By Mohammad Aboul-ata

```
#load library
library(lavaan)
library(semPlot)
library(readxl)
PDSU <- read_excel("PDSU.xlsx")
View(PDSU)

#Define the models
Model1<-
      'SI~anh+sus+ris+imp+ecc+dis+res+sub+wit+cal+sep+att+emo+dep+hos+irr+rig+percep+p
      ersev+anx+unu+int+man+gra+dec'

Model2<-
'SB~anh+sus+ris+imp+ecc+dis+res+sub+wit+cal+sep+att+emo+dep+hos+irr+rig+percep+persev+
anx+unu+int+man+gra+dec'

#Estimate the model
Fit1<- lavaan::cfa(Model1, data = PDSU, estimator = "WLS", std.lv = TRUE)
Fit2<- lavaan::cfa(Model2, data = PDSU, estimator = "WLS", std.lv = TRUE)

#fit model indices
Fit1_indices <- lavaan::fitMeasures(Fit1)
Fit2_indices <- lavaan::fitMeasures(Fit2)

std_coefs1 <- lavaan::lavInspect(Fit1, "std.all")
std_coefs2 <- lavaan::lavInspect(Fit2, "std.all")

#show results
summary (Fit1, standardized = TRUE)
summary (Fit2, standardized = TRUE)


print(Fit1_indices)
print(Fit2_indices)

print(std_coefs1)
print(std_coefs2)


#Odds Ratio

coefficients1 <- coef(Fit1)
coefficients2<- coef(Fit2)

odds_ratios1<- exp(coefficients1)
odds_ratios2<- exp(coefficients2)

print(odds_ratios1)
print(odds_ratios2)
```

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```
library(lavaan)
library(semPlot)
library(readxl)
PDSU <- read_excel("PDSU.xlsx")
View(PDSU)


Model3<-
'SI~ Na+De+Ant+Dis+Ps
 '

Model4<-
'SB~ Na+De+Ant+Dis+Ps
'


Fit3<- lavaan::cfa(Model3, data = PDSU, estimator = "WLS", std.lv = TRUE)
Fit4<- lavaan::cfa(Model4, data = PDSU, estimator = "WLS", std.lv = TRUE)

Fit3_indices <- lavaan::fitMeasures(Fit3)
Fit4_indices <- lavaan::fitMeasures(Fit4)

std_coefs3 <- lavaan::lavInspect(Fit3, "std.all")
std_coefs4 <- lavaan::lavInspect(Fit4, "std.all")


summary (Fit3, standardized = TRUE)
summary (Fit4, standardized = TRUE)


print(Fit3_indices)
print(Fit4_indices)

print(std_coefs3)
print(std_coefs4)
coefficients3 <- coef(Fit3)
coefficients4<- coef(Fit4)

odds_ratios3<- exp(coefficients3)
odds_ratios4<- exp(coefficients4)


print(odds_ratios3)
print(odds_ratios4)
semPlot::semPaths(
  Fit3,
  "std",
  whatLabels = "est",
  style = "lisrel",
  edge.label.cex = 1.5,
  sizeMan = 10,
  sizeLat = 10,
  edge.color = " black ",
  font.color = "gray",
  edge.label.fontsize = 12,
  node.label.fontsize = 12
)
semPlot::semPaths(
Fit4,
  "std",
  whatLabels = "est",
  style = "lisrel",
  edge.label.cex = 1.5,
  sizeMan = 10,
  sizeLat = 10,
  edge.color = "black",
  font.color = "gray",
  edge.label.fontsize = 12,
  node.label.fontsize = 12
)
```

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```
library(lavaan)
library(semPlot)
library(readxl)
PDSU <- read_excel("PDSU.xlsx")
View(PDSU)


Model5<-
'SI~ In+Ex
 '

Model6<-
'SB~ In+Ex
'


Fit5<- lavaan::cfa(Model5, data = PDSU, estimator = "WLS", std.lv = TRUE)
Fit6<- lavaan::cfa(Model6, data = PDSU, estimator = "WLS", std.lv = TRUE)
Fit5_indices <- lavaan::fitMeasures(Fit5)
Fit6_indices <- lavaan::fitMeasures(Fit6)

std_coefs5 <- lavaan::lavInspect(Fit5, "std.all")
std_coefs6 <- lavaan::lavInspect(Fit6, "std.all")


summary (Fit5, standardized = TRUE)
summary (Fit6, standardized = TRUE)


print(Fit5_indices)
print(Fit6_indices)

print(std_coefs5)
print(std_coefs6)

coefficients5 <- coef(Fit5)
coefficients6<- coef(Fit6)

odds_ratios5<- exp(coefficients5)
odds_ratios6<- exp(coefficients6)


print(odds_ratios5)
print(odds_ratios6)



semPlot::semPaths(
  Fit5,
  "std",
  whatLabels = "est",
  style = "lisrel",
  edge.label.cex = 1.5,
  sizeMan = 10,
  sizeLat = 10,
  edge.color = "black",
  font.color = "gray",
  edge.label.fontsize = 12,
  node.label.fontsize = 12
)

semPlot::semPaths(
  Fit6,
  "std",
  whatLabels = "est",
  style = "lisrel",
  edge.label.cex = 1.5,
  sizeMan = 10,
  sizeLat = 10,
  edge.color = "black",
  font.color = "gray",
  edge.label.fontsize = 12,
  node.label.fontsize = 12
)
```