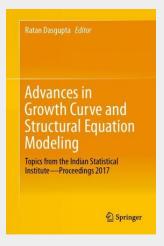
Advances in Growth Curve and Structural Equation Modeling

Topics from the Indian Statistical Institute; Proceedings 2017

This book explains and explores the growth curve model as a tool to gain insights into various research topics of interest to academics and practitioners alike. It includes studies on growth models for repeated measurement mixture experiments, and optimal designs for growth prediction in order to find an optimum design for the most efficient estimation of the parameters of the mixture models. It presents longitudinal studies conducted on the mathematical aptitude and intelligence quotient of tribal population in North Eastern states of India, and innovative statistical analysis showing that the status of tribes is improving over time. These results are supplemented by similar cross-sectional studies, and a retrospective longitudinal study of the social environment in North Eastern tribes indicating that the growth status of the social environment is improving. Child health is an important topic in developing countries, and as such the book features an overview of the growth and nutritional status of children aged 5 to 18 in India. Characterization of Extended Uniform Distribution and its applications for quality control in industrial production, and in yield data of tuber crops among others are discussed. Characterizations of distribution in terms of performance rate are also proved. There is also a contribution examining the past and present status of mangroves in Sunderban region of the Indian state of West Bengal from an ecological viewpoint using a growth curve model set-up. Lastly, it includes a chapter on a statistical study of platelet size decomposition and related growth model. Highlighting the importance of growth curve modelling as it applies to actual field data and encouraging more theoretically inclined statisticians to look into theoretical issues that need investigation, the book disseminates applications of the growth curve model to real-world problems and addresses related theoretical issues for the attention of theoreticians and practitioners.

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