Introduction to Structural Equation Models (Studies in Population)

Otis Dudley Duncan
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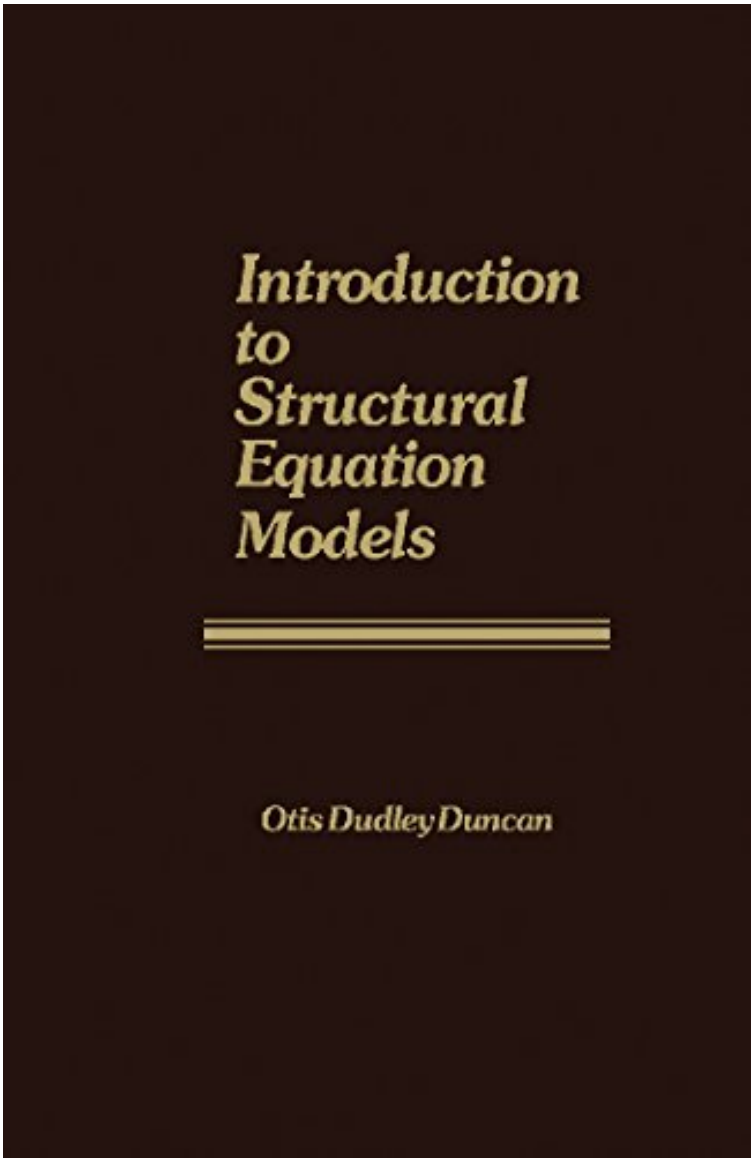

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Otis Dudley Duncan : Introduction to Structural Equation Models (Studies in Population) before purchasing it in order to gage whether or not it would be worth my time, and all praised Introduction to Structural Equation Models (Studies in Population):

2 of 2 people found the following review helpful. A beautiful guide for understanding structural modelsBy Edward E. RigdonCertainly, a 1975 text is not going to be a current guide to structural modeling or structural equation modeling. What I found in Duncan's book was an exceedingly clear yet mathematically rigorous introduction to structural models, including both recursive and nonrecursive models. Duncan's writing is extremely clear. You will find yourself

picking up a facility for turning structural models into covariance matrices almost without realizing it. Duncan's book was a great help to me when I wrote a 1995 paper in Multivariate Behavioral Research on statistical identification in structural models. Still, I only wish that I could write in this same straightforward yet elegant style. If you find that modern "introductory SEM" texts are skimping on the basic arithmetic around structural models, and you need something more, take a look at this wonderful and helpful text.2 of 2 people found the following review helpful. Not the book that was needed at the time.By not a naturalDuncan seemed to feel obliged to emphasize to his readers in sociology how little they knew in comparison to students in other, more thoroughly quantitative disciplines. He reminded them, moreover, that even if they mastered his 1975 book, they would still be poorly prepared for serious quantitative work when compared to students of econometrics and other sophisticated quantitative disciplines.All this could be for forgiven, if Duncan's book had been more useful. However, Duncan devoted most of his presentation to the kind of non-recursive models that social science statisticians at the time worked with much less frequently than simpler, more readily applicable recursive models. Duncan, as he sometimes acknowledged, was fascinated by the mathematics of structural equation modeling, and less interested in applications. Perhaps that's why his book is unduly complex and much less useful than it might have been.For a student just getting into more complex, multi-equation models, Blalock's 1964 book Causal Models in Non-Experimental Research is much more useful. Yes, it is just a beginning, but the same is true of Duncan's book. Blalock is more readable, more readily applicable to substantive problems, provides a more secure foundation for the really sophisticated structural equation models (see Lisrel, Amos, Calis ...) that are commonly used today, and that can be surprisingly user-friendly.1 of 1 people found the following review helpful. A Luddite approach to discovery in sociologyBy Thomas J. HickeyA Luddite approach to discovery in sociologyThis book imitates undergraduate-level textbooks in econometrics available to economics students in the early 1950's. In his "Preface" the author states that the book is written by a sociologist but contains no examples from sociology or any other application. He explicitly rejects the idea that such modeling is a new "recipe" for sociological research. One wonders why any social sociologist should be interested in this book. In a chapter titled "Form and Substance for (Sociological) Models" (p. 149) Duncan admonishes the reader not to hope to acquire a technique that can be applied mechanically to a set of numerical data with the expectation that the result will automatically be research. There he also chides the reader saying that the reader has some reading to do in philosophy of science, if the reader is not familiar with the fallacy of induction (p.150).In the light of contemporary artificial intelligence and of the mechanized discovery systems in computational philosophy of science this admonition not only makes this book anachronistic. But if the admonition were taken seriously, it will be a retarding influence in a science that is still notoriously retarded relative to other empirical sciences. Proceduralizing discovery is the explicit aim of computational philosophy of science. It is Duncan who must do some reading in contemporary philosophy of science. Unfortunately not a few sociologists take such admonitions as Duncan's seriously, if only because they are motivated by their limited technical competence, which apparently this book is intended to remedy. While the book contains no sociology, it smuggles in his own ersatz philosophy of science, which not surprisingly is also anachronistic relative to the contemporary pragmatism that prevails in academic philosophy of science today. Duncan follows the Haavelmo agenda published in 1944, which views regression modeling as merely a testing procedure and rejects it as a discovery procedure. For example in his chapter titled "Correlation and Causation" he says that one can never infer the causal ordering of two or more variables from their correlations, but the reverse is possible when the causal relation is known (p. 20). This idea underlies the "structural- equation" modeling philosophy, and is contrary to the thesis of scientific realism in the contemporary pragmatist philosophy of science.On the contemporary philosophy one does not firstly know causality and then examine correlations. Rather one searches for regularities in the data such as by successful modeling, and then makes a causal claim, until falsifying contrary evidence refutes the claim. This is a continuous process that constitutes the history of the empirical sciences. Unfortunately academic sociology lacks the successful empirical history from which such a lesson could be gleaned.A sociologist interested in acquiring statistical modeling skills would be better advised to purchase an undergraduate statistics book written by a professional academic statistician, and then study philosophy of science separately from a contemporary professional academic philosopher.For more see my Twentieth-Century Philosophy of Science: A History, especially BOOK VIII.Thomas J. Hickey, Econometrician

Introduction to Structural Equation Models prepares the reader to understand the recent sociological literature on the use of structural equation models in research, and discusses methodological questions pertaining to such models. The material in first seven chapters is almost entirely standard, with the remaining four introducing progressively more open-ended issues, seducing the reader into beginning to think for himself about the properties of models or even to suggest problems that may intrigue the advanced student.