Exercise 1, Applicants to Berkeley

Friday June 7, 2024

Story

The data are from applicant data from the graduate school at the University of California at Berkeley for autumn 1973. It presents decisions by gender of applicant for the six largest graduate departments. The University of California, Berkeley was sued for bias against women who had applied for admission to graduate schools there. The admission figures for the fall of 1973 showed that men applying were more likely than women to be admitted.

Data

File: Admission.txt.

Department : A, B, C, D, E and F.

Sex: M or F.

Admitted: No or Yes

Count: The number of applicants for each combination of the three factors.

Exercise

- Read in the data admission.txt into a three-way table.
- Calculate the OR and RR (with 95% confidence limits) for men being admitted compared to women not taking department into account.
- Is the probability for being admitted the same for men and women?
- Do all departments have the same probability of admitting? Illustrate the results with proportions and a plot.
- Do men and women apply to the same departments? Illustrate the results with proportions and a plot.
- Why is department a potential confounder for the effect of gender on being admitted?
- Calculate the OR and RR for men vs. women admitted for each department separately.

Hint

If the full three-way table is found in mytable organized with Sex, Admitted, Department then you can take the 2x2 table for department A:

```
DepA <- mytable[ , , 1]
```