Week 8   Regression

childagg

A study was carried out to explore the relationship between aggression in children having an older sibling and several potential factors that might influence the level of agression. The measured variables are as follows.

parenting_style	high scores correspond to bad parenting
computer_games	high scores indicate more time spent playing computer games
television	high scores indicate more time spent watching television
diet	high scores indicate that the child has a healthy diet
sibling_agression	high scores indicate more aggression by the older sibling

Construct a linear regression model of the relationship between agression in children having an older sibling and these potential explanatory variables.

burnout

Research has shown that lecturers are among the most stressed workers. A researcher took a large sample of lecturers and administered several questionnaires to them that measured the following variables:

burnout	burnt out or not
perceived_control	high score indicates low perceived control
coping_style	high score indicates a good ability to cope with stress
stress_from_teaching	high score indicates that teaching is stressful
stress_from_research	high score indicates that research is stressful
stress_from_pastoral_care	high score indicates that pastoral care is stressful

Construct a linear regression model of the relationship between burnout and these potential explanatory variables. Discuss how well your model fits the data, how much variation in burnout is accounted for by the model, and the individual impact of each explanatory variable on the probability that an individual lecturer burns out.

chd

A study was conducted to investigate the relationship between age and coronary heart disease. A total of 100 people of various ages were examined and in each case the presence or absence of evidence of coronary heart disease was recorded. Construct a logistic regression model to investigete the relationship between age and evidence of coronary heart disease.