

### Case 22: Sport Brand Preference by Gender

Two sports brands, Brand A and Brand B, compete in the market. To understand the brand preference by gender, a survey is conducted. Each consumer can choose only one of the two brands, and Table 5.8 shows the numbers of male and female consumers who prefer each brand. The total number of consumers surveyed is 750.

TABLE 5.8: Sport Brand Preference by Gender.

| Gender | Brand A | Brand B |
|--------|---------|---------|
| Male   | 200     | 150     |
| Female | 180     | 220     |

Determine if there is a significant association between gender and brand preference.

**Initial Questions**

1. What are the research objectives?
2. What are the statistical questions?
3. What is the response variable, and what is the data type of the response variable?
4. What are the explanatory variables of interest?
5. Are there covariates?
6. What is the population of interest?
7. What is the subject, and what is the number of distinct subjects?
8. Are there subject-level data?
9. Are response variables dependent (repeated measures / clustered subjects)?
10. Are the subjects selected randomly?
11. Are the subjects randomly assigned to different groups?

**Initial Thoughts**