

## READING SPSS OUTPUT

### 1. SPSS output for the chi-square test.

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	65.524(a)	3	.000
Likelihood Ratio	74.295	3	.000
N of Valid Cases	490		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 34.75.

- The  $\chi^2_{\text{obs}}$  that we compute in class is the Pearson Chi-Square. In this case,  $\chi^2_{\text{obs}}=65.524$  and its corresponding p-value is given in the last column of that row under “Asymp. Sig (2-sided)”.
- One condition that we need to satisfy for the Chi-square test is the minimum expected count for each cell. For the test to be appropriate for the data, we want the expected counts to be at least 5. This is checked by SPSS and a note is included at the bottom of the table of results.

### 2. SPSS output for linear regression.

In this example, the Diastolic BP level is the response variable (y) and Systolic BP level is the explanatory variable (x).

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.727(a)	.528	.522	7.45790

a. Predictors: (Constant), SysBP

**Coefficients(a)**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.930	6.621		1.349	.181
	SysBP	.535	.057	.727	9.347	.000

a. Dependent Variable: DiasBP

- Regression Line:  $\text{DiasBP} = 8.930 + 0.535 \cdot \text{SysBP}$
- To test  $H_0: b=0$  vs.  $H_1: b \neq 0$ . The  $t_{\text{obs}}$  can be found in the second to the last column of the last row. In this example,  $t_{\text{obs}}=9.347$ . The corresponding p-value for this  $t_{\text{obs}}$  is the value next to it under the column “Sig.”