RRA 10/3/2018

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Statistical Vocab working sheet

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| **Terms (page#)** | **Motulsky definition** | **Web Definition** | **Comments** |
| **False Positive Report Probability (FPRP) (168)** | Answers questions:  1.If the result is significant, what is the probability of the null hypothesis being true?  2.Among all experiments that has statistical significance, what fraction of them has a type I error? | The probability of no true association between a genetic variant and disease given a statistically significant finding. [1]  (in forms of genetics) | Motulsky explained this concept in form of answers to a question, which explained the fraction/probability part of this term. The Second definition was more about utilizing this term in forms of genetics, as it basically identified the same idea in answer 1 of Motulsky’s definition. |
| **Prior Probability (170)** | The probability before collecting data or running statistical tests. | In Bayesian statistical inference, a prior probability distribution, often simply called the prior, of an uncertain quantity is the probability distribution that would express one's beliefs about this quantity before some evidence is taken into account. [2] | Motulsky’s definition on this one was vague, but explained through examples in book. Wikipedia definition explained this term in a more mathematical way where the uncertainty part of the definition was mentioned. |
| **Bayesian Approach (174)** | Analyzing data accounting prior probabilities. | Bayesian analysis, a method of statistical inference that allows one to combine prior information about a population parameter with evidence from information contained in a sample to guide the statistical inference process. [3] | Motulsky’s definition of Bayesian analysis was more concise but giving the same idea that this analysis will take account of priors. |

1. Wacholder et al. Assessing the Probability That a Positive Report is False: An Approach for Molecular Epidemiology Studies. Journal of the National Cancer Institute, Volume 96, Issue 6, 17 March 2004, Pages 434–442.
2. Wikipedia: <https://en.wikipedia.org/wiki/Prior_probability>
3. Encyclopedia Britannica: <https://www.britannica.com/science/Bayesian-analysis>