Applying Quantitative Bias Analysis to Epidemiologic Data (Statistics for Biology and Health)

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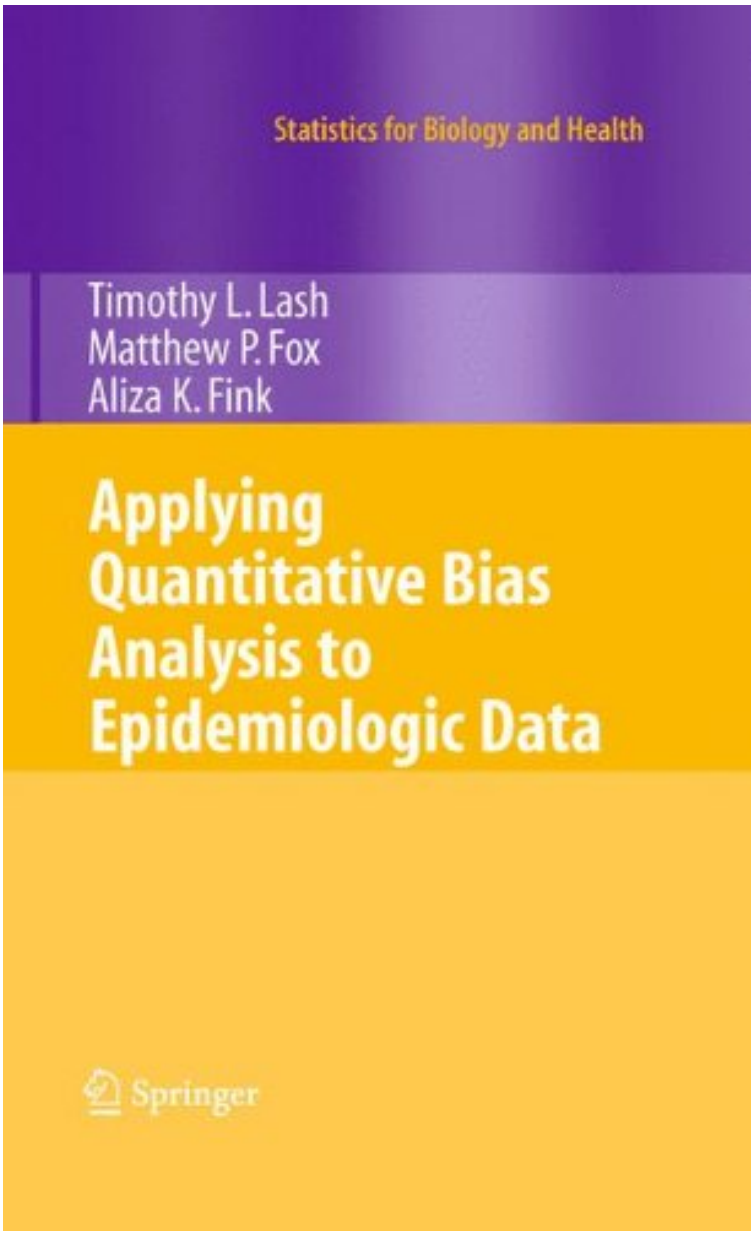

#1153468 in Books Lash Timothy L Fox Matthew P Fink Aliza K 2009-05-12Original language:EnglishPDF # 1 9.21 x .50 x 6.14l, 1.03 #File Name: 0387879609192 pagesApplying Quantitative Bias Analysis to Epidemiologic Data | File size: 45.Mb

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before purchasing it in order to gage whether or not it would be worth my time, and all praised Applying Quantitative Bias Analysis to Epidemiologic Data (Statistics for Biology and Health):

Bias analysis quantifies the influence of systematic error on an epidemiology studys estimate of association. The fundamental methods of bias analysis in epi- miology have been well described for decades, yet are seldom applied in published presentations of epidemiologic research. More recent advances in bias analysis, such as probabilistic bias analysis, appear even more rarely. We suspect that there are both supply-side and demand-side explanations for the scarcity of bias analysis. On the demand side, journal reviewers and editors seldom request that authors address systematic error aside from listing them as limitations of their particular study. This listing is often accompanied by explanations for why the limitations should not pose much concern. On the supply side, methods for bias analysis receive little attention in most epidemiology curriculums, are often scattered throughout textbooks or absent from them altogether, and cannot be implemented easily using standard statistical computing software. Our objective in this text is to reduce these supply-side barriers, with the hope that demand for quantitative bias analysis will follow.

From the reviews: "This is the first book to focus on a compilation of bias analysis methods from the epidemiologic perspective. Throughout this well-written book, examples presented are highly informative and easy to follow for the target audience of students and public health researchers with a foundation in epidemiologic study design and methods. this book can be used either as a reference work by practicing epidemiologists or as a textbook for an intermediate-to-advanced course in epidemiologic methods." (Chanelle J. Howe and Stephen R. Cole, American Journal of Epidemiology, Vol. 170 (10), November, 2009) Applying Quantitative Bias Analysis to Epidemiologic Data is the first text of its kind to give a comprehensive overview of the field. ..This book fills an important gap among epidemiology texts. It provides a unified reference for the myriad of bias analysis methods that appear in the literature. It is broad and thorough in scope, and yet easily accessible (Biometrics)From the Back CoverThis text provides the first-ever compilation of bias analysis methods for use with epidemiologic data. It guides the reader through the planning stages of bias analysis, including the design of validation studies and the collection of validity data from other sources. Three chapters present methods for corrections to address selection bias, uncontrolled confounding, and classification errors. Subsequent chapters extend these methods to multidimensional bias analysis, probabilistic bias analysis, and multiple bias analysis. The text concludes with a chapter on presentation and interpretation of bias analysis results. Although techniques for bias analysis have been available for decades, these methods are considered difficult to implement. This text not only gathers the methods into one cohesive and organized presentation, it also explains the methods in a consistent fashion and provides customizable spreadsheets to implement the solutions. By downloading the spreadsheets (available at links provided in the text), readers can follow the examples in the text and then modify the spreadsheet to complete their own bias analyses. Readers without experience using quantitative bias analysis will be able to design, implement, and understand bias analyses that address the major threats to the validity of epidemiologic research. More experienced analysts will value the compilation of bias analysis methods and links to software tools that facilitate their projects. Timothy L. Lash is an Associate Professor of Epidemiology and Matthew P. Fox is an Assistant Professor in the Center for International Health and Development, both at the Boston University School of Public Health. Aliza K. Fink is a Project Manager at Macro International in Bethesda, Maryland. Together they have organized and presented many day-long workshops on the methods of quantitative bias analysis. In addition, they have collaborated on many papers that developed methods of quantitative bias analysis or used the methods in the data analysis.