Methods and Applications of Longitudinal Data Analysis

Description: Methods and Applications of Longitudinal Data Analysis describes methods for the analysis of longitudinal data in the medical, biological and behavioral sciences. It introduces basic concepts and functions including a variety of regression models, and their practical applications across many areas of research. Statistical procedures featured within the text include:

- descriptive methods for delineating trends over time
- linear mixed regression models with both fixed and random effects
- covariance pattern models on correlated errors
- generalized estimating equations
- nonlinear regression models for categorical repeated measurements
- techniques for analyzing longitudinal data with non-ignorable missing observations

Emphasis is given to applications of these methods, using substantial empirical illustrations, designed to help users of statistics better analyze and understand longitudinal data.

Methods and Applications of Longitudinal Data Analysis equips both graduate students and professionals to confidently apply longitudinal data analysis to their particular discipline. It also provides a valuable reference source for applied statisticians, demographers and other quantitative methodologists.

- From novice to professional: this book starts with the introduction of basic models and ends with the description of some of the most advanced models in longitudinal data analysis
- Enables students to select the correct statistical methods to apply to their longitudinal data and avoid the pitfalls associated with incorrect selection
- Identifies the limitations of classical repeated measures models and describes newly developed techniques, along with real-world examples.

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