



Sign in

Join now



Myths and Misconceptions about Statistics

**Kevin Gray** | [Follow](#)

Passionate about Logic and Evi...



49



23



0

In the Data Age, Statistics is more important than ever but still widely misunderstood. Here is a sample of some of the nonsense I hear.

Statistics is just t-tests. It can't tell you anything about the why, just the how much.

Statistics can't work with big data.

With big data, you don't need statistics anymore.

Statistics needs normal distributions and we don't have normal distributions with real data.

Unless your assumptions are perfectly met, you can't trust the results of statistical models.

Statistics hasn't changed much in years. It's just the same old stuff.

With today's user-friendly software, anyone can do statistics.

All statistical software is the same. One package is just as good as another.

If something isn't statistically significant, you can ignore it. It isn't important.

You should only look at significant differences.

There's always one best model for a given data set. The trick is to find it.

Any sample can be made representative if you weight the data.

Statistics is too hard. You need a PhD to understand it.



You can trust any statistical output that comes from a computer.

You have to have random samples for statistics to work. We don't have random samples anymore.

Factor analysis and principal components analysis are the same.

K-means and AHC are all you need for cluster analysis.

Correspondence analysis with the default settings is all you'll ever need for brand mapping.

If you run enough cross tabs, you'll find the answer.

If you have a lot of variables, just use stepwise regression.

Statistics can't work with curvilinear relationships and interactions between variables.

Bayesian statistics has made traditional statistics obsolete. No one uses the old stuff anymore.

With Bayesian statistics you don't need to worry about sample size or non-sampling error.

You don't need experiments anymore. Just do A/B testing.

Statistics requires numeric variables. If you have demographics and other categorical variables it doesn't work.

The independent variables in regression have to be normally distributed.

Logistic regression analysis is a classifier.

Time-series analysis is just smoothing. Econometrics is just regression.

Conjoint is the only MVA you'll ever need.

Cross-validation can be done with hold-out tasks in conjoint.

All statisticians take the same coursework. The curriculum is standard everywhere now.

We now have AI and machine learning so we don't need statistics anymore.

All scientists understand statistics.

All reviewers for peer-reviewed journals understand statistics.

Any statistical analysis is pretty much the same as any other statistical analysis.

We don't need statistics anymore. We have data visualization.

Als don't need data. Als are intelligent.

Machine learning techniques make no assumptions about your data.

In head-to-head competitions, machine learning techniques always beat statistics.

If you understand the math behind stats, you can figure out how to use any procedure in a jiffy.

You shouldn't use stats software with GUIs because then you won't have a record of what you did.

You need hundreds of machine learners to be able to work with big data.

If you have time series data, regression is all you'll need.

Statisticians either use SAS or R.

Experience doesn't matter with statistics because it's math. Someone with 5 years experience is just as competent as someone with 25 years experience.

C-Level executives all understand statistics and big data these days. All important decisions are made based on quantitative evidence in modern companies.

All statisticians are geeks.

[Sign in](#)[Join now](#)

Please be careful who you listen to!!!

This short [clip](#) will resonate with any statistician and is a must view if you are considering a career in statistics.

Kevin Gray is President of [Cannon Gray](#), a marketing science and analytics consultancy. He has more than 30 years' experience in marketing research with Nielsen, Kantar, McCann and TIAA-CREF.

**Kevin Gray**Kevin
Gray

Passionate about Logic and Evi...

[Follow](#)

23 comments

[Sign in](#) to leave your comment

Allan
Lacayo**Allan Lacayo**

Professor at Diablo Valley College

2y

Excellent list ... I will pass it on to my students present and past :)

Like Reply | 2 Likes

Kevin
Gray**Kevin Gray**

Passionate about Logic and Evidence

3y

My pleasure, Daniel.

Like Reply

Daniel
Fuhrmann**Daniel Fuhrmann**

Senior Director of Data Science at Northwestern Mutual

3y

Thank you, Kevin, for compiling and sharing this list.

Like Reply

Henry
Kim**Henry Kim**

Social Scientist

3y

This is great, and at the same time, so sadly true. Many people insist on comparing what they do to intro level statistics, mostly because that's all the statistics they know. Alas...

Like Reply | 1 Like

Kevin Gray


Passionate about Logic and Evidence

I would argue that that is not the case with real statistics, that is, statistics undertaken ethically and competently. This aside, in our present era, we have regressed to the point where evidence is no longer seen as necessary for science by many scientists. Computer simulations that avail of no observational data whatsoever are seen as sufficient.

Like

Reply

1 Like

Dr. Ahmad Farooqi

3y

Biostatistician and Pediatrics Education Faculty Member at Wayne State University, Detroit, MI, United States


Statistics is like a clay, you can make God or Devil as you please.

Like

Reply

[Show more comments.](#)


More from Kevin Gray [259 articles](#)



Beyond Modeling 101

[Beyond Modeling 101](#)


December 25, 2019



Guestimation and Its Perils

[Guestimation and Its Perils](#)

December 19, 2019



Automatic Summarization in a Nutshell

[Automatic Summarization in a Nutshell](#)

December 1, 2019