International Statistical Literacy Competition
ISLP Poster Competition 2020–2021

Guidelines for making a statistical poster

What is a statistical poster?

A statistical poster is a one-page presentation that tells an interesting story using statistical tools. It should:

- be simple and have a logical progression (contain a goal/research question, methods, main findings, sources and key conclusions)
- include graphs and tables
- contain commentary on the results and research
- be self-contained (viewers should not need any extra material or information to understand the poster)
- be visually attractive and creative
- be easily read from a close distance.

Examples

In the ISLP competitions link you can find examples of previous years' statistical posters.

Steps in poster making

Find a question

First, find an issue or question to study. A good research question is clearly defined, interesting, not too difficult but also not have an obvious answer.

Collect data

Before collecting data plan carefully what measurements are needed. More about different types of data collection and selection of the sample can be found: https://www150.statcan.gc.ca/n1/edu/power-pouvoir/ch2/types/5214777-eng.htm

When using data from other sources, make sure they are reliable/credible. Also, you have to cite/list in your poster all external sources (i.e., author name, titles of publication, internet address, etc.).

Do not forget to consider randomness and numbers of measurements or observations.

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

Data quality

Many factors may affect the quality of your data and hence the quality of the conclusions you can derive.

Do the data represent a general situation? How well does your sample represent the population to which your research question refers?

What are the possible sources of error in your data? Even if the research was planned carefully and the effect of randomness was taken into account, there may still be some sources of variability of errors in the results. How can you reduce

sources of errors? Think about sources of variability or errors and mention them in the poster.

Analyse data

Analyse the data collected either by hand or by using a computer program. Remember that you are investigating the original issue(s) or question(s).

Use numbers and graphs to describe the data: for example, histograms, bar charts, line charts, pie charts and box plots. Statistical quantities like mean, mode, median or standard deviation are also useful.

Writing your conclusions

After you analyse your data, you must interpret your findings and explain your conclusions in light of your original issue or question.

Think about these questions:

- Are your data or results important or interesting? To whom? Why?
- What conclusions can be made based on your results?
- Are there limitations to your methods or any concerns about the quality of your data (e.g. because of your sample size or data sources)?
- Can you make suggestions for follow-up research or for ways to improve the data in the future?
- Can new research topics be created based on the research made?

Conclusions are an important part of a statistical poster. The purpose of a statistical poster is not to just show graphs or charts and statistical key figures, but as much to show that you can think statistically and that you can communicate your thoughts about the meaning of your findings and how they help answer your research question or issue.

Making the poster

Physical or electronic?

Statistical posters can be either physical (on paper) or electronic (for example, made with PowerPoint). Posters can be either vertical or horizontal.

It is recommended to leave 3 cm margins to the sides of the poster so that it can be framed. In electronic posters take into account that the size of the printed and framed poster is A1.

Content

Posters are not meant to be looked at for long but should:

- contain at least what was studied and how, the main results, discussion about results and the principal conclusions
- be presented using pictures, graphs or tables
- have simple text telling the story of the data, and your conclusions
- include summaries but not all the raw data.

Remember that there is only limited space so do not say things twice. Pick only the graphs that best present the results. All graphs should have a title and commented on (i.e. do not just show a graph, but also explain briefly in words what is the key pattern or finding that a graph is showing). Do not forget the sources.

Other references

ASA Poster Competition