Stat 579 Homework Set #4

1. Consider data from a retrospective study on the relationship between daily alcohol consumption and the onset of esophagus cancer.

	cancer	no cancer
daily alcohol consumption > 80g	71	82
daily alcohol consumption < 80g	60	441
Total	131	523

(a) Compute an estimate of the odds ratio.
(b) Interpret the direction of the association, stated in the context of the problem.
(c) What assumption is necessary for the sample odds ratio to serve as an estimate of the relative risk?

2. The following table summarizes the responses of $n = 91$ couples to the questionnaire item "Sex is fun for me and my partner."

	Wife's Rating			
Husband's Rating	never or occasionally	fairly often	very often	almost always
never or occasionally	7	7	2	3
fairly often	2	8	3	7
very often	1	5	4	9
almost always	2	8	9	14

(a) What type of sampling was used in collecting the above data? What characteristic do the above variables have that allows us the potential to describe the association with a single parameter? In general, how many parameters would be needed to describe the association?

(b) Compute $\widehat{\gamma}$. Provide an interpretation of your result, stated in the context of the problem.