



0

- i. Income, Parent financial support, age. Yes, these factors contained in u are likely to be correlated with level of function
- ii. No, as SRF we all factors in the education must be include to calculate "the number of children ever born to a woman." Using, "ceteris Paribus" in this case would not satisfied the answer.



↓ 119.77

- i. When  $\text{cigs} = 0$ , predicted infant birth rate would be 119.77 ounces.  
and when  $\text{cigs} = 20$ , predicted infant birth rate would be 109.49 ounces.  
Compare to non-smoke mother, mother whose  $\text{cigs} = 20$ , infant birth rate decrease from 119.77 to 109.49 or 8.58% decline.
- ii. It doesn't cover all factors. Not only cigarette would effect the infant weight in reality, but also mother physical and mental health, outside variable, etc.
- iii.  $\widehat{\text{bweight}} = 119.77 - 0.514 \text{ cigs}$   
 $125 = 119.77 - 0.514 \text{ cigs}$   
 $\text{cigs} = -10.175 \approx -10 \rightarrow$  in this question 2 issues happen.  
First, it is possible to smoke negative amount of cigarette. Second, the heaviest weight is 119.77 ounce.
- iv. 0.85 of 1388 is 1179.8  $\approx$  1179 women do not smoke in this observations. This proportion wouldn't help in question 3 as in q.3. shows that include only cig. in the function would not cover all factors that make impact on infant weight.



$$-0.0135$$

$$4 = 1.392 + 0.00148(s)$$

3.5 :  
1753.  
1415

x and x+140  
1000 and 1140  
ⓑ      ⓐ

i. The more top student in college, the harder exam would be to push the standard of scoring up.

$$\begin{aligned} \text{ii. } \hat{GPA} &= 1.392 - 0.0135(20) + 0.00148(1050) \\ &= 2.676 \end{aligned}$$

iii. the different between expected GPA of them is (sat score  $\times$  0.00148) because their other factors calculate in GPA are equals and the different would not be large as SAT score would time the 0.00148 before summing in the GPA.

iv. Assume ; student A has GPA = 4.00 , student B has GPA = 3.5 when hsprc is fixed. in this case I will give it equal to 1. The different in SAT score of student A and B is 338 points.  
(1753) (1415)

i. yes, it make sense that the more sibling the men has in family, the less education that children in that family would get.

$$1 = 0.094 (\Delta \text{sibs})$$

$$\Delta \text{sibs} : 1/0.094 = 10.6$$

it means that the predicted years of education will reduce by 1 when there is an increase of 10.6 siblings.

ii.  $+0.131 \text{ meduc}$  = an increase in 1 unit of mother year of schooling will increase wage of working men by 1.13 years. holding other factor constant.

$$\text{iii. Man A } \widehat{\text{educ}}_a = (0.36 - 0.094(0) + 0.131(12) + 0.210(12) = 14.452$$

$$\text{Man B } \widehat{\text{educ}}_b = (0.36 - 0.094(0) + 0.131(16) + 0.210(16) = 15.816$$

the different is 1.364