

Panel 1

Next: Analyze 2 vars. simultaneously

Q: Does smoking cause cancer
 Men make more money than women
 African Americans vote Democrat over Republicans.

One var: independent, other is dependent

indep. dep.
 Smoking vs cancer

indep depend
 gender vs income

indep dep.
 race vs. voting

Panel 2

Truth: Contingency (or Cross-tab) Table

row %: $\frac{\#}{\text{row total}}$
 col %: $\frac{\#}{\text{col. total}}$
~~total %: $\frac{\#}{\text{total}}$~~
 least useful

var 1 (column)

var 2 (row)

Ex: Residents of town vote on zoning laws

Age vs. Opinions

	≤ 50	50	
For	92	87	179
Against	158	75	233
	250	162	412

Panel 3

	≤ 50	> 50	
for	92	87	179
against	158	25	233
	250	162	412

row% ↓ col% ↘

	≤ 50	> 50	
for	92/179	87/179	100%
against	158/250	25/250	100%

	≤ 50	> 50	
for	92/250	87/162	
against	158/250	25/162	
	100%	100%	

Q1: Of all young people who is For? $\frac{92}{250} = 36.8\%$

Q2: Of all proponents of joining, how many are young? $\frac{92}{179} = 51.4\%$

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Panel 4

Of all people with 43 degrees, how many are male (in %)

GSS survey: Stats → Table → Contingency → all Stats

Contingency table results:			
Rows: HIGHEST DEGREE			
Columns: SEX			
Cell format			
Count (Row percent) (Column percent)	Female	Male	Total
0 - Less than HS (14.88%) (14.91%)	163 (45.12%)	134 (35.92%)	297 (100.00%)
1 - High School (54.74%) (50.23%)	549 (48.26%)	454 (48.87%)	1003 (100.00%)
2 - Junior College (3.78%) (3.59%)	93 (46.24%)	81 (8.61%)	174 (100.00%)
3 - Bachelor (51.27%) (16.69%)	182 (48.78%)	173 (39.82%)	355 (100.00%)
4 - Graduate (54.64%) (9.68%)	106 (45.36%)	88 (8.47%)	194 (100.00%)
Total (54.06%) (100.00%)	1093 (100.00%)	929 (100.00%)	2022 (100.00%)

Q: How many women have graduate degrees? **9.6%**

Q: How many males have least 43 degree? $100 - 14 = 86$

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Panel 5

Really want to know: are two and/or variables related
or independent of each other?

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