Vancovuer Trade School Lesson 17th March: How to tell good science from bad

Ruth's 10–step guide

Step 1: Is it important? Do you care?

Step 2: Know our biases

Step 3: What does the number actually mean?
- Is it a big number?
- How does it compare?

Step 4: Who reported or produced the data?

Step 5: Is it a survey?

Step 6: Is it peer reviewed?

Step 7: Is it a randomized, controlled trial?

Step *8:* Is it too simplistic?

Step 9: Is it just a correlation?

Step 10: Is it a meta-analysis (a study of studies)?

Further Reading

Books:

Bad Science by Ben Goldacre
Thinking fast and slow by Daniel Kahneman

Websites:

Ben Goldacre's blog : www.badscience.net
Cognitive biases*:* io9.com/5974468/the-most-common-cognitive-biases-that-prevent-you-from-being-rational

Videos:

Spotting neuro-fiction: blog.ted.com/2012/12/18/spotting-neuro-fiction-a-guide-to-dissecting-overblown-neuroscience-headlines/
Our buggy moral code: www.ted.com/talks/dan_ariely_on_our_buggy_moral_code

BBC documentaries:

The power of the Placebo: www.youtube.com/watch?v=oKG1lgI4zIk
The people who made us fat: www.youtube.com/watch?v=E6nGILUBkOQ

Podcast/Radio shows:

More or less, behind the stats: www.bbc.co.uk/programmes/b006qshd
Health Check: www.bbc.co.uk/podcasts/series/healthc

Articles and Ben Goldacre's comments:

Red wine prevents breast cancer: www.telegraph.co.uk/news/uknews/2262150/Red-wine-could-help-prevent-breast-cancer.html
Ben's Comments: www.badscience.net/2008/07/you-are-hereby-sentenced-eternally-to-wander-the-newspapers-fruitlessly-mocking-nutriwoo/

Bugs in train carriages: www.dailymail.co.uk/news/article-1254978/The-2-000-bugs-taking-ride-train-compartment.html
Ben's comment: www.badscience.net/2010/03/rentokil/

Downloading stuff: www.dailymail.co.uk/sciencetech/article-1189509/Illegal-file-sharing-downloads-cost-thousands-British-jobs-year.html
Ben's Comment www.badscience.net/2009/06/home-taping-didnt-kill-music/#more-1163

Obesity and computers: http://www.telegraph.co.uk/technology/news/5316735/Computers-could-be-fuelling-obesity-crisis-says-Baroness-Susan-Greenfield.html
Ben's comments: www.badscience.net/category/scare-stories/