Our predictor variables are X and Z - good idea to centre them (i.e., mean of zero) using the `scale` function. It is important to centre both the moderator and predictor to make interpretation easier.

```
#Centering Data
Xc    <- c(scale(X, center = TRUE, scale = FALSE)) #Centering
IV; hours of sleep
Zc    <- c(scale(Z,  center = TRUE, scale = FALSE)) #Centering
moderator; coffee consumption
```

```
> fitMod <- lm(Y ~ Xc + Zc + Xc:Zc) #Model interacts IV & moderator
> summary(fitMod)

Call:
lm(formula = Y ~ Xc + Zc + Xc : Zc)

Residuals:
    Min      1Q  Median      3Q     Max
-21.466  -8.972  -0.233   6.180  38.051

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept) 48.54443    1.17286  41.390  < 2e-16 ***
Xc           5.20812    0.34870  14.936  < 2e-16 ***
Zc           1.10443    0.15537   7.108 2.08e-10 ***
Xc:Zc        0.23384    0.04134   5.656 1.59e-07 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 11.65 on 96 degrees of freedom
Multiple R-squared:  0.7661,  Adjusted R-squared:  0.7587
F-statistic: 104.8 on 3 and 96 DF,  p-value: < 2.2e-16
```