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# More on Categorical Variables - Quiz

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Suppose you run the following regression:

$$Y_i = \alpha + \beta M_i + \epsilon_i$$

where $Y_i$ denotes the standardized SAT score of person $i$ and $M_i$ be an indicator equal to 1 if person $i$ belongs to a minority, and 0 otherwise. You have data from a sample of students from your university. You load it into R, and run the regression, and get the following output:

```
Call:
lm(formula = score ~ minority, data = sample)

Residuals:
    Min      1Q  Median      3Q     Max
-3.6700 -0.6754  0.0043  0.6722  4.0304

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)   1.038206   0.007292  142.38   <2e-16 ***
minorityTRUE -0.315742   0.013368  -23.62   <2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1 on 26784 degrees of freedom
Multiple R-squared:  0.0204,    Adjusted R-squared:  0.02037
F-statistic: 557.9 on 1 and 26784 DF,  p-value: < 2.2e-16
```

## Question 1

1/1 point (graded)

What is the mean standardized SAT score for whites (non-minorities)?

*(Please round your answer to the second decimal place, i.e. if your answer is 5.222, round to 5.22 and if it is 5.229, round to 5.23)*

1.04 ✔ **Answer:** 1.04

1.04

**Explanation**

The mean standardized SAT score for whites can be found by looking at the estimate for the intercept, since this is the value of y when the dummy variable for minority, $M_i$ is set to 0. From the table, we can see that this is 1.038206, which rounds to 1.04.

Submit You have used 2 of 2 attempts

✔ Correct (1/1 point)

## Question 2

1/1 point (graded)

What is the mean SAT score for people who belong to a minority?

Regressions, and Omitted Variable Bias

**Practical Issues in Running Regressions**
due Dec 5, 2016 05:00 IST

Omitted Variable Bias
due Dec 5, 2016 05:00 IST

Module 10: Homework
due Nov 28, 2016 05:00 IST

*(Please round your answer to the second decimal place, i.e. if your answer is 5.222, round to 5.22 and if it is 5.229, round to 5.23)*

0.72 ✔ **Answer:** 0.72

$0.72$

**Explanation**

With a dummy variable, the coefficient represents the difference in means between the two groups. The constant (intercept) is the mean of the outcome variable when $M_i = 0$. In other words, the constant gives the mean SAT score for non-minorities. The difference in means (which you can think of as the intercept shift), is given by $\hat{\beta}$. So the mean SAT score for minorities is the sum of $\hat{\alpha} + \hat{\beta} = 1.04 - 0.32 = 0.72$

Submit You have used 1 of 2 attempts

✔ Correct (1/1 point)

## Discussion

**Topic:** Module 10 / More on Categorical Variables - Quiz

Show Discussion