**Part X: Chapter 11: Independence Tests**

**One way to examine data is to analyze the relationship between variables. In the Global Health data set, we want to look at the possible relationship between average income per capita and whether or not the country has universal health care. To do this we can make contingency tables for these variables and then do Chi-squared tests of independence.**

**Task 1: Use Statdisk to create two contingency tables. Fill in the tables below:**

|  |  |  |
| --- | --- | --- |
|  | **Average Income per capita ≤ $10850 (the global average)** | **Average Income per capita > $10850** |
| **Has Universal Health Care** |  |  |
| **No Universal Health Care** |  |  |

**Task 2: Perform the chi-squared independence test for the contingency table above. Insert the results below.**

* **What can we conclude about the relationship between average income per capita and whether or not the country has universal health care? Does this surprise you? Explain.**

**Task 3: Consider the contingency table below which relates suicide rate to average income per capita. The mean income per capita for the countries in the data set is $28318. The mean suicide rate for these countries is 9.9 suicides per 100,000.**

|  |  |  |
| --- | --- | --- |
|  | **Per Capita Income > $28318** | **Per Capita Income ≤ $28318** |
| **Suicide rate > 9.9 per 100,000** | **18** | **4** |
| **Suicide rate ≤ 9.9 per 100,000** | **4** | **21** |

* **Perform the chi-squared independence test for these variables. Insert the results below.**
* **Can we conclude that the rate of suicide is independent of mean income?**
* **State the conclusion that you reach based on this analysis:**