

0. Data exploration – dataset case1201.jmp

- Pairwise scatter plot

1. Sequential variable selection – dataset case1201.jmp

- In the Fit Model Dialog box, change the —Personality to —Stepwise.
- Enter all the X variables you wish to consider (including any interactions—see the instructions on interactions given above). Then click —Run Model.
- The Stepwise Regression dialog box appears. Change —Direction to —Mixed/backward/forward and change the stopping rule to “p-value threshold” and then enter and the probability to leave small numbers (may use the default values). Then click —Go.
- When JMP settles on a model, click —Make Model to get to the familiar regression dialog box. You may want to change —Emphasis to —Effect Leverage (if necessary) so that you will get the leverage plots. Take a look at the residual plot too.

2. Model selection among all subsets

- In the Fit Model Dialog box, change the —Personality to —Stepwise.
- Enter all the X variables you wish to consider (including any interactions—see the instructions on interactions given above). Then click —Run Model.
- Click on the red triangle next to “stepwise fit” and choose “all possible models”

To get Cp plot:

- Right click anywhere in the output area for the “All possible models”, check “columns” and then “cp”.
- Right click anywhere in the output area for the “All possible models”, check “make into data table”.
- In the new data sheet, generate a new column “p” (=“number” +1) and then do plotting for “cp” vs “p” by checking “Graph” and then “overlay plot”.

3. Detect influential observations: dataset case 1101.jmp

Leverage: “Hat values” (JMP calls them hats)

Influence: Cook’s Distance (JMP calls them Cook’s D Influence).

- To obtain them in JMP, click Analyze, Fit Model, put Y variable in Y and X variable in Model Effects box. Click Run Model box.
- After model is fit, click red triangle next to Response. Click Save Columns and then Click Hats for Leverages and Click Cook’s D Influences for Cook’s Distances and click studentized residual.
- To sort observations in terms of Cook’s Distance or Leverage, click Tables, Sort and then put variable you want to sort by in By box.

Practice: dataset case1202.jmp (response: sal77)