

Who plays video games

Ninety-five of the 314 students in Statistics 2, Section 1, during Fall 1994 were selected at random to participate in a survey of video game playing. Completed questionnaires were obtained from 91 of the 95 students. The data available here are the students' responses to the questionnaire.

The survey asks students to identify how often they play video games and what they like and dislike about the games. The answers to these questions were coded numerically as described in If a question was not answered or improperly answered, then it was coded as a 99. All questions with yes/no answers recorded a 1 for a "Yes" and a 0 for a "No." For the exact wording of the questions, see the questionnaire on the next page.

Variable	Description
Time	Number of hours played in the week prior to survey.
Like to play	1=never played; 2=very much; 3=somewhat; 4=not really; 5=not at all.
Where play	1=arcade; 2=home system; 3=home computer; 4=arcade and either home computer or system; 5=home computer and system; 6= all three.
How often	1=daily; 2=weekly; 3=monthly; 4=semesterly.
Play if busy	1=yes; 0=no.
Playing educational	1=yes; 0=no.
Sex	1=male; 0=female.
Age	Student's age in years.
Computer at home	1=yes; 0=no.
Hate math	1=yes; 0=no.
Work	Number of hours worked the week prior to the survey.
Own PC	1=yes; 0=no.
PC has CD-Rom	1=yes; 0=no.
Have email	1=yes; 0=no.
Grade expected	4=A; 3=B; 2=C; 1=D; 0=F.

- Check to see how the amount of time spent playing video games in the week prior to the survey compares to the reported frequency of play (i.e., daily, weekly, etc.). To do this, make a table that compares

the amount of time spent playing with the frequency of play, i.e. how many of the monthly players played last week? What about the weekly players?

- Examine the distribution of the time spent playing last week. Note there is a spike at 0, create a graphic that consists of a histogram and a spike at 0. Make a confidence interval for the average amount of time spent playing video games in the week prior to the survey.
- Look for differences between those who like to play video games and those who do not. To do this, use the questions in the last part of the survey, and make comparisons between male and female students, those who work for pay and those who do not, those who own a computer and those who do not, or those who expect A's in the class and those who do not. Graphical displays (consider mosaic plots and trellis plots) and cross-tabulations are particularly helpful in making these kinds of comparisons.
- Investigate the grade that students expect in the course to the target distribution used in grade assignment of 20% As, 30% Bs, 40% Cs, and 10% D or lower. To do this use a chi-square goodness of fit test.
- Conduct a simulation study to determine the appropriateness of the normal approximation in the confidence interval. To do this, take the 91 sample values and replicate them until you have bootstrap population of 314 times. Then take a sample of 91 from this population and compute the the average and sd of the 91 sample times. Repeat many times and consider the distribution of these statistics.