Introduction

Earlier, you learned about simple polynomial regression models, in which one independent variable has a nonlinear relationship with the dependent variable. However, in some situations, you might find that multiple independent variables have a nonlinear relationship with the dependent variable. When there are multiple nonlinear relationships, a multiple polynomial regression might be required to fit the data well.

In this section, you learn to fit multiple polynomial regression models by using automatic model selection techniques. Then you learn to compare and evaluate several fitted models, and select the most appropriate model, by comparing the adjusted coefficients of determination and the information criteria. Finally, you learn about using spline effects when polynomial effects cannot adequately model the nonlinear relationship between an independent variable and the dependent variable.

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