

### Misleading Axes on Graphs Summary

The purpose of the paper is to highlight the fact that the axes on graphs can be concealing or misleading if not done properly. For one, bar chart axes should include zero, otherwise, the bars will exaggerate the differences heavily and mislead the audience. This is not the case with line graphs since it emphasizes the change in a variable rather than the magnitude. In addition, it is important to be careful when creating multiple axes and when viewing such graphs, especially when axes are at different scales. Another point the article makes is that the scales should be constant on each axis. Lastly, and probably the most basic point stated, a graph should have something on it.

### The Principle of Proportional Ink Summary

The article explores the following basic rule: “when a shaded region is used to represent a numerical value, the area of that shaded region should be directly proportional to the corresponding value”. As stated in the previous paper, this rule is violated when bar chart axes do not start at zero. Furthermore, while a line chart need not start at zero, a filled line chart should. In regards to bubble charts, the paper states that only the vertical and horizontal axes are useful for making precise comparisons, while size and color are simply helpful for context. Lastly, 3D graphs should almost never be used when dealing with only one independent variable.