

moderated_mediation_R

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Notes

- (1) This PDF is part of YouTube tutorials. This PDF is for individual, personal usage only. <https://youtu.be/If0ap-Yonbc>
- (2) The author accepts no responsibility for the topicality, correctness, completeness or quality of the information provided.

Step 1: Read Data

```
# read csv data
data<-read.csv("Study_3.csv")
head(data)

##   Cond PriceTag      GSR      CEISStd SelfCks
## 1     1         4 0.04129204 -0.458422966    4.25
## 2     1         1 0.71280000 -0.161709072    3.25
## 3    -1         5 0.51721612 -0.829315333    1.00
## 4    -1         5 0.51300000 -0.001940052    1.00
## 5    -1         5 0.23382540  1.498747525    1.50
## 6    -1         1 0.32940000  0.169241040    1.50

# test if the interaction item in c path is significant
result1<-lm(PriceTag~Cond+CEISStd+Cond*CEISStd,data=data)
summary(result1)

##
## Call:
## lm(formula = PriceTag ~ Cond + CEISStd + Cond * CEISStd, data = data)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -3.1813 -2.0889 -0.1638  2.0164  3.8420
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)   3.62344    0.14930  24.270  <2e-16 ***
## Cond          0.02849    0.14930   0.191   0.8488
## CEISStd       0.02514    0.15222   0.165   0.8690
## Cond:CEISStd  0.35560    0.15222   2.336   0.0204 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
```

```
## Residual standard error: 2.124 on 206 degrees of freedom
## Multiple R-squared: 0.02764, Adjusted R-squared: 0.01348
## F-statistic: 1.952 on 3 and 206 DF, p-value: 0.1223
```

Step 2: Run PROCESS and Model 8 using PROCESS

```
# run PROCESS
# put the process.R in the same folder as this RMD file.
source("process.R")

##
## ***** PROCESS for R Version 4.3.1 *****
##
##           Written by Andrew F. Hayes, Ph.D. www.afhayes.com
##   Documentation available in Hayes (2022). www.guilford.com/p/hayes3
##
## *****
##
## PROCESS is now ready for use.
## Copyright 2020-2023 by Andrew F. Hayes ALL RIGHTS RESERVED
## Workshop schedule at http://haskayne.ucalgary.ca/CCRAM
##

# run model 8 using PROCESS in R
process(data = data, y = "PriceTag", x = "Cond", m = "GSR", w = "CEISStd",
model = 8)

##
## ***** PROCESS for R Version 4.3.1 *****
##
##           Written by Andrew F. Hayes, Ph.D. www.afhayes.com
##   Documentation available in Hayes (2022). www.guilford.com/p/hayes3
##
## *****
##
## Model : 8
##   Y : PriceTag
##   X : Cond
##   M : GSR
##   W : CEISStd
##
## Sample size: 210
##
## Random seed: 535844
##
## *****
## Outcome Variable: GSR
##
## Model Summary:
```

```

##           R           R-sq           MSE           F           df1           df2           p
##      0.1855      0.0344      0.1930      2.4461      3.0000      206.0000      0.0650
##
## Model:
##           coeff           se           t           p           LLCI           ULCI
## constant      0.4034      0.0309      13.0661      0.0000      0.3426      0.4643
## Cond          0.0089      0.0309      0.2874      0.7741      -0.0520      0.0697
## CEISStd       -0.0295      0.0315      -0.9379      0.3494      -0.0916      0.0325
## Int_1         -0.0717      0.0315      -2.2784      0.0237      -0.1338      -0.0097
##
## Product terms key:
## Int_1 : Cond x CEISStd
##
## Test(s) of highest order unconditional interaction(s):
##           R2-chng           F           df1           df2           p
## X*W      0.0243      5.1912      1.0000      206.0000      0.0237
## -----
## Focal predictor: Cond (X)
##           Moderator: CEISStd (W)
##
## Conditional effects of the focal predictor at values of the moderator(s):
##           CEISStd      effect           se           t           p           LLCI           ULCI
##           -0.8706      0.0713      0.0420      1.6979      0.0910      -0.0115      0.1541
##           -0.0533      0.0127      0.0310      0.4098      0.6824      -0.0484      0.0738
##           0.9523      -0.0594      0.0423      -1.4061      0.1612      -0.1428      0.0239
##
## *****
## Outcome Variable: PriceTag
##
## Model Summary:
##           R           R-sq           MSE           F           df1           df2           p
##      0.2259      0.0510      4.4246      2.7561      4.0000      205.0000      0.0290
##
## Model:
##           coeff           se           t           p           LLCI           ULCI
## constant      3.9260      0.1999      19.6359      0.0000      3.5318      4.3202
## Cond          0.0351      0.1479      0.2377      0.8124      -0.2564      0.3267
## GSR          -0.7499      0.3336      -2.2477      0.0257      -1.4077      -0.0921
## CEISStd       0.0030      0.1511      0.0199      0.9842      -0.2948      0.3008
## Int_1         0.3018      0.1526      1.9774      0.0493      0.0009      0.6027
##
## Product terms key:
## Int_1 : Cond x CEISStd
##
## Test(s) of highest order unconditional interaction(s):
##           R2-chng           F           df1           df2           p
## X*W      0.0181      3.9100      1.0000      205.0000      0.0493
## -----
## Focal predictor: Cond (X)
##           Moderator: CEISStd (W)

```

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[illegible]

```
##  
## Number of bootstraps for percentile bootstrap confidence intervals: 5000  
##  
## W values in conditional tables are the 16th, 50th, and 84th percentiles.
```