Sept. 26  Statistic for the day:
(David) Justice vs. (Derek) Jeter, 1995 and 1996:
Overall batting average: Jeter’s is higher (.310 vs. .270)
Each year: Justice’s is higher
(.253 vs .250 in 1995, .321 vs .314 in 1996)

Assignment: Prepare for Friday’s midterm

Confounding (lurking) variables

A confounding variable in a study:
1. Is related to the explanatory variable
2. Affects the response variable

Potential confounding variables are the reason we cannot infer causation from observational studies.

Reasoning: Any existing relationship between explanatory and response might be due actually to different causation forces that are unaccounted for.

A 1996 study found that the act of writing a smiley face on the bill by wait staff resulted in a higher tip for female waitresses, but a lower tip for male waiters.

What type of variable is “amount of tip”?
(A) Blocking  (B) Interacting  (C) Confounding  (D) Response  (E) Explanatory

Interaction plot: Smiley-face experiment

Interacting variable (sex, in this case): Changes the nature of the relationship between explanatory and response.

To compare four brands of tires, one of each brand (with all identifying marks removed) was randomly assigned to the four locations on each of 50 cars. After 30,000 miles, the tires were removed and the remaining tread was measured.

What type of variable is “remaining tread”?
(A) Blocking  (B) Interacting  (C) Confounding  (D) Response  (E) Explanatory