Competition 2024-2025

Making a Statistical Poster – Guidelines

What is a statistical poster?

An information page that explains a story about a set of data.
It should:

- be simple and have a logical progression (contain an objective, an approach, the main results and conclusions)
- include graphs, tables, and descriptive summaries of data
- contain comments on the meaning of the data
- be self-contained (viewers should not need any additional material or information to understand the poster)
- be visually appealing and creative
- be readable from a distance of approximately 2 metres (7 feet)

Examples

International Statistical Literacy Poster Competitions 2017-2023:

http://iase-web.org/islp/Competitions.php

Steps in poster development

Find a question

- First, find a problem or question to study. It should be:
  - clearly defined to make it easy to collect relevant data
  - interesting so that people will want to read the poster
  - not too difficult but not have an obvious answer either.

Collect data

Before collecting data, plan carefully what measurements etc. are needed.
More about the different types of data collection and selecting a sample:
http://www.statcan.gc.ca/edu/power-pouvoir/ch2/types/5214777-eng.htm
When using data from other sources, make sure they are reliable / credible.
In addition, you should cite / list in your poster all external sources (i.e. author name, publication titles, internet address, etc.) from which you obtained data or statistics or graphs that you did not produce yourself. Do not forget to consider randomness and the number of measurements or observations.
For example:

If the topic is to find out students' opinions and the study is only conducted by interviewing two best friends, the results may be severely biased.

Data quality

Many factors can affect the quality of your data and, therefore, the quality of the conclusions you can derive. Here are some points to consider when planning your project and your data collection. You can briefly mention these issues when writing the poster, if appropriate:

- Does the data represent a general situation? How well is your sample representative of the population your research question addresses? Can you improve the sampling or sampling process?
- Since data are variable (that's why we need statistics!) AND people are often involved in data collection, data may contain errors. What are possible sources of errors in your data? How can you reduce them?
- If you use measurements or observations to collect your data, there may still be some sources of variability or errors. Think about sources of variability or errors, and how to reduce them.

Analyse data

Analyse data collected by hand or using a computer programme. Remember that you are investigating the original problem(s) or question(s). Use numbers and graphs to describe the data: for example, histograms, bar graphs, line graphs, pie charts and box plots. Statistical quantities such as mean,

mode, median or standard deviation are also useful.

Writing your conclusions

After analysing your data, you should interpret your findings and explain your conclusions in light of your problem.

your conclusions in light of your original problem or question. Think about

these questions (although not all of them may be relevant to your project).

project)

- What did you learn from the data or results you obtained?
- Are your data or results important or interesting? To whom? Why?
- What are the implications of your findings? You can make any suggestions or recommendations based on your findings
- Are there limitations to your methods or any concerns about the quality of your data (e.g. due to your sample size or source data)? Can you make suggestions for follow-up research or ways to improve the data in the future?

Note that the Conclusions section of a poster is important because after all, the purpose of a statistical poster is not simply to display graphs or show your ability to perform statistical calculations, but to demonstrate that you can think statistically and that you can communicate yourthoughts about the significance of your findings and how they help answer a research question or problem.

Making a poster

Physical or electronic?

Posters can be

- either physical (paper) or electronic (made, for example, with PowerPoint). But they should be sent in electronic format
- both vertical and horizontal.

It is recommended to leave 3 cm (1.2 inches) margins on the sides of the poster so that it can be framed. For electronic posters, please note that the size of the printed and framed poster is A1 (841 mm x 594 mm or 33.1 in x 23.4 in).

Content

Posters are not intended to be viewed for long periods of time, but they should:

- contain at least what you have studied and how, the main results, discussion of these results and the main conclusions.
- be presented using pictures and graphics
- have simple text explaining the story about the data and your conclusions
- include summaries but not all the raw data.

Remember that there is only so much space, so don't say things twice. Choose only the graphs that best present the results. Graphs should have a title and source, with a commentary (i.e. don't just show a graph, but also explain briefly in words what the key pattern or finding is that the graph shows).

Other references

http://www.amt.edu.au/statscomp/ideas/guidelines.html

http://www.amstat.org/asa/education/ASA-Statistics-Poster-Competitionfor-Grades-K-12.aspx