

1. A chi-square test of the relationship between personal perception of emotional health and marital status led to rejection of the null hypothesis, indicating that there is a relationship between these two variables. One conclusion that can be drawn is:
 - A. Marriage leads to better emotional health.
 - B. Better emotional health leads to marriage.
 - C. The more emotionally healthy someone is, the more likely they are to be married.
 - D. There are likely to be confounding variables related to both emotional health and marital status.

Questions 2 to 5: A survey is done in which people are asked how often they exceed speed limits. The data are then categorized by age (Under 30, 30 and Over) and answer (Always, Not Always). The following computer output shows observed and expected counts, the chi-square statistic and the p-value.

Expected counts are printed below observed counts			
	Always	Not Always	Total
Under 30	100	100	200
	70.00	130.00	
30 and Over	40	160	200
	70.00	130.00	
Total	140	260	400
Chi-Sq =	12.857 +	6.923 +	
	12.857 +	6.923 =	39.560
DF = 1, P-Value =	0.000		

2. What is the relative risk of always exceeding the speed limit for people under 30 compared to always exceeding it for people 30 and over? Show your calculations.
3. Write down the appropriate null hypothesis for this situation.
4. Show how the Expected Count of 70 in the "Under 30, Always" cell was calculated.
5. Make a conclusion about statistical significance and report it in the context of the situation.

