

You may work with one partner on this assignment, submitting one report with both names, provided that both students contribute substantially to the work. Word-processed reports are preferred to hand-written ones. Please copy/paste relevant computer output into your report as appropriate.

Time Travel?

You may work with one other person on this assignment, submitting one report with both names, provided that both students contribute substantially to the work. Please copy/paste relevant Minitab output into your Word file as appropriate.

We collected data in class about whether you would prefer to travel to the past or the future if time travel were possible.

- a) Use the class data on the time travel question to produce a 95% (normal-based, Wald) confidence interval for the proportion of all Cal Poly students who would prefer to travel to the future. (Please do this one by hand.)
- b) Write a sentence interpreting what this interval reveals.
- c) Write a sentence explaining what the phrase “95% confidence” means in this context.
- d) Produce 90% and 99% confidence intervals for the population proportion. (Feel free to use Minitab.) Comment on how your three intervals compare, in terms of midpoints and half-widths (margins-of-error).
- e) Did we use a random sample to gather these data? If not, do you have any concerns that our sampling method might have been biased with regard to this issue? Explain.
- f) Is the sample size condition for this interval to be valid satisfied?
- g) Use the adjusted Wald method to produce a 95% confidence interval for the parameter. Comment on how this interval differs from the Wald interval.
- h) Determine how large a sample would be needed to estimate the population proportion to within ± 0.06 with 95% confidence. (Treat our class result as a pilot study for your calculation.)