Homework assignment 06

Use black text (if possible) for everything you include in this document. Keep both your answers and the original questions. Save this document in PDF format and submit it on Canvas. Please follow the general requirements described in the grading rubric.

1. Show a documentation header. Include your name, the purpose of the program, and the conditions under which others may or may not use your results.

2. Import the file gardasil.csv (or gardasil.tsv or gardasil.xlsx) into SPSS. Refer to the data dictionary if needed. Display the first ten rows of data below.

3. Show counts and percentages for Completed. Applying the rule of 15, what would be a reasonable number of independent variables in a logistic regression model with Completed as the outcome.

4. Compute a crosstabulation of Race and Completed, with Race as the rows. Display the counts and the row percentages. Calculate by hand the odds of completion in each Race category.

5. Create indicator variables for Race. Using black (1) as the reference category, compute a logistic regression model. Are there any significant differences in vaccination rates between black patients and patients of other races?

6. Your research team suspects that there is an interaction between MedAssist and LocationType. In particular, they believe that while patients on medical assistance have a much better odds of completing all three shots in both locations, the effect is much stronger in urban locations than suburban locations. Compute an overall odds ratio between MedAssist and Completed. Then compute two separate odds ratios: one for patients in urban areas and one for patients in suburban areas. Looking at these odds ratios qualitatively, do you see any support for your research team’s suspicions.

7. Fit a logistic regression model using Completed as the outcome variable. Include MedAssist, LocationType, and their interaction as predictor variables. Interpret the odds ratio for the interaction.