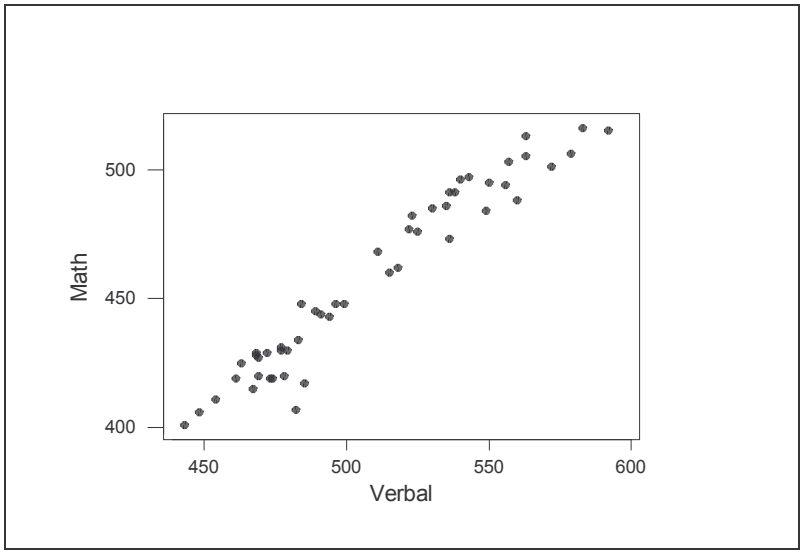
Chapter 4: Scatterplots and Correlation

State SAT Data

The variables in this dataset, all aggregated to the state level, were extracted from the 1997 *Digest of Education Statistics,* an annual publication of the U.S. Department of Education.

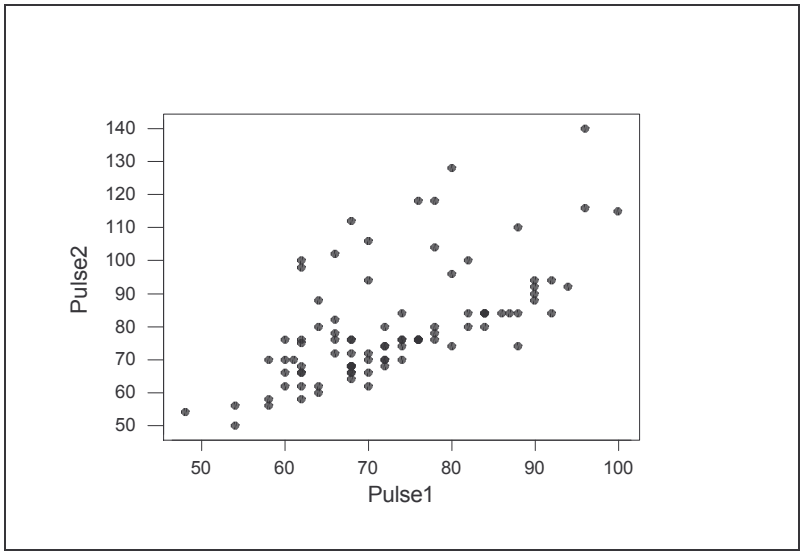
State Average SAT Math versus State Average SAT Verbal



Pulse Data

Students in an introductory statistics course participated in a simple experiment. Each student recorded his or her height, weight, gender, smoking preference, usual activity level, and resting pulse. The students then flipped coins. Those whose coins came up heads ran in place for one minute, after which the entire class recorded their pulses once more.

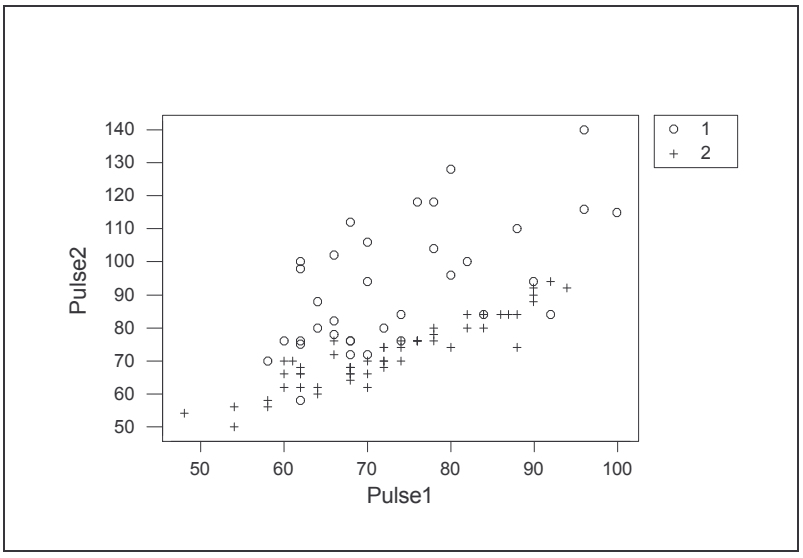
Second Pulse Rate versus First Pulse Rate



Pulse Data (continued)

Some of the students ran before taking their second pulse rate. The scatterplot below uses different plotting symbols to identify these students (1 = ran, 2 = did not run). What do we learn from this new scatterplot?

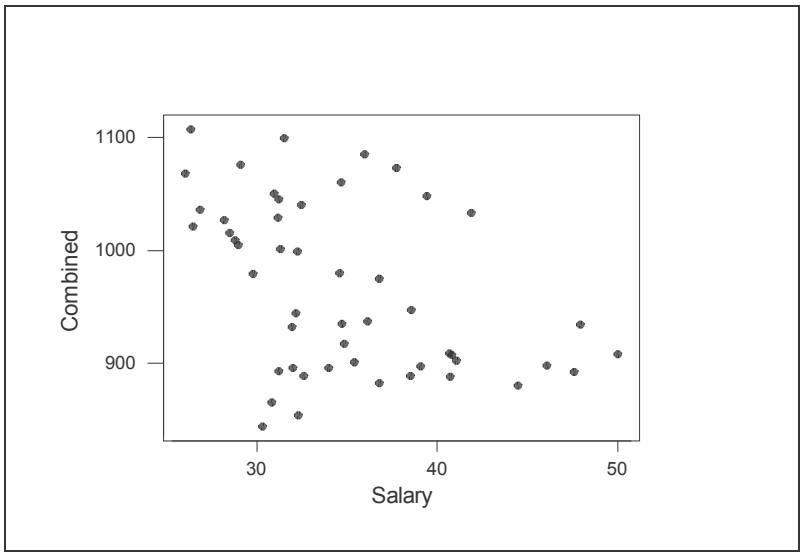
Second Pulse Rate versus First Pulse Rate



State SAT Data (continued)

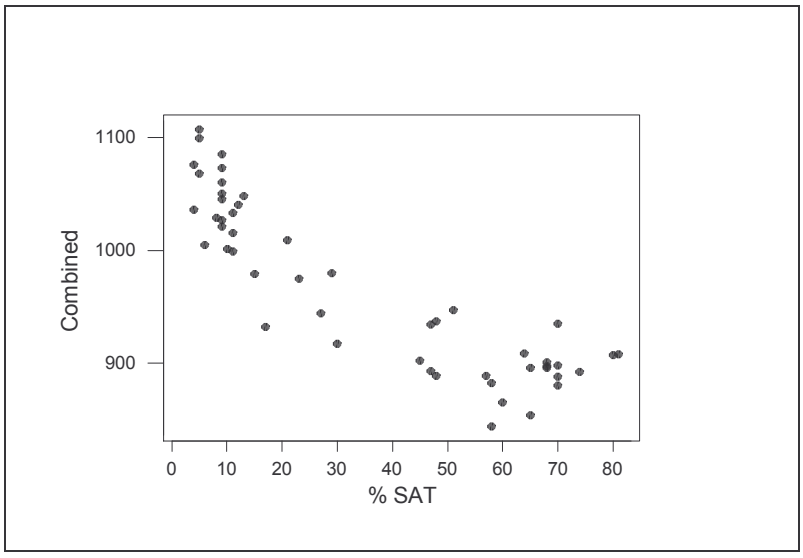
The variables in this dataset, all aggregated to the state level, were extracted from the 1997 Digest of Education Statistics, an annual publication of the U.S. Department of Education.

Average SAT score versus average teacher salary
***r* = –0.440**

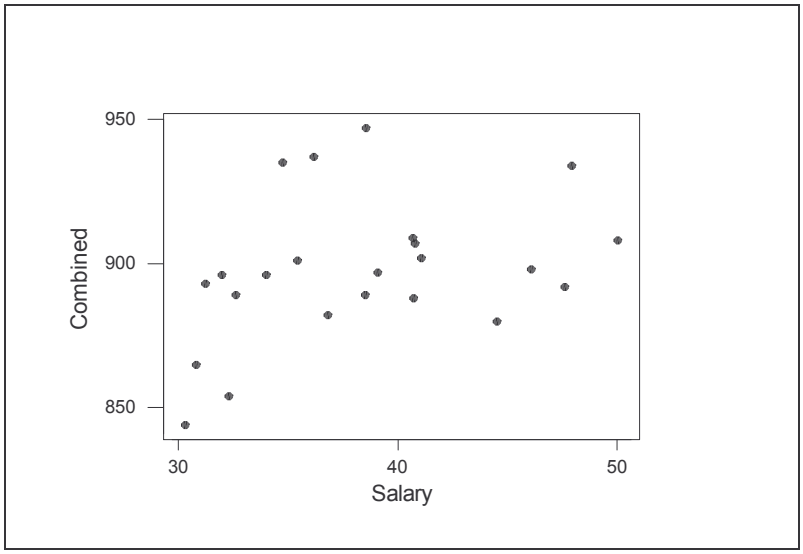


State SAT Data (continued)

Average SAT score versus % of students taking the SAT
***r* = –0.887**



Average SAT score versus average teacher salary
***r* = 0.367**



Note: The plot above only includes states in which at least 40% of the students took the SAT.