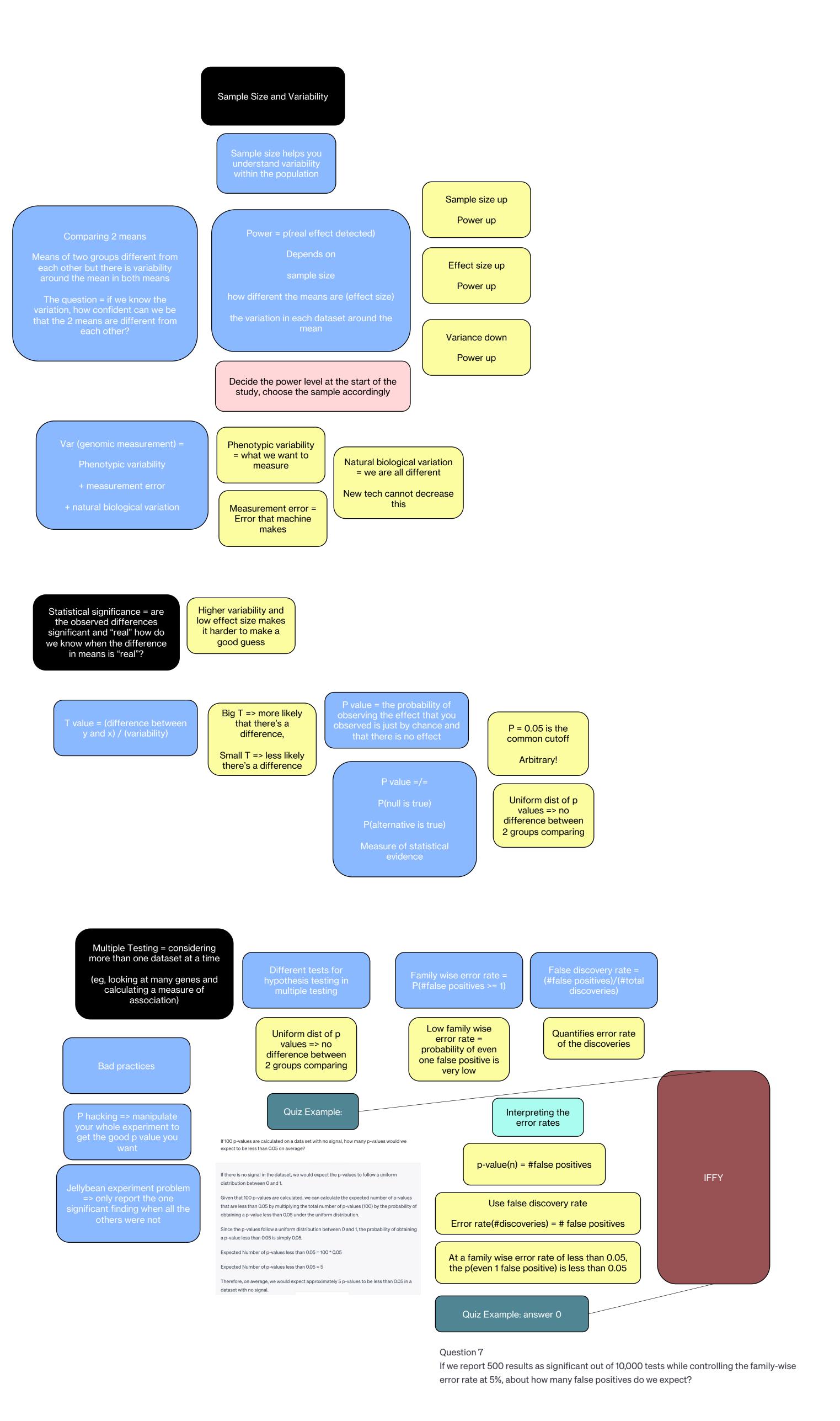


C C C C T T T T

T = treated. C = control. pink = female. blue = male

T = treated, C = control, pink = female, blue = male



A1; Scientific question this research project aimed to answer

Does human genome contain evidence that genes have been transferred into genome from prokaryotes?

Past Research: assumed that gene flow between species is minor factor in genome, gene transfer only happens in closely related species

Newer research = genes can be exchanged between distantly related species and may be more important in evolution than past research suggested

Are bacteria manipulating host genome for their own benefit?

Post human genome project = 223 bacterial genes might've been transferred into human genome at some point in vertebrate evolution

Through bacterial infection?

Genes would have to be transferred into germ cells

Would have to stay stable in the host genome

For genes to spread through the population

Benefits host in som way

Able to duplicate and transpose on its own

Course Project: Read "Genomics: Keystone Paper with annotations"

Materials and methods

Take protein sequence of proteomes of human, fruit fly, nematode, worm, yeast, mustard week, euk parasites

Take genomes of prokaryotes

Compare protein sequences for all those organisms to genomes from prokaryotes

Identify the genes shared by organism and bacteria

Discussion and conclusion

Gene loss + same size
effects + evolutionary rate
variation => more
biologically plausible
explanation

Results

40 genes shared only between human and bacteria

Implication = this is example of hgt from bacteria to vertebrates