

Week 5 Day 2

Stat140-04

Relaxing after work

Pew Research, in November 2011, polled a random sample of 799 U.S. teens about Internet use. 49% of those teens reported that they had misrepresented their age online to gain access to websites and online services.

(a) What is the sample statistic in this case?

(b) Is it reasonable to use a normal distribution to model that sample statistic?

(c) Construct a 95% confidence interval for the true proportion of teens who reported that they had misrepresented their age online.

(d) Interpret this interval in context of the data.

(e) What does “95% confident” mean in your interpretation?

(f) Would you expect a 90% confidence interval to be wider or narrower than the 95% confidence interval you reported in the previous question? Why?

(g) Calculate the sample size necessary to obtain a 95% confidence interval with a margin of error less than 2%.