

**BUS 230: Business and Economics Research and Communication**  
**Instructor: Dr. James Murray**  
**SPSS Handout: Estimating Relationships**

## 1 Chi-Squared Test for Independence

**Unsatisfied Customers: Reason for Hotel Guests' Stay vs. Reasons They will Not Return**

Reason for Stay	Reason for Not Returning		
	Price	Location	Amenities
Personal/Vacation	56	49	0
Business	20	47	27

**Using SPSS:**

- Dataset: `hotel.sav`.
- First column, `ReasonStay`: 0=Personal/Vacation, 1=Business.
- Second column, `NoReturn`: 0=Price, 1=Location, 2=Amenities.
- Go to **Analyze, Descriptive Statistics, Crosstabs**.
- Put one of the variables in the **Row(s)** box.
- Put the other variable in the **Column(s)** box.
- Click **Statistics** button.
- Check the box for **Chi-square**.
- Click **OK!**

## 2 Correlation

**Example: Public Expenditure**

- Data from 1960! about public expenditures per capita, and variables that may influence it:
  - Economic Ability Index
  - Percentage of people living in metropolitan areas.
  - Percentage growth rate of population from 1950-1960.
  - Percentage of population between the ages of 5-19.
  - Percentage of population over the age of 65.

– Dummy variable: Western state (1) or not (0).

- Is there a statistically significant linear correlation between the percentage of the population who is young and the public expenditure per capita?
- Is there a statistically significant linear correlation between the public expenditure per capita and whether or not the state is a western state?

1. Open the dataset *publicexp.sav* in SPSS.
2. For a parametric test (Pearson correlation):
3. Select **Analyze** menu, select **Correlate**, then select **Bivariate**.
4. Select at least two variables (it will do all pairwise comparisons) on the left and click right arrow button.
5. Select check-box for **Pearson** and/or **Spearman**.
6. Click OK!