Observational Before-After Studies in Road Safety
This three part monograph aims to enable road safety researchers and professionals to interpret correctly the results of one of the main sources of knowledge about the effect of road safety engineering measures, the "observational Before-After study". Part I, Essentials - contains information the author regards as essential for forming an opinion of results obtained by others, and for planning and analysing such a study. This is written to be accessible to all. Part II, Adaptations of conventional approaches - explains how to avoid the errors and improve the results obtained from the predominant methods currently used. This Part employs algebra and statistical analysis. Part III, Elements of a new approach - presents new approaches to improve future methods of observation and analysis.

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Customer Reviews

This is one of the best technical books I've ever read on any subject--and I've read many of them! It should be must reading not only for those who conduct transportation safety studies--the subject of the book-- but also for those conducting any observational study ("before/after study"), whether safety-related or not. This book is a valuable and much-needed contribution to the technical literature. The book begins by showing how classical statistical techniques are often misused in observational studies. Classical techniques assume a rigorous experimental design, with random assignment to treatment and non-treatment groups. These conditions do not apply to observational
studies, such as those determining the influence of smoking on health. Errors such as assuming safety in the immediate "before" period is a good predictor of safety in the "after" period are discussed. The book then goes on to provide valid techniques that work. It shows how to compare the what would have been the safety in the after period without treatment, to the safety that was achieved. Complications of assessing the safety in the before and after periods are addressed. The book is not only an important technical contribution, it is also extremely well-written. The author’s writing style is extremely lucid and should serve as an example to others. The first section of the book provides a qualitative description of the material. Subsequent sections then repeat the material, but with mathematical rigor. Numerous numerical examples (some with real-world data; others with hypothetical data for simplicity sake) make the material clear. Mathematical derivations are provided for rigor, but isolated from the rest of the text to keep from overwhelming the reader.

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