Analysis of the Accident Dataset

We have the dataset of the road accidents in Great Britain in 2010. There were 32 variables collected. We analyzed if the fatality rates varies by the number of female drivers involved in the accident.

From the table1 shown as below, the percentage of fatal decrease with the increase of the number of female. So we guessed that the female drivers trend to be safer. Then we did the genmod hypothesis test. Then the p-value is less than 0.0001. So we do have enough evidence to say that the mean of fatality rates are different. And we can checked the odds ratio of fatal by number of female (Show as finger 2). For 2 female, the odds ratio is 0.003. Then for 1 female, the odds ratio is 0.006. Additionally, when there are none female, the odds ratio is 0.011. Therefore, we got the conclusion that the fatality rates varies by the number of female drivers involved.

		fatal		fatal	
		no	ye	no	ye
	N	N	N	PctN	PctN
nfemale					
.	8,998	8,974	24	99.7	0.3
0	39,769	39,304	465	98.8	1.2
1	34,815	34,593	222	99.4	0.6
2	8,288	8,262	26	99.7	0.3

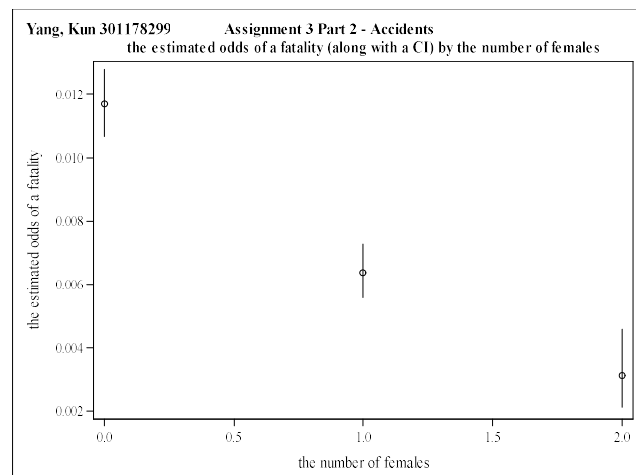Table1: *table of the number and percentage of the accident severity level and gender.*

Figure2: *a plot of the estimated odds of fatality by number of female.*