Affairs

Hank

## Report

The research question of interest concerns the effect of having children on the chances that men and women have affairs. Data were collected from 600 married readers of the American magazines *Redbook* and *Psychology Today* in 1969 who gave information about the frequency they had extramarital sex. In addition to the *gender* and *children* which are main variables we are looking at, some other confounders such as *age*,*the number of years married*, *religiousness* and *education* are also taken into account to determe the chance of having affairs.

Logistic regression model was used to explore whether these variables can have impact on the chance of having affairs due to its interpretability. The model is as follows:

where is also known as log odds, and are parameters to be estimated using the data. By looking at the estimated and its p-value, the impact and significance of each variable can be determined.

Table1: Regression Result

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Estimate | Std. Error | z value | Pr(>|z|) |
| (Intercept) | -0.744 | 0.233 | -3.188 | 0.001 |
| age\_normalized | -0.337 | 0.166 | -2.028 | 0.043 |
| yearsmarried\_normalized | 0.585 | 0.179 | 3.275 | 0.001 |
| religiousanti | 0.705 | 0.356 | 1.980 | 0.048 |
| religiouslow | 0.275 | 0.269 | 1.021 | 0.307 |
| religiousmed | -0.728 | 0.275 | -2.647 | 0.008 |
| religioushigh | -0.664 | 0.371 | -1.790 | 0.073 |
| education\_normalized | -0.003 | 0.108 | -0.028 | 0.978 |
| genderfemale:childrenno | -0.919 | 0.387 | -2.373 | 0.018 |
| gendermale:childrenno | -0.253 | 0.361 | -0.701 | 0.483 |
| genderfemale:childrenyes | -0.267 | 0.249 | -1.070 | 0.285 |

As shown by the table above, *age* and *years of married* play opposite role in affecting the likelihood of having affairs, one unit increase in *age\_normalized*, in other word, 9.289 unit increase in *age* decreases the log odds likelihood of having affairs by . Religion also plays vital role in prohibiting people from having affairs as people trusts it more. Most importantly, result shows that the iteraction between *gender* and *children* does have strong impact with male having children more likely to have affairs than female with no child.

## Research News

Research shows a big social problem that men are much more likely to have extramarital sex after having children than women with no child. Besides, religion plays a positive effect in preventing people from having affairs and so does age. while as the married years grows, people are more likely to have affairs.

#### Reference

library(stats)  
df = data('Affairs',package = 'AER')  
  
Affairs$ever = Affairs$affair > 0  
Affairs$religious = factor(Affairs$religiousness,  
levels = c(2,1,3,4,5), labels = c('no','anti','low','med','high'))  
  
Affairs$age\_normalized = (Affairs$age - mean(Affairs$age))/sd(Affairs$age)  
Affairs$yearsmarried\_normalized = (Affairs$yearsmarried - mean(Affairs$yearsmarried))/sd(Affairs$yearsmarried)  
Affairs$education\_normalized = (Affairs$education - mean(Affairs$education))/sd(Affairs$education)  
  
res = glm(ever ~ gender:children + age\_normalized + yearsmarried\_normalized + religious + education\_normalized,  
 data = Affairs, family = binomial(link = 'logit'))  
  
knitr::kable(summary(res)$coef,digits = 3,caption = 'Regression Result')