SOCIAL STATISTICS
SOC 24100

Homework #8

Interpret the SPSS data on the second page. The two variables being analyzed are highest degree of schooling attained (less than high school, high school, or some college degree) and self-rated health (poor, fair, good, or excellent). In interpreting the results below, do the following:

1. **State the research hypotheses and the null hypothesis**.
Research hypothesis their is relationship between highest degree of schooling attained and self-rated health.
Null hypothesis their is no relationship between highest degree of schooling attained and self-rated health

2. **Completely describe the relationship between the IV and DV using the percentages in the table**.
It is clear from the table that without health performance is impossible .Under poor health there isl low performance in school and high under good health.

Poor health the percentage performance is 6% while under good health the percentage performance is 45%.

3**. Report and interpret the p-value for the chi-square statistic. Use an alpha of .05.**
ChiSquare=summation(observed value-expected value)^2/expected value.
Degree of freedom=6, from the table the pvalue is (0.05<P<0.1).
When the p value is <0.05we reject the null hypothesis and conclude that there is not sufficient evidence to support our claim.

4**. Report and interpret lambda and Cramer's V.**
Lambda is equaol to zero since we are not assuming the null hypothesis and asmptotic error equals zero.
Cramers V=SQT(CHI2/n*(min(C,R)-1))=0.204,since it is < 0.25 therefore we can conclude there is weak association between highest degree of schooling attained and self relared health.

5**. Report and interpret gamma and tau-b**.
Gamma=0.356 hence there is weak association between the two variables.
tau-b-0.230 hence we can conclude there is weak association.

6.**What conclusions can you draw from all of this information?**
We can conlude there is sffucient evidence to support that there relationship of performance and health.

CONDITION OF HEALTH * RS HIGHEST DEGREE Crosstabulation

			RS HIGHEST DEGREE		
			LT HIGH SCHOOL	HIGH SCHOOL	C
CONDITION OF HEALTH	POOR	Count	22	24	
		% within RS HIGHEST DEGREE	15.7%	4.9%	
	FAIR	Count	52	129	
		% within RS HIGHEST DEGREE	37.1%	26.5%	
	GOOD	Count	54	212	
		% within RS HIGHEST DEGREE	38.6%	43.6%	
	EXCELLENT	Count	12	121	
		% within RS HIGHEST DEGREE	8.6%	24.9%	
Total		Count	140	486	
		% within RS HIGHEST DEGREE	100.0%	100.0%	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	81.584[a]	6	.000
Likelihood Ratio	81.175	6	.000
Linear-by-Linear Association	68.796	1	.000
N of Valid Cases	977		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.45.

Directional Measures

			Value	Asymp. Std. Error[a]	App
Nominal by Nominal	Lambda	Symmetric	.000	.000	
		CONDITION OF HEALTH Dependent	.000	.000	
		RS HIGHEST DEGREE Dependent	.000	.000	
	Goodman and Kruskal tau	CONDITION OF HEALTH Dependent	.024	.005	
		RS HIGHEST DEGREE Dependent	.032	.007	

a. Not assuming the null hypothesis.

b. Cannot be computed because the asymptotic standard error equals zero.

c. Based on chi-square approximation

Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T
Nominal by Nominal	Phi	.289		
	Cramer's V	.204		
Ordinal by Ordinal	Kendall's tau-b	.230	.027	8.42
	Gamma	.356	.040	8.42
N of Valid Cases		977		

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.