



Ethics in Statistics ^[1]

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Like any other field, there are ethics in statistics that need to be followed by a researcher so that only the truth is reported and there is no misrepresentation of the data.

There are a number of possible ways in which unethical behavior can arise in statistics and researchers should steer clear of these. It is relatively simple to manipulate and hide data, projecting only what one desires and not what the numbers actually speak, thus giving birth to the famous phrase "Lies, damned lies and statistics". However, this doesn't happen all the time and there is no reason not to believe in the conclusions of a statistical analysis.

Ethics in statistics is not straightforward and can be quite complex at times. It also greatly depends on what kind of statistical analysis is being done. Unethical behavior might arise at any point - from data collection to data interpretation.

For example, data collection can be made inherently biased ^[3] by posing the wrong questions that stimulate strong emotions rather than objective realities. This happens all the time when the survey ^[4] is aimed to try and prove a viewpoint rather than find out the truth.

Other unethical behaviors might include scientists not including data outliers ^[5] in their report and analysis to validate their theory or viewpoint. This happens both in pure and social sciences. By obscuring data or taking only the data points that reinforce a particular theory, scientists are indulging in unethical behavior.

Ethics in statistics are very important during data representation as well. Numbers don't lie but their interpretation and representation can be misleading. For example, after a broad survey of many customers, a company might decide to publish and make available only the numbers and figures that reflect well on the company and either totally neglect or not give due importance to other figures.

For example, a car might be ranked high on comfort but low on safety. By showing only the comfort figures for the car, the company is, in a way, misleading customers and shareholders about the real picture.

Surveys and polls often indulge in unethical behavior to reinforce a viewpoint. For example, a survey might not reflect true public opinion because it is not statistically significant ^[6]. However, many surveys do not publish this along with their poll and this can be misleading.

As a researcher it is important to be objective and provide the complete picture that has been obtained from the experiment without hiding any details or overemphasizing something for personal gain. Ethics in statistics are important to give the right direction to research ^[7] so that

it is objective and reflects the truth [8].

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