Multiplicity

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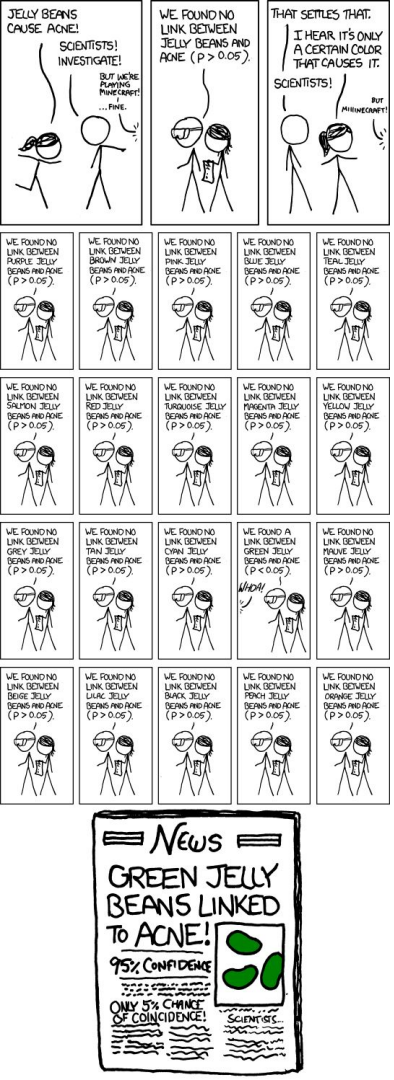
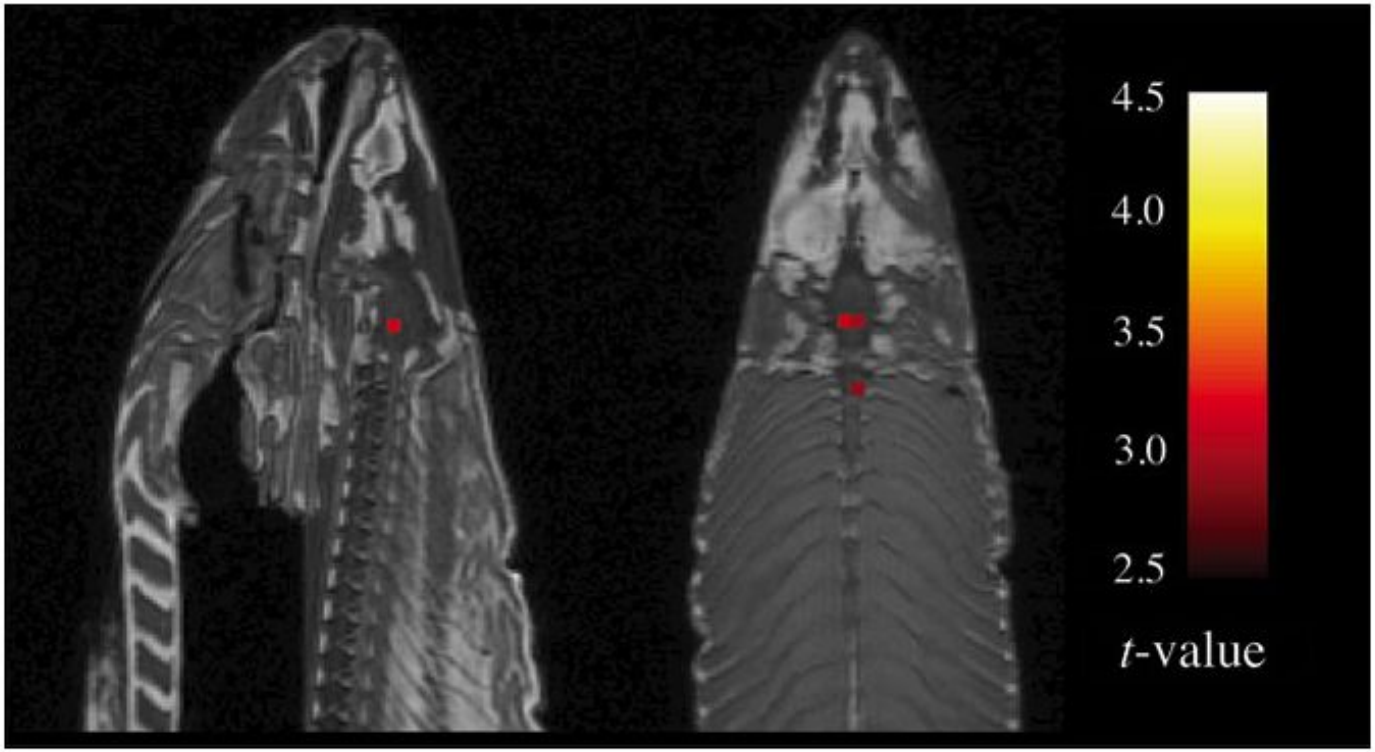
www.bcaffo.com

http://www.cliparthut.com/gone-fishing-clipart.html
https://www.pinterest.com/cirera/cartoons/



Homework: Read XKCD comic 882

https://xkcd.com/882/



http://www.wired.com/2009/09/fmrisalmon/

Multiple comparisons can arise from applying many tests and focusing on the significant ones

- Fitting too many models
- Looking at too many quantities of interest
- Fishing expeditions - testing everything without a priori hypotheses

Easiest fix - multiply your P-values by the number of tests performed

10 tests and a P-value of 0.01, now it's 0.10

There’s a vast literature on multiple comparison procedures and rules

The Bonferroni correction is simple and robust, though can be quite conservative