ERHS 642 Logistic Regression Spring 2016

Homework Assignment 3 – New Version

Similar to H-L chapter 3, page 87/88, exercise 2

1.
    (i)   Prepare a table showing the coding of the two design variables for RACE using RACE=1, white, as the reference group

    (ii)   Calculate the estimated ORs from the cross-classification of LOW by RACE (Black vs. White, Other vs. White and Other vs. Black) by hand

    (iii)   Calculate the 95% CIs for the ORs based on the formula
$$ln(OR) \pm 1.96\sqrt{\frac{1}{a} + \frac{1}{b} + \frac{1}{c} + \frac{1}{d}}$$

2.
    (i) Using proc logistic, calculate the estimated ORs, 95% CIs and p-values for RACE (Black vs. White, Other vs. White and Other vs. Black). Let SAS create the design variables in proc logistic.

    (ii) Using proc logistic, calculate the estimated ORs, 95% CIs and p-values for RACE (Black vs. White, Other vs. White and Other vs. Black). Create your own design variables in the data step and use them in proc logistic.

    (iii) Compare the results in 2(i), 2(ii) and 1(ii) and (iii)

    (iv) Note that in this example some of the results are significant at the 10% but not 5% level of significance. Explain circumstances under which you would choose to keep race in a statistical model and ones when you might not keep it.