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Nota di contenuto	Multivariable Model-Building; Contents; Preface; 1 Introduction; 1.1 Real-Life Problems as Motivation for Model Building; 1.1.1 Many Candidate Models; 1.1.2 Functional Form for Continuous Predictors; 1.1.3 Example 1: Continuous Response; 1.1.4 Example 2: Multivariable Model for Survival Data; 1.2 Issues in Modelling Continuous Predictors; 1.2.1 Effects of Assumptions; 1.2.2 Global versus Local Influence Models; 1.2.3 Disadvantages of Fractional Polynomial Modelling; 1.2.4 Controlling Model Complexity; 1.3 Types of Regression Model Considered; 1.3.1 Normal-Errors Regression 1.3.2 Logistic Regression1.3.3 Cox Regression; 1.3.4 Generalized Linear Models; 1.3.5 Linear and Additive Predictors; 1.4 Role of Residuals; 1.4.1 Uses of Residuals; 1.4.2 Graphical Analysis of Residuals; 1.5 Role of Subject-Matter Knowledge in Model Development; 1.6 Scope of Model Building in our Book; 1.7 Modelling Preferences; 1.7.1 General Issues; 1.7.2 Criteria for a Good Model; 1.7.3 Personal Preferences; 1.8 General Notation; 2 Selection of

Variables; 2.1 Introduction; 2.2 Background; 2.3 Preliminaries for a Multivariable Analysis; 2.4 Aims of Multivariable Models
2.5 Prediction: Summary Statistics and Comparisons2.6 Procedures for Selecting Variables; 2.6.1 Strength of Predictors; 2.6.2 Stepwise Procedures; 2.6.3 All-Subsets Model Selection Using Information Criteria; 2.6.4 Further Considerations; 2.7 Comparison of Selection Strategies in Examples; 2.7.1 Myeloma Study; 2.7.2 Educational Body-Fat Data; 2.7.3 Glioma Study; 2.8 Selection and Shrinkage; 2.8.1 Selection Bias; 2.8.2 Simulation Study; 2.8.3 Shrinkage to Correct for Selection Bias; 2.8.4 Post-estimation Shrinkage; 2.8.5 Reducing Selection Bias; 2.8.6 Example; 2.9 Discussion
2.9.1 Model Building in Small Datasets2.9.2 Full, Pre-specified or Selected Model?; 2.9.3 Comparison of Selection Procedures; 2.9.4 Complexity, Stability and Interpretability; 2.9.5 Conclusions and Outlook; 3 Handling Categorical and Continuous Predictors; 3.1 Introduction; 3.2 Types of Predictor; 3.2.1 Binary; 3.2.2 Nominal; 3.2.3 Ordinal, Counting, Continuous; 3.2.4 Derived; 3.3 Handling Ordinal Predictors; 3.3.1 Coding Schemes; 3.3.2 Effect of Coding Schemes on Variable Selection; 3.4 Handling Counting and Continuous Predictors: Categorization
3.4.1 'Optimal' Cutpoints: A Dangerous Analysis3.4.2 Other Ways of Choosing a Cutpoint; 3.5 Example: Issues in Model Building with Categorized Variables; 3.5.1 One Ordinal Variable; 3.5.2 Several Ordinal Variables; 3.6 Handling Counting and Continuous Predictors: Functional Form; 3.6.1 Beyond Linearity; 3.6.2 Does Nonlinearity Matter?; 3.6.3 Simple versus Complex Functions; 3.6.4 Interpretability and Transportability; 3.7 Empirical Curve Fitting; 3.7.1 General Approaches to Smoothing; 3.7.2 Critique of Local and Global Influence Models; 3.8 Discussion; 3.8.1 Sparse Categories
3.8.2 Choice of Coding Scheme

Sommario/riassunto

Multivariable regression models are of fundamental importance in all areas of science in which empirical data must be analyzed. This book proposes a systematic approach to building such models based on standard principles of statistical modeling. The main emphasis is on the fractional polynomial method for modeling the influence of continuous variables in a multivariable context, a topic for which there is no standard approach. Existing options range from very simple step functions to highly complex adaptive methods such as multivariate splines with many knots and penalisation. This new approa