Crosstabulation Tables

"Crosstabs" are frequency distributions for two variables together. The counts show how many people in category one of the first variable are also in category one of the second and so on.

d34r Amount of help adult children need recoded * A1A ARE ALL CHILDREN BIOLOGICAL? Crosstabulation

Count

		A1A ARE ALL CHILDREN BIOLOGICAL?		
		1 YES	5 NO	Total
d34r Amount of help adult children need recoded	1.00 less help	167	52	219
	2.00 about the same	266	56	322
	3.00 more help	51	23	74
Total		484	131	615

Number of people who answered that their children are biologically related to them *and* that their children need less help than others their age.

Marginal: Total number of people who answered that all of their children are biologically related to them.

Marginal: Total number of people who answered that their children need more help than others their age.

Marginal: Total number of people who had valid data on both D34r and A1A.

Crosstabulation Tables (Column %)

Crosstabs can be examined using either row or column percentages and the interpretation differs depending on which are used. The rule of thumb is to percentage on your independent variable.

d34r Amount of help adult children need recoded * A1A ARE ALL CHILDREN BIOLOGICAL? Crosstabulation

			A1A ARE ALL CHILDREN BIOLOGICAL?		
			1 YES	5 NO	Total
d34r Amount of help adult children need recoded	1.00 less help	Count	167	52	219
		% within A1A ARE ALL CHILDREN BIOLOGICAL?	34.5%	39.7%	35.6%
	2.00 about the same	Count	266	56	322
		% within A1A ARE ALL CHILDREN BIOLOGICAL?	55.0%	42.7%	52.4%
	3.00 more help	Count	51	23	74
		% within A1A ARE ALL CHILDREN BIOLOGICAL?	10.5%	17.6%	12.0%
Total		Count	484	131	615
		% within A1A ARE ALL CHILDREN BIOLOGICAL?	100.0%	100.0%	100.0%

Percent of the sample whose children are all biologically related to them that said their children need less help than others their age.

Marginal: Percent of sample who feel that their children need less help than others their age.

Marginal: 100% here tells you that you've percentaged on columns.

Can you interpret this number?
(17.6% of those whose children were not all biologically related to them felt their children needed more help than others their age.)

Crosstabulation Table (Row %)

d34r Amount of help adult children need recoded * A1A ARE ALL CHILDREN BIOLOGICAL? Crosstabulation

			A1A ARE ALL CHILDREN BIOLOGICAL?		
			1 YES	5 NO	Total
d34r Amount of help adult children need recoded	1.00 less help	Count	167	52	219
		% within d34r Amount of help adult children need recoded	76.3%	23.7%	100.0%
	2.00 about the same	Count	266	56	322
		% within d34r Amount of help adult children need recoded	82.6%	17.4%	100.0%
	3.00 more help	Count	51	23	74
		% within d34r Amount of help adult children need recoded	68.9%	31.1%	100.0%
Total		Count	484	131	615
		% within d34r Amount of help adult children need recoded	78.7%	21.3%	100.0%

Percent of those who said their children need more help than others their age whose children are all biologically related to them.

Marginal: Percent of the sample whose children are biologically related to them.

Marginal: 100% here shows that you are using row percentages.

Can you interpret this number?
(17.4% of those who said their children need about the same amount of help as others their age had children who were not all biologically related to themselves.)

Chi Square (X^2)

Based on crosstabs, X^2 is used to test the relationship between two nominal or ordinal variables (or one of each). It compares the actual (observed) numbers in a cell to the number we would expect to see if the variables were unrelated in the population.

d34r Amount of help adult children need recoded * A1A ARE ALL CHILDREN BIOLOGICAL? Crosstabulation

			A1A ARE ALL CHILDREN BIOLOGICAL?		
			1 YES	5 NO	Total
d34r Amount of help adult children need recoded	1.00 less help	Count	167	52	219
		Expected Count	172.4	46.6	219.0
	2.00 about the same	Count	266	56	322
		Expected Count	253.4	68.6	322.0
	3.00 more help	Count	51	23	74
		Expected Count	58.2	15.8	74.0
Total		Count	484	131	615
		Expected Count	484.0	131.0	615.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.938[a]	2	.019
Likelihood Ratio	7.687	2	.021
Linear-by-Linear Association	.082	1	.775
N of Valid Cases	615		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 15.76.

Actual count (f_o).

Count expected (f_e) if variables were unrelated in pop.

$f_e = \frac{\text{row marginal x column}}{N}$

X^2 value (obtained) = $\sum \frac{(fo-fe)^2}{fe}$ This could be compared to a critical value (with the degrees of freedom) but the significance here tells you that there appears to be a relationship between the perceived amount of help needed and whether the children are related to the R.

Degrees of freedom = ((# rows – 1)(# col – 1))

The X^2 test is sensitive to small expected counts, it is less reliable if f_e is < 5 for multiple cells.