Review Test Submission: Problem Set #3

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Course	2024GSP_ANA_510_02 Statistical Modeling
Test	Problem Set #3
Started	4/9/24 3:22 PM
Submitted	4/10/24 1:54 PM
Due Date	4/21/24 11:59 PM
Status	Completed
Attempt Score	180 out of 200 points
Time Elapsed	22 hours, 32 minutes
Instructions	You should answer all questions first, either using paper and pencil or another computer program such as gretl. Then, enter your answers in the online assignment. I have setup this assignment so you will have three chances to take it. Be sure to keep track of your work and answers. If for any reason I have to reset your assignment it will wipe out all the work you did before! There are a variety of types of questions. You should select the best choice or choices. If you are entering a numeric value you should round your answer to two decimal places unless there are other specific instructions for a specific question. Not all questions are worth the same number of points, i.e. some questions are worth more points than others. If you have any questions – ask! There is additional information in the short description below.

Question 1
10 out of 10 points

There are **[observations]** obversations and **[variables]** variables in the nels_small.gdt data file. Enter your answer as whole numbers.

Question 2
5 out of 10 points

The dependent variable in the nels_small.gdt data file is **[depVariable]** which is a **[varType]** variable. Be sure to enter the exact syntax for the name of the dependent variable first, then enter either binary or non-binary in the second blank.

Question 3
10 out of 10 points

Given the observations in the dataset, what percentage of students in the nels_small.gdt data file decide to pursue college at EITHER a 2-year or a 4-year college? Enter your answer as the percentage (x 100) NOT as the results number.

Question 4
10 out of 10 points

What proportion of students in the nels_small.gdt data file decide to go to a 4-year college? Enter your answer as a decimal number rounded to two decimal places.

Question 5
10 out of 10 points

The average grade for students going to a 4-year college is **[avgGrade]** which indicates **[gradeLevel]** grades than the average. Enter the decimal number rounded to two decimal places for the average grade of students going to a 4-year college and EITHER better or worse in the second blank. better or worse in the second blank indicates that the average grade for students going to 4-year colleges is

"better" or "worse" than the average grade for all students.

Question 6

5 out of 10 points

The nels_small.gdt dataset includes **[percBlaFemales]** Black female students whose average "grades" are **[avgBlFGrades]**. Be sure to enter your answer for the percentage Black female students (blank #1) as a percentage (x 100) rounded to two decimal places. Enter the average "grades" for Black females in Blank #2 rounded to two decimal places.

Question 7

10 out of 10 points

Given the dependent and independent variables in the nels_small.gdt dataset, what type of model would be best for these data?

Question 8

10 out of 10 points

From the model built using psechoice as the dependent variable and grades as the independent variable, you can see that "psechoice" level 1 is the baseline level.

Question 9

10 out of 10 points

From the output for the model built using psechoice as the dependent variable and grades as the independent variable, you can see that neither the intercept nor the independent variable are statistically significant at any level.

Question 10

10 out of 10 points

In terms of the number of cases predicted, the model correctly predicted _____ the total number of cases? Be sure to enter "more than", "less than", or "a number equal to" as your answer. This is case sensitive, enter only lower case letters.

Question 11

10 out of 10 points

What is the predicted probability that a student in the 5th percentile will go to a 2-year college. Be sure to enter the predicted probability as a number rounded to two decimal places.

Question 12

10 out of 10 points

What is the predicted probability that a student in the 50th percentile will go to a 4-year college? Be sure to enter the predicted probability as a number rounded to two decimal places.

Question 13

10 out of 10 points

If the value of grades increases by 1 unit for a student in the 95th percentile how much is the predicted probability of that student going to a 4-year college reduced, i.e. how much less likely is it that he or she will go to a 4-year college? (Hint: this is the marginal effect.) Remember that an increase in the value of the variable grades actually indicates worse performance, not better! Enter the number for the "increase by 1 unit" rounded to two decimal places and include the correct sign!

Question 14

10 out of 10 points

If the value of grades increases by 1 unit for a student in the 50th percentile how much is the predicted probability of that student going to a 4-year college reduced, i.e. how much less likely is it that he or she will go to a 4-year college? (Hint: this is the marginal effect.)

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Question 15
10 out of 10 points

Build a model for the nels_small.gdt dataset using psechoice as the dependent variable and grades, faminc, female and black as the independent variables. The most appropriate model for this case is a _____ model.

Question 16
10 out of 10 points

Given the model built using psechoice, grades, faminc, female, and black as variables, now the intercept and estimated coefficients for all variables at all levels are all statistically significant.

Question 17
10 out of 10 points

The median value of "grades" for all students is _____. Enter the number value rounded to two decimal places.

Question 18
10 out of 10 points

The median value of family income, faminc, for all students is _____. Enter your answer as a number rounded to two decimal places.

Question 19
10 out of 10 points

The probability that a white male student with median values of grades (i.e. median values of grades for white male students) will attend a 4-year college is _____. Enter the number rounded to two decimal places.

Question 20
0 out of 10 points

The predicted probability ratio that a white male student with median values of grades and family income, faminc, will go to a 4-year college relative to not going to college at all is _____. Enter the number rounded to two decimal places.

Wednesday, April 10, 2024 1:54:50 PM EDT

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