Stat 145, Wed 7-Apr-2021 -- Wed 7-Apr-2021 Biostatistics Spring 2021

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Wednesday, April 07th 2021

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Due:: WW ch06Part4 due at 11 pm

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Wednesday, April 7th 2021

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Wk 10, We

Topic:: Goodness-of-fit

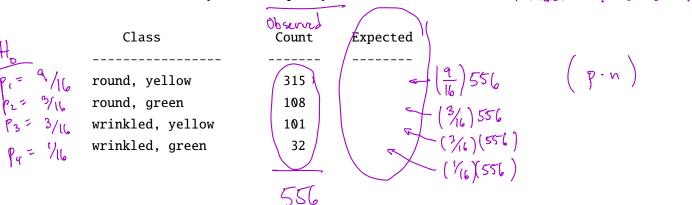
Read:: Lock5 7.1

HW:: PS11 due Saturday

In 1866 Gregor Mendel published results from experiments on simultaneous inheritance of pea plant phenotypes. For 556 plants, he examined their form (round vs. wrinkled) and color (yellow vs. green).

Counts amount only to a frequency table

Mendel 9:3:3:1



State null/alternataive hypotheses

Calculate by hand

- expected counts
- chi squared statistc

## Calculate P-value using

- StatKey
- Shiny app at https://shiny.calvin.edu:3838/scofield/chisqRandomizationDist
   Note the theoretical distribution drawn, called a chi-square distribution
   Also need to specify dfs
   rules of thumb
- RStudio

pchisq() Note the number of degrees of freedom

Chi-square distribution model  
• usable if all expected courts 
$$\geq 5$$
  
• dfs =  $(\pm 0)$  classes  $(-1)$ 

Two-way tables

- If both variables are binary, can do 2-proportion inference either a CI or an hypothesis test
- No CI construction in chi-square test for association
- example: cocaine addicts

	Relapse	No Relapse
Placebo	20	4
Desipramine	10	14
Lithium	18	6

- example: malaria in Southern Hemisphere(?)

	S.Amer.	Asia	Africa
Strain A	451	313	145
Strain B	532	28	56
Strain C	27	539	456