced undergraduates, graduate students, and professional statisticians. Unlike experiments, observational studies try to discern the effects of treatments in situations where the assignment of treatments to subjects isn't controlled by the investigator. This situation is common in biomedicine and other areas, so this topic is very important. Lack of control in assigning treatments raises questions of overt and potential bias, and the aim of the book is largely to present statistical approaches to identify and analytically adjust for such biases so that plausible conclusions can be drawn regarding the likely effects of treatments. A key point here is that there's no single objectively "correct" statistical approach to use for this purpose, but rather it's a matter of developing statistical models, the validity of which is largely a matter of judgment. In this regard, Rosenbaum appropriately weaves in considerations from the philosophy of science throughout the book, so you'll hear names like Popper, Lakatos, Feyerabend, and Wittgenstein. To the extent that I'm qualified to do so, I recommend this book to anyone with a serious interest in observational studies, and especially to people with a background in statistics strong enough to make full use of the book. Even with my limitations, I benefitted from this book and grasped the main ideas, and I look forward to returning to the book when I'm better prepared to tackle the math.

A sound statistical account of the principles and methods for the design and analysis of observational studies. Readers are assumed to have a working knowledge of basic probability and statistics, but otherwise the account is reasonably self-contained. Throughout there are extended discussions of actual observational studies to illustrate the ideas discussed, drawn from topics as diverse as smoking and lung cancer, lead in children, nuclear weapons testing, and placement programs for students. As a result, many researchers will find this an invaluable companion in their work.

"This second edition is about fifty percent larger than the original. The flavour is the same. The book provides a thoughtful discussion, at a mathematical and conceptual level, of what can and cannot be learned from observational studies." ISI Short Books, Vol. 22/2, August 2002 From reviews of the First Edition: "A fascinating book which combines elegant theory with good practical advice on applications, including in-depth discussion of many interesting examples from diverse fields." Short Books of the International Statistical Institute "Observational Studies" will be extremely useful to researchers and graduate students in the biomedical and social sciences... The book is well written in an area where clarity is difficult... It will set a new standard for the analysis of observational studies." Journal of the American Statistical Association "Rosenbaum's text does a great job of merging the theoretical with the practical, and provides a nice resource for a broad range of researchers... Consultants and field researchers, particularly in public health, will appreciate the examples and discussion of different research designs." The American Statistician "Generously dispersed throughout the volume are fundamentally important, but seldom explicitly recognized, insights about the logic of research design. Virtually any reader will find much of value in this book, especially concerning design issues." Applied Psychological Measurement "In summary, Observational Studies is an excellent book. It should be widely and carefully read." Journal of Educational and Behavioral Statistics