**SUPPLEMENT I: R Syntax for Full Cross-Lagged Panel Models**

**###########INTENDED DIRECTION OF CAUSALITY**

#################Time Structure################

modelTS <- '

ES\_new\_t2 ~ x\*ES\_new\_t1

ES\_new\_t3 ~ x\*ES\_new\_t2

ES\_new\_t4 ~ x\*ES\_new\_t3

ES\_new\_t5 ~ x\*ES\_new\_t4

ES\_new\_t6 ~ x\*ES\_new\_t5

Mean\_TS\_sf\_t2 ~ m\*Mean\_TS\_sf\_t1 + a\* ES\_new\_t2

Mean\_TS\_sf\_t3 ~ m\*Mean\_TS\_sf\_t2 + a\* ES\_new\_t3

Mean\_TS\_sf\_t4 ~ m\*Mean\_TS\_sf\_t3 + a\* ES\_new\_t4

Mean\_TS\_sf\_t5 ~ m\*Mean\_TS\_sf\_t4 + a\* ES\_new\_t5

Mean\_TS\_sf\_t6 ~ m\*Mean\_TS\_sf\_t5 + a\* ES\_new\_t6

Mean\_GHQ\_t2 ~ y \*Mean\_GHQ\_t1 + b\* Mean\_TS\_sf\_t1

Mean\_GHQ\_t3 ~ y \*Mean\_GHQ\_t2 + b\* Mean\_TS\_sf\_t2 + c \* ES\_new\_t2

Mean\_GHQ\_t4 ~ y \*Mean\_GHQ\_t3 + b\* Mean\_TS\_sf\_t3 + c \* ES\_new\_t3

Mean\_GHQ\_t5 ~ y \*Mean\_GHQ\_t4 + b\* Mean\_TS\_sf\_t4 + c \* ES\_new\_t4

Mean\_GHQ\_t6 ~ y \*Mean\_GHQ\_t5 + b\* Mean\_TS\_sf\_t5 + c \* ES\_new\_t5

Mean\_TS\_sf\_t6 ~~ 0\* Mean\_GHQ\_t6

ab := a\*b

total := c + (a\*b)

'

fitTS <- sem(modelTS, data = jahoda12, missing = "fiml", estimator = "ML", fixed.x=FALSE)

summary(fitTS, standardized=TRUE, fit.measures=TRUE, ci=TRUE)

#################Social Contact################

modelSC <- '

ES\_new\_t2 ~ x\*ES\_new\_t1

ES\_new\_t3 ~ x\*ES\_new\_t2

ES\_new\_t4 ~ x\*ES\_new\_t3

ES\_new\_t5 ~ x\*ES\_new\_t4

ES\_new\_t6 ~ x\*ES\_new\_t5

Mean\_SC\_sf\_t2 ~ m\*Mean\_SC\_sf\_t1 + a\* ES\_new\_t2

Mean\_SC\_sf\_t3 ~ m\*Mean\_SC\_sf\_t2 + a\* ES\_new\_t3

Mean\_SC\_sf\_t4 ~ m\*Mean\_SC\_sf\_t3 + a\* ES\_new\_t4

Mean\_SC\_sf\_t5 ~ m\*Mean\_SC\_sf\_t4 + a\* ES\_new\_t5

Mean\_SC\_sf\_t6 ~ m\*Mean\_SC\_sf\_t5 + a\* ES\_new\_t6

Mean\_GHQ\_t2 ~ y \*Mean\_GHQ\_t1 + b\* Mean\_SC\_sf\_t1

Mean\_GHQ\_t3 ~ y \*Mean\_GHQ\_t2 + b\* Mean\_SC\_sf\_t2 + c \* ES\_new\_t2

Mean\_GHQ\_t4 ~ y \*Mean\_GHQ\_t3 + b\* Mean\_SC\_sf\_t3 + c \* ES\_new\_t3

Mean\_GHQ\_t5 ~ y \*Mean\_GHQ\_t4 + b\* Mean\_SC\_sf\_t4 + c \* ES\_new\_t4

Mean\_GHQ\_t6 ~ y \*Mean\_GHQ\_t5 + b\* Mean\_SC\_sf\_t5 + c \* ES\_new\_t5

Mean\_SC\_sf\_t6 ~~ 0\* Mean\_GHQ\_t6

ab := a\*b

total := c + (a\*b)

'

fitSC <- sem(modelSC, data = jahoda12, missing = "fiml", estimator = "ML", fixed.x=FALSE)

summary(fitSC, standardized=TRUE, fit.measures=TRUE, ci=TRUE)

#################Status################

modelST <- '

ES\_new\_t2 ~ x\*ES\_new\_t1

ES\_new\_t3 ~ x\*ES\_new\_t2

ES\_new\_t4 ~ x\*ES\_new\_t3

ES\_new\_t5 ~ x\*ES\_new\_t4

ES\_new\_t6 ~ x\*ES\_new\_t5

Mean\_ST\_sf\_t2 ~ m\*Mean\_ST\_sf\_t1 + a\* ES\_new\_t2

Mean\_ST\_sf\_t3 ~ m\*Mean\_ST\_sf\_t2 + a\* ES\_new\_t3

Mean\_ST\_sf\_t4 ~ m\*Mean\_ST\_sf\_t3 + a\* ES\_new\_t4

Mean\_ST\_sf\_t5 ~ m\*Mean\_ST\_sf\_t4 + a\* ES\_new\_t5

Mean\_ST\_sf\_t6 ~ m\*Mean\_ST\_sf\_t5 + a\* ES\_new\_t6

Mean\_GHQ\_t2 ~ y \*Mean\_GHQ\_t1 + b\* Mean\_ST\_sf\_t1

Mean\_GHQ\_t3 ~ y \*Mean\_GHQ\_t2 + b\* Mean\_ST\_sf\_t2 + c \* ES\_new\_t2

Mean\_GHQ\_t4 ~ y \*Mean\_GHQ\_t3 + b\* Mean\_ST\_sf\_t3 + c \* ES\_new\_t3

Mean\_GHQ\_t5 ~ y \*Mean\_GHQ\_t4 + b\* Mean\_ST\_sf\_t4 + c \* ES\_new\_t4

Mean\_GHQ\_t6 ~ y \*Mean\_GHQ\_t5 + b\* Mean\_ST\_sf\_t5 + c \* ES\_new\_t5

Mean\_ST\_sf\_t6 ~~ 0\* Mean\_GHQ\_t6

ab := a\*b

total := c + (a\*b)

'

fitST <- sem(modelST, data = jahoda12, missing = "fiml", estimator = "ML", fixed.x=FALSE)

summary(fitST, standardized=TRUE, fit.measures=TRUE, ci=TRUE)

#################Collective Purpose################

modelCP <- '

ES\_new\_t2 ~ x\*ES\_new\_t1

ES\_new\_t3 ~ x\*ES\_new\_t2

ES\_new\_t4 ~ x\*ES\_new\_t3

ES\_new\_t5 ~ x\*ES\_new\_t4

ES\_new\_t6 ~ x\*ES\_new\_t5

Mean\_CP\_sf\_t2 ~ m\*Mean\_CP\_sf\_t1 + a\* ES\_new\_t2

Mean\_CP\_sf\_t3 ~ m\*Mean\_CP\_sf\_t2 + a\* ES\_new\_t3

Mean\_CP\_sf\_t4 ~ m\*Mean\_CP\_sf\_t3 + a\* ES\_new\_t4

Mean\_CP\_sf\_t5 ~ m\*Mean\_CP\_sf\_t4 + a\* ES\_new\_t5

Mean\_CP\_sf\_t6 ~ m\*Mean\_CP\_sf\_t5 + a\* ES\_new\_t6

Mean\_GHQ\_t2 ~ y \*Mean\_GHQ\_t1 + b\* Mean\_CP\_sf\_t1

Mean\_GHQ\_t3 ~ y \*Mean\_GHQ\_t2 + b\* Mean\_CP\_sf\_t2 + c \* ES\_new\_t2

Mean\_GHQ\_t4 ~ y \*Mean\_GHQ\_t3 + b\* Mean\_CP\_sf\_t3 + c \* ES\_new\_t3

Mean\_GHQ\_t5 ~ y \*Mean\_GHQ\_t4 + b\* Mean\_CP\_sf\_t4 + c \* ES\_new\_t4

Mean\_GHQ\_t6 ~ y \*Mean\_GHQ\_t5 + b\* Mean\_CP\_sf\_t5 + c \* ES\_new\_t5

Mean\_CP\_sf\_t6 ~~ 0\* Mean\_GHQ\_t6

ab := a\*b

total := c + (a\*b)

'

fitCP <- sem(modelCP, data = jahoda12, missing = "fiml", estimator = "ML", fixed.x=FALSE)

summary(fitCP, standardized=TRUE, fit.measures=TRUE, ci=TRUE)

#################Activity################

modelAC <- '

ES\_new\_t2 ~ x\*ES\_new\_t1

ES\_new\_t3 ~ x\*ES\_new\_t2

ES\_new\_t4 ~ x\*ES\_new\_t3

ES\_new\_t5 ~ x\*ES\_new\_t4

ES\_new\_t6 ~ x\*ES\_new\_t5

Mean\_AC\_sf\_t2 ~ m\*Mean\_AC\_sf\_t1 + a\* ES\_new\_t2

Mean\_AC\_sf\_t3 ~ m\*Mean\_AC\_sf\_t2 + a\* ES\_new\_t3

Mean\_AC\_sf\_t4 ~ m\*Mean\_AC\_sf\_t3 + a\* ES\_new\_t4

Mean\_AC\_sf\_t5 ~ m\*Mean\_AC\_sf\_t4 + a\* ES\_new\_t5

Mean\_AC\_sf\_t6 ~ m\*Mean\_AC\_sf\_t5 + a\* ES\_new\_t6

Mean\_GHQ\_t2 ~ y \*Mean\_GHQ\_t1 + b\* Mean\_AC\_sf\_t1

Mean\_GHQ\_t3 ~ y \*Mean\_GHQ\_t2 + b\* Mean\_AC\_sf\_t2 + c \* ES\_new\_t2

Mean\_GHQ\_t4 ~ y \*Mean\_GHQ\_t3 + b\* Mean\_AC\_sf\_t3 + c \* ES\_new\_t3

Mean\_GHQ\_t5 ~ y \*Mean\_GHQ\_t4 + b\* Mean\_AC\_sf\_t4 + c \* ES\_new\_t4

Mean\_GHQ\_t6 ~ y \*Mean\_GHQ\_t5 + b\* Mean\_AC\_sf\_t5 + c \* ES\_new\_t5

Mean\_AC\_sf\_t6 ~~ 0\* Mean\_GHQ\_t6

ab := a\*b

total := c + (a\*b)

'

fitAC <- sem(modelAC, data = jahoda12, missing = "fiml", estimator = "ML", fixed.x=FALSE)

summary(fitAC, standardized=TRUE, fit.measures=TRUE, ci=TRUE)

#################Financial strain################

modelFS <- '

ES\_new\_t2 ~ x\*ES\_new\_t1

ES\_new\_t3 ~ x\*ES\_new\_t2

ES\_new\_t4 ~ x\*ES\_new\_t3

ES\_new\_t5 ~ x\*ES\_new\_t4

ES\_new\_t6 ~ x\*ES\_new\_t5

Mean\_FS\_t2 ~ m\*Mean\_FS\_t1 + a\* ES\_new\_t2

Mean\_FS\_t3 ~ m\*Mean\_FS\_t2 + a\* ES\_new\_t3

Mean\_FS\_t4 ~ m\*Mean\_FS\_t3 + a\* ES\_new\_t4

Mean\_FS\_t5 ~ m\*Mean\_FS\_t4 + a\* ES\_new\_t5

Mean\_FS\_t6 ~ m\*Mean\_FS\_t5 + a\* ES\_new\_t6

Mean\_GHQ\_t2 ~ y \*Mean\_GHQ\_t1 + b\* Mean\_FS\_t1

Mean\_GHQ\_t3 ~ y \*Mean\_GHQ\_t2 + b\* Mean\_FS\_t2 + c \* ES\_new\_t2

Mean\_GHQ\_t4 ~ y \*Mean\_GHQ\_t3 + b\* Mean\_FS\_t3 + c \* ES\_new\_t3

Mean\_GHQ\_t5 ~ y \*Mean\_GHQ\_t4 + b\* Mean\_FS\_t4 + c \* ES\_new\_t4

Mean\_GHQ\_t6 ~ y \*Mean\_GHQ\_t5 + b\* Mean\_FS\_t5 + c \* ES\_new\_t5

Mean\_FS\_t6 ~~ 0\* Mean\_GHQ\_t6

ab := a\*b

total := c + (a\*b)

'

fitFS <- sem(modelFS, data = jahoda12, missing = "fiml", estimator = "ML", fixed.x=FALSE)

summary(fitFS, standardized=TRUE, fit.measures=TRUE, ci=TRUE)

#################Competence################

modelCom <- '

ES\_new\_t2 ~ x\*ES\_new\_t1

ES\_new\_t3 ~ x\*ES\_new\_t2

ES\_new\_t4 ~ x\*ES\_new\_t3

ES\_new\_t5 ~ x\*ES\_new\_t4

ES\_new\_t6 ~ x\*ES\_new\_t5

Mean\_Com\_sf\_t2 ~ m\*Mean\_Com\_sf\_t1 + a\* ES\_new\_t2

Mean\_Com\_sf\_t3 ~ m\*Mean\_Com\_sf\_t2 + a\* ES\_new\_t3

Mean\_Com\_sf\_t4 ~ m\*Mean\_Com\_sf\_t3 + a\* ES\_new\_t4

Mean\_Com\_sf\_t5 ~ m\*Mean\_Com\_sf\_t4 + a\* ES\_new\_t5

Mean\_Com\_sf\_t6 ~ m\*Mean\_Com\_sf\_t5 + a\* ES\_new\_t6

Mean\_GHQ\_t2 ~ y \*Mean\_GHQ\_t1 + b\* Mean\_Com\_sf\_t1

Mean\_GHQ\_t3 ~ y \*Mean\_GHQ\_t2 + b\* Mean\_Com\_sf\_t2 + c \* ES\_new\_t2

Mean\_GHQ\_t4 ~ y \*Mean\_GHQ\_t3 + b\* Mean\_Com\_sf\_t3 + c \* ES\_new\_t3

Mean\_GHQ\_t5 ~ y \*Mean\_GHQ\_t4 + b\* Mean\_Com\_sf\_t4 + c \* ES\_new\_t4

Mean\_GHQ\_t6 ~ y \*Mean\_GHQ\_t5 + b\* Mean\_Com\_sf\_t5 + c \* ES\_new\_t5

Mean\_Com\_sf\_t6 ~~ 0\* Mean\_GHQ\_t6

ab := a\*b

total := c + (a\*b)

'

fitCom <- sem(modelCom, data = jahoda12, missing = "fiml", estimator = "ML", fixed.x=FALSE)

summary(fitCom, standardized=TRUE, fit.measures=TRUE, ci=TRUE)

#################Autonomy################

modelAut <- '

ES\_new\_t2 ~ x\*ES\_new\_t1

ES\_new\_t3 ~ x\*ES\_new\_t2

ES\_new\_t4 ~ x\*ES\_new\_t3

ES\_new\_t5 ~ x\*ES\_new\_t4

ES\_new\_t6 ~ x\*ES\_new\_t5

Mean\_Aut\_sf\_t2 ~ m\*Mean\_Aut\_sf\_t1 + a\* ES\_new\_t2

Mean\_Aut\_sf\_t3 ~ m\*Mean\_Aut\_sf\_t2 + a\* ES\_new\_t3

Mean\_Aut\_sf\_t4 ~ m\*Mean\_Aut\_sf\_t3 + a\* ES\_new\_t4

Mean\_Aut\_sf\_t5 ~ m\*Mean\_Aut\_sf\_t4 + a\* ES\_new\_t5

Mean\_Aut\_sf\_t6 ~ m\*Mean\_Aut\_sf\_t5 + a\* ES\_new\_t6

Mean\_GHQ\_t2 ~ y \*Mean\_GHQ\_t1 + b\* Mean\_Aut\_sf\_t1

Mean\_GHQ\_t3 ~ y \*Mean\_GHQ\_t2 + b\* Mean\_Aut\_sf\_t2 + c \* ES\_new\_t2

Mean\_GHQ\_t4 ~ y \*Mean\_GHQ\_t3 + b\* Mean\_Aut\_sf\_t3 + c \* ES\_new\_t3

Mean\_GHQ\_t5 ~ y \*Mean\_GHQ\_t4 + b\* Mean\_Aut\_sf\_t4 + c \* ES\_new\_t4

Mean\_GHQ\_t6 ~ y \*Mean\_GHQ\_t5 + b\* Mean\_Aut\_sf\_t5 + c \* ES\_new\_t5

Mean\_Aut\_sf\_t6 ~~ 0\* Mean\_GHQ\_t6

ab := a\*b

total := c + (a\*b)

'

fitAut <- sem(modelAut, data = jahoda12, missing = "fiml", estimator = "ML", fixed.x=FALSE)

summary(fitAut, standardized=TRUE, fit.measures=TRUE, ci=TRUE)

**###########REVERSE CAUSALITY**

#################Time Structure################

modelTSr <- '

ES\_new\_t2 ~ x\*ES\_new\_t1

ES\_new\_t3 ~ x\*ES\_new\_t2

ES\_new\_t4 ~ x\*ES\_new\_t3

ES\_new\_t5 ~ x\*ES\_new\_t4

ES\_new\_t6 ~ x\*ES\_new\_t5

Mean\_GHQ\_t2 ~ m\*Mean\_GHQ\_t1 + a\* ES\_new\_t2

Mean\_GHQ\_t3 ~ m\*Mean\_GHQ\_t2 + a\* ES\_new\_t3

Mean\_GHQ\_t4 ~ m\*Mean\_GHQ\_t3 + a\* ES\_new\_t4

Mean\_GHQ\_t5 ~ m\*Mean\_GHQ\_t4 + a\* ES\_new\_t5

Mean\_GHQ\_t6 ~ m\*Mean\_GHQ\_t5 + a\* ES\_new\_t6

Mean\_TS\_sf\_t2 ~ y \*Mean\_TS\_sf\_t1 + b\* Mean\_GHQ\_t1

Mean\_TS\_sf\_t3 ~ y \*Mean\_TS\_sf\_t2 + b\* Mean\_GHQ\_t2 + c \* ES\_new\_t2

Mean\_TS\_sf\_t4 ~ y \*Mean\_TS\_sf\_t3 + b\* Mean\_GHQ\_t3 + c \* ES\_new\_t3

Mean\_TS\_sf\_t5 ~ y \*Mean\_TS\_sf\_t4 + b\* Mean\_GHQ\_t4 + c \* ES\_new\_t4

Mean\_TS\_sf\_t6 ~ y \*Mean\_TS\_sf\_t5 + b\* Mean\_GHQ\_t5 + c \* ES\_new\_t5

Mean\_GHQ\_t6 ~~ 0\* Mean\_TS\_sf\_t6

ab := a\*b

total := c + (a\*b)

'

fitTSr <- sem(modelTSr, data = jahoda12, missing = "fiml", estimator = "ML", fixed.x=FALSE)

summary(fitTSr, standardized=TRUE, fit.measures=TRUE, ci=TRUE)

###Comparison of non-nested models

vuongtest(fitTS, fitTSr)

icci (fitTS, fitTSr)

#################Social Contact#################

modelSCr <- '

ES\_new\_t2 ~ x\*ES\_new\_t1

ES\_new\_t3 ~ x\*ES\_new\_t2

ES\_new\_t4 ~ x\*ES\_new\_t3

ES\_new\_t5 ~ x\*ES\_new\_t4

ES\_new\_t6 ~ x\*ES\_new\_t5

Mean\_GHQ\_t2 ~ m\*Mean\_GHQ\_t1 + a\* ES\_new\_t2

Mean\_GHQ\_t3 ~ m\*Mean\_GHQ\_t2 + a\* ES\_new\_t3

Mean\_GHQ\_t4 ~ m\*Mean\_GHQ\_t3 + a\* ES\_new\_t4

Mean\_GHQ\_t5 ~ m\*Mean\_GHQ\_t4 + a\* ES\_new\_t5

Mean\_GHQ\_t6 ~ m\*Mean\_GHQ\_t5 + a\* ES\_new\_t6

Mean\_SC\_sf\_t2 ~ y \*Mean\_SC\_sf\_t1 + b\* Mean\_GHQ\_t1

Mean\_SC\_sf\_t3 ~ y \*Mean\_SC\_sf\_t2 + b\* Mean\_GHQ\_t2 + c \* ES\_new\_t2

Mean\_SC\_sf\_t4 ~ y \*Mean\_SC\_sf\_t3 + b\* Mean\_GHQ\_t3 + c \* ES\_new\_t3

Mean\_SC\_sf\_t5 ~ y \*Mean\_SC\_sf\_t4 + b\* Mean\_GHQ\_t4 + c \* ES\_new\_t4

Mean\_SC\_sf\_t6 ~ y \*Mean\_SC\_sf\_t5 + b\* Mean\_GHQ\_t5 + c \* ES\_new\_t5

Mean\_GHQ\_t6 ~~ 0\* Mean\_SC\_sf\_t6

ab := a\*b

total := c + (a\*b)

'

fitSCr <- sem(modelSCr, data = jahoda12, missing = "fiml", estimator = "ML", fixed.x=FALSE)

summary(fitSCr, standardized=TRUE, fit.measures=TRUE, ci=TRUE)

###Comparison of non-nested models

vuongtest(fitSC, fitSCr)

icci (fitSC, fitSCr)

#################Status#################

modelSTr <- '

ES\_new\_t2 ~ x\*ES\_new\_t1

ES\_new\_t3 ~ x\*ES\_new\_t2

ES\_new\_t4 ~ x\*ES\_new\_t3

ES\_new\_t5 ~ x\*ES\_new\_t4

ES\_new\_t6 ~ x\*ES\_new\_t5

Mean\_GHQ\_t2 ~ m\*Mean\_GHQ\_t1 + a\* ES\_new\_t2

Mean\_GHQ\_t3 ~ m\*Mean\_GHQ\_t2 + a\* ES\_new\_t3

Mean\_GHQ\_t4 ~ m\*Mean\_GHQ\_t3 + a\* ES\_new\_t4

Mean\_GHQ\_t5 ~ m\*Mean\_GHQ\_t4 + a\* ES\_new\_t5

Mean\_GHQ\_t6 ~ m\*Mean\_GHQ\_t5 + a\* ES\_new\_t6

Mean\_ST\_sf\_t2 ~ y \*Mean\_ST\_sf\_t1 + b\* Mean\_GHQ\_t1

Mean\_ST\_sf\_t3 ~ y \*Mean\_ST\_sf\_t2 + b\* Mean\_GHQ\_t2 + c \* ES\_new\_t2

Mean\_ST\_sf\_t4 ~ y \*Mean\_ST\_sf\_t3 + b\* Mean\_GHQ\_t3 + c \* ES\_new\_t3

Mean\_ST\_sf\_t5 ~ y \*Mean\_ST\_sf\_t4 + b\* Mean\_GHQ\_t4 + c \* ES\_new\_t4

Mean\_ST\_sf\_t6 ~ y \*Mean\_ST\_sf\_t5 + b\* Mean\_GHQ\_t5 + c \* ES\_new\_t5

Mean\_GHQ\_t6 ~~ 0\* Mean\_ST\_sf\_t6

ab := a\*b

total := c + (a\*b)

'

fitSTr <- sem(modelSTr, data = jahoda12, missing = "fiml", estimator = "ML", fixed.x=FALSE)

summary(fitSTr, standardized=TRUE, fit.measures=TRUE, ci=TRUE)

###Comparison of non-nested models

vuongtest(fitST, fitSTr)

icci (fitST, fitSTr)

#################Collective Purpose################

modelCPr <- '

ES\_new\_t2 ~ x\*ES\_new\_t1

ES\_new\_t3 ~ x\*ES\_new\_t2

ES\_new\_t4 ~ x\*ES\_new\_t3

ES\_new\_t5 ~ x\*ES\_new\_t4

ES\_new\_t6 ~ x\*ES\_new\_t5

Mean\_GHQ\_t2 ~ m\*Mean\_GHQ\_t1 + a\* ES\_new\_t2

Mean\_GHQ\_t3 ~ m\*Mean\_GHQ\_t2 + a\* ES\_new\_t3

Mean\_GHQ\_t4 ~ m\*Mean\_GHQ\_t3 + a\* ES\_new\_t4

Mean\_GHQ\_t5 ~ m\*Mean\_GHQ\_t4 + a\* ES\_new\_t5

Mean\_GHQ\_t6 ~ m\*Mean\_GHQ\_t5 + a\* ES\_new\_t6

Mean\_CP\_sf\_t2 ~ y \*Mean\_CP\_sf\_t1 + b\* Mean\_GHQ\_t1

Mean\_CP\_sf\_t3 ~ y \*Mean\_CP\_sf\_t2 + b\* Mean\_GHQ\_t2 + c \* ES\_new\_t2

Mean\_CP\_sf\_t4 ~ y \*Mean\_CP\_sf\_t3 + b\* Mean\_GHQ\_t3 + c \* ES\_new\_t3

Mean\_CP\_sf\_t5 ~ y \*Mean\_CP\_sf\_t4 + b\* Mean\_GHQ\_t4 + c \* ES\_new\_t4

Mean\_CP\_sf\_t6 ~ y \*Mean\_CP\_sf\_t5 + b\* Mean\_GHQ\_t5 + c \* ES\_new\_t5

Mean\_GHQ\_t6 ~~ 0\* Mean\_CP\_sf\_t6

ab := a\*b

total := c + (a\*b)

'

fitCPr <- sem(modelCPr, data = jahoda12, missing = "fiml", estimator = "ML", fixed.x=FALSE)

summary(fitCPr, standardized=TRUE, fit.measures=TRUE, ci=TRUE)

###Comparison of non-nested models

vuongtest(fitCP, fitCPr)

icci (fitCP, fitCPr)

#################Activity#################

modelACr <- '

ES\_new\_t2 ~ x\*ES\_new\_t1

ES\_new\_t3 ~ x\*ES\_new\_t2

ES\_new\_t4 ~ x\*ES\_new\_t3

ES\_new\_t5 ~ x\*ES\_new\_t4

ES\_new\_t6 ~ x\*ES\_new\_t5

Mean\_GHQ\_t2 ~ m\*Mean\_GHQ\_t1 + a\* ES\_new\_t2

Mean\_GHQ\_t3 ~ m\*Mean\_GHQ\_t2 + a\* ES\_new\_t3

Mean\_GHQ\_t4 ~ m\*Mean\_GHQ\_t3 + a\* ES\_new\_t4

Mean\_GHQ\_t5 ~ m\*Mean\_GHQ\_t4 + a\* ES\_new\_t5

Mean\_GHQ\_t6 ~ m\*Mean\_GHQ\_t5 + a\* ES\_new\_t6

Mean\_AC\_sf\_t2 ~ y \*Mean\_AC\_sf\_t1 + b\* Mean\_GHQ\_t1

Mean\_AC\_sf\_t3 ~ y \*Mean\_AC\_sf\_t2 + b\* Mean\_GHQ\_t2 + c \* ES\_new\_t2

Mean\_AC\_sf\_t4 ~ y \*Mean\_AC\_sf\_t3 + b\* Mean\_GHQ\_t3 + c \* ES\_new\_t3

Mean\_AC\_sf\_t5 ~ y \*Mean\_AC\_sf\_t4 + b\* Mean\_GHQ\_t4 + c \* ES\_new\_t4

Mean\_AC\_sf\_t6 ~ y \*Mean\_AC\_sf\_t5 + b\* Mean\_GHQ\_t5 + c \* ES\_new\_t5

Mean\_GHQ\_t6 ~~ 0\* Mean\_AC\_sf\_t6

ab := a\*b

total := c + (a\*b)

'

fitACr <- sem(modelACr, data = jahoda12, missing = "fiml", estimator = "ML", fixed.x=FALSE)

summary(fitACr, standardized=TRUE, fit.measures=TRUE, ci=TRUE)

###Comparison of non-nested models

vuongtest(fitAC, fitACr)

icci (fitAC, fitACr)

#################Financial Strain#################

modelFSr <- '

ES\_new\_t2 ~ x\*ES\_new\_t1

ES\_new\_t3 ~ x\*ES\_new\_t2

ES\_new\_t4 ~ x\*ES\_new\_t3

ES\_new\_t5 ~ x\*ES\_new\_t4

ES\_new\_t6 ~ x\*ES\_new\_t5

Mean\_GHQ\_t2 ~ m\*Mean\_GHQ\_t1 + a\* ES\_new\_t2

Mean\_GHQ\_t3 ~ m\*Mean\_GHQ\_t2 + a\* ES\_new\_t3

Mean\_GHQ\_t4 ~ m\*Mean\_GHQ\_t3 + a\* ES\_new\_t4

Mean\_GHQ\_t5 ~ m\*Mean\_GHQ\_t4 + a\* ES\_new\_t5

Mean\_GHQ\_t6 ~ m\*Mean\_GHQ\_t5 + a\* ES\_new\_t6

Mean\_FS\_t2 ~ y \*Mean\_FS\_t1 + b\* Mean\_GHQ\_t1

Mean\_FS\_t3 ~ y \*Mean\_FS\_t2 + b\* Mean\_GHQ\_t2 + c \* ES\_new\_t2

Mean\_FS\_t4 ~ y \*Mean\_FS\_t3 + b\* Mean\_GHQ\_t3 + c \* ES\_new\_t3

Mean\_FS\_t5 ~ y \*Mean\_FS\_t4 + b\* Mean\_GHQ\_t4 + c \* ES\_new\_t4

Mean\_FS\_t6 ~ y \*Mean\_FS\_t5 + b\* Mean\_GHQ\_t5 + c \* ES\_new\_t5

Mean\_GHQ\_t6 ~~ 0\* Mean\_FS\_t6

ab := a\*b

total := c + (a\*b)

'

fitFSr <- sem(modelFSr, data = jahoda12, missing = "fiml", estimator = "ML", fixed.x=FALSE)

summary(fitFSr, standardized=TRUE, fit.measures=TRUE, ci=TRUE)

###Comparison of non-nested models

vuongtest(fitFS, fitFSr)

icci (fitFS, fitFSr)

#################Competence#################

modelComr <- '

ES\_new\_t2 ~ x\*ES\_new\_t1

ES\_new\_t3 ~ x\*ES\_new\_t2

ES\_new\_t4 ~ x\*ES\_new\_t3

ES\_new\_t5 ~ x\*ES\_new\_t4

ES\_new\_t6 ~ x\*ES\_new\_t5

Mean\_GHQ\_t2 ~ m\*Mean\_GHQ\_t1 + a\* ES\_new\_t2

Mean\_GHQ\_t3 ~ m\*Mean\_GHQ\_t2 + a\* ES\_new\_t3

Mean\_GHQ\_t4 ~ m\*Mean\_GHQ\_t3 + a\* ES\_new\_t4

Mean\_GHQ\_t5 ~ m\*Mean\_GHQ\_t4 + a\* ES\_new\_t5

Mean\_GHQ\_t6 ~ m\*Mean\_GHQ\_t5 + a\* ES\_new\_t6

Mean\_Com\_sf\_t2 ~ y \*Mean\_Com\_sf\_t1 + b\* Mean\_GHQ\_t1

Mean\_Com\_sf\_t3 ~ y \*Mean\_Com\_sf\_t2 + b\* Mean\_GHQ\_t2 + c \* ES\_new\_t2

Mean\_Com\_sf\_t4 ~ y \*Mean\_Com\_sf\_t3 + b\* Mean\_GHQ\_t3 + c \* ES\_new\_t3

Mean\_Com\_sf\_t5 ~ y \*Mean\_Com\_sf\_t4 + b\* Mean\_GHQ\_t4 + c \* ES\_new\_t4

Mean\_Com\_sf\_t6 ~ y \*Mean\_Com\_sf\_t5 + b\* Mean\_GHQ\_t5 + c \* ES\_new\_t5

Mean\_GHQ\_t6 ~~ 0\* Mean\_Com\_sf\_t6

ab := a\*b

total := c + (a\*b)

'

fitComr <- sem(modelComr, data = jahoda12, missing = "fiml", estimator = "ML", fixed.x=FALSE)

summary(fitComr, standardized=TRUE, fit.measures=TRUE, ci=TRUE)

###Comparison of non-nested models

vuongtest(fitCom, fitComr)

icci (fitCom, fitComr)

#################Autonomy#################

modelAutr <- '

ES\_new\_t2 ~ x\*ES\_new\_t1

ES\_new\_t3 ~ x\*ES\_new\_t2

ES\_new\_t4 ~ x\*ES\_new\_t3

ES\_new\_t5 ~ x\*ES\_new\_t4

ES\_new\_t6 ~ x\*ES\_new\_t5

Mean\_GHQ\_t2 ~ m\*Mean\_GHQ\_t1 + a\* ES\_new\_t2

Mean\_GHQ\_t3 ~ m\*Mean\_GHQ\_t2 + a\* ES\_new\_t3

Mean\_GHQ\_t4 ~ m\*Mean\_GHQ\_t3 + a\* ES\_new\_t4

Mean\_GHQ\_t5 ~ m\*Mean\_GHQ\_t4 + a\* ES\_new\_t5

Mean\_GHQ\_t6 ~ m\*Mean\_GHQ\_t5 + a\* ES\_new\_t6

Mean\_Aut\_sf\_t2 ~ y \*Mean\_Aut\_sf\_t1 + b\* Mean\_GHQ\_t1

Mean\_Aut\_sf\_t3 ~ y \*Mean\_Aut\_sf\_t2 + b\* Mean\_GHQ\_t2 + c \* ES\_new\_t2

Mean\_Aut\_sf\_t4 ~ y \*Mean\_Aut\_sf\_t3 + b\* Mean\_GHQ\_t3 + c \* ES\_new\_t3

Mean\_Aut\_sf\_t5 ~ y \*Mean\_Aut\_sf\_t4 + b\* Mean\_GHQ\_t4 + c \* ES\_new\_t4

Mean\_Aut\_sf\_t6 ~ y \*Mean\_Aut\_sf\_t5 + b\* Mean\_GHQ\_t5 + c \* ES\_new\_t5

Mean\_GHQ\_t6 ~~ 0\* Mean\_Aut\_sf\_t6

ab := a\*b

total := c + (a\*b)

'

fitAutr <- sem(modelAutr, data = jahoda12, missing = "fiml", estimator = "ML", fixed.x=FALSE)

summary(fitAutr, standardized=TRUE, fit.measures=TRUE, ci=TRUE)

###Comparison of non-nested models

vuongtest(fitAut, fitAutr)

icci (fitAut, fitAutr)