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Nota di contenuto	Latent Curve Models; Contents; Preface; 1 Introduction; 1.1 Conceptualization and Analysis of Trajectories; 1.1.1 Trajectories of Crime Rates; 1.1.2 Data Requirements; 1.1.3 Summary; 1.2 Three Initial Questions About Trajectories; 1.2.1 Question 1: What Is the Trajectory for the Entire Group?; 1.2.2 Question 2: Do We Need Distinct Trajectories for Each Case?; 1.2.3 Question 3: If Distinct Trajectories Are Needed, Can We Identify Variables to Predict These Individual Trajectories?; 1.2.4 Summary; 1.3 Brief History of Latent Curve Models; 1.3.1 Early Developments: The Nineteenth Century 1.3.2 Fitting Group Trajectories: 1900-19371.3.3 Fitting Individual and Group Trajectories: 1938-1950s; 1.3.4 Trajectory Modeling with Latent Variables: 1950s-1984; 1.3.5 Current Latent Curve Modeling: 1984-present; 1.3.6 Summary; 1.4 Organization of the Remainder of the Book; 2 Unconditional Latent Curve Model; 2.1 Repeated Measures; 2.2 General Model and Assumptions; 2.3 Identification; 2.4 Case-By-Case Approach; 2.4.1 Assessing Model Fit; 2.4.2 Limitations of Case-by-Case Approach; 2.5 Structural Equation Model Approach; 2.5.1 Matrix Expression of the Latent Curve Model

2.5.2 Maximum Likelihood Estimation2.5.3 Empirical Example; 2.5.4 Assessing Model Fit; 2.5.5 Components of Fit; 2.6 Alternative Approaches to the SEM; 2.7 Conclusions; Appendix 2A: Test Statistics, Nonnormality, and Statistical Power; 3 Missing Data and Alternative Metrics of Time; 3.1 Missing Data; 3.1.1 Types of Missing Data; 3.1.2 Treatment of Missing Data; 3.1.3 Empirical Example; 3.1.4 Summary; 3.2 Missing Data and Alternative Metrics of Time; 3.2.1 Numerical Measure of Time; 3.2.2 When Wave of Assessment and Alternative Metrics of Time Are Equivalent
3.2.3 When Wave of Assessment and Alternative Metrics of Time Are Different3.2.4 Reorganizing Data as a Function of Alternative Metrics of Time; 3.2.5 Individually Varying Values of Time; 3.2.6 Summary; 3.2.7 Empirical Example: Reading Achievement; 3.3 Conclusions; 4 Nonlinear Trajectories and the Coding of Time; 4.1 Modeling Nonlinear Functions of Time; 4.1.1 Polynomial Trajectories: Quadratic Trajectory Model; 4.1.2 Polynomial Trajectories: Cubic Trajectory Models; 4.1.3 Summary; 4.2 Nonlinear Curve Fitting: Estimated Factor Loadings; 4.2.1 Selecting the Metric of Change
4.3 Piecewise Linear Trajectory Models4.3.1 Identification; 4.3.2 Interpretation; 4.4 Alternative Parametric Functions; 4.4.1 Exponential Trajectory; 4.4.2 Parametric Functions with Cycles; 4.4.3 Nonlinear Transformations of the Metric of Time; 4.4.4 Nonlinear Transformations of the Repeated Measures; 4.5 Linear Transformations of the Metric of Time; 4.5.1 Logic of Recoding the Metric of Time; 4.5.2 General Framework for Transforming Time; 4.5.3 Summary; 4.6 Conclusions; Appendix 4A: Identification of Quadratic and Piecewise Latent Curve Models; 4A.1 Quadratic LCM; 4A.2 Piecewise LCM
5 Conditional Latent Curve Models

Sommario/riassunto

An effective technique for data analysis in the social sciences The recent explosion in longitudinal data in the social sciences highlights the need for this timely publication. Latent Curve Models: A Structural Equation Perspective provides an effective technique to analyze latent curve models (LCMs). This type of data features random intercepts and slopes that permit each case in a sample to have a different trajectory over time. Furthermore, researchers can include variables to predict the parameters governing these trajectories. The authors synthesize a vast amount of research and find