

this ANOVA;
 time: categorical
 next time: do to analysis

read: LN pp. L-302 + L-322
 today: L-283 → AMS 7² 4 Dec 18
 ①

DD office hours this week: Thu 1.20-2.30pm
 Wed 4-5pm / Thu 1.30-2.30pm
 F 11am-noon

hwk 4 due by 11.59pm Fri 7 Dec 2018

take-home final handed out Thu 6 Dec 2018 in class;
 due by 11.59pm Sun 16 Dec 2018

L-271, 272 = $\sqrt{\frac{MS_w}{RMSE}}$

$SE(\bar{y}_1 - \bar{y}_2) = \hat{\sigma}$
 ↑
 treatment fertilizer

$\sqrt{\frac{1}{n_1} + \frac{1}{n_2}} = 0.27$
 ↑
 5

0.42619
 $-0.022 \pm (3.008)(0.27) = (-0.83, +0.79)$

ⓔ Categorical Data Analysis L-290

L-295 $\frac{0.236 - 0.178}{0.178} = 0.33 = 33\% \text{ incr.}$

Karl Pearson
(~1900)

null:

$$p_G = p_I = p_P$$

$$L = 292$$

if null true,

method (A) &

smoking (B) are

independent:

$$P(A \text{ and } B) \stackrel{\text{indep}}{=} P(A) \cdot P(B)$$

$$P(A) \cdot P(B)$$

(12.43)

$\hat{O}_{ij} - \hat{E}_{ij} = \text{residuals}$

+7.3	-7.3	0
+1.8	-1.8	0
-9.1	+9.1	0
0	0	0

pop 1

mean p_G

sample 1
he old
factory
on G

mean $\hat{p}_G = 0.236$

ID1 (2)

pop 2

mean p_I

sample 2
ditto
I

mean $\hat{p}_I = 0.221$

ID2

pop 3

mean p_P

sample 3
ditto
P

mean $\hat{p}_P = 0.178$

ID3

$$\frac{(\hat{O}_{11} - \hat{E}_{11})^2}{\hat{E}_{11}} + \frac{(\hat{O}_{12} - \hat{E}_{12})^2}{\hat{E}_{12}} + \dots$$

$$+ \frac{(\hat{O}_{32} - \hat{E}_{32})^2}{\hat{E}_{32}} = \sum_{i=1}^I \sum_{j=1}^J \frac{(\hat{O}_{ij} - \hat{E}_{ij})^2}{\hat{E}_{ij}}$$

③

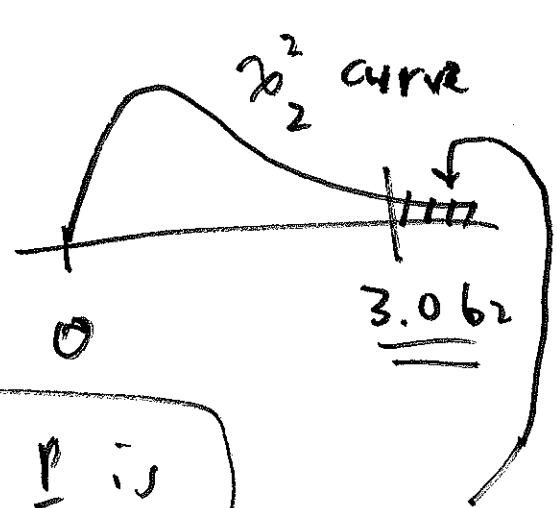
= χ^2 (chi-squared) = 3.062

L-293 L-294

reject null
(favor alt.)

if χ^2 is big

if p is small



big list
of
 χ^2
if
null
true

p = 22%

↖ 2 ↗

↑	✓	X
3	✓	X
↓	X	X

2 degrees
of freedom

not enough
data

since p > 5%,
the diff. are
not significant

L-304