Manjinski stres i mentalno zdravlje: uloga samosuosjećanja

Oblaci

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Contents

Manjinski stres iz perspektive socijalne psihologije

Zašto uopće dolazi do podjele na manjinu i većinu i povezanog stresa?

Grupna članstva predstavljaju važan aspekt našeg identiteta. Teorija socijalnog identiteta (Tajfel i Turner, 1979) objašnjava da se u nastojanju da zadržimo pozitivno mišljenje o sebi pridružujemo grupama o kojima imam pozitivno mišljenje. No, s grupnim članstvom dolazi i prihvaćanje vrijednosti, svjetonazora, simbola i rituala koji su utkani u definiciju pojedine grupe, čime nam se, prema teoriji samokategoriziranja (Turner, 1999), otvaraju neke nove perspektive. Te nove perspektive mogu biti tek nadgradnja postojećih (npr., naučimo nove načine kako raditi ono što već radimo), dok druge mogu supstancijalno izmijeniti naš svjetonazor (npr., po pridruženju grupi prihvaćamo neke vrijednosti koje ranije nismo cijenili i pravila ponašanja koja ranije nismo slijedili). Ta pravila mogu uključivati i različite oblike prioritiziranja članova vlastite grupe nauštrb ostalih grupa: kod donošenja odluka možemo se primarno voditi socijalnim (grupnim) umjesto individualnim identitetom (Turner, 1999). Drugim riječima, procjenom da trebamo djelovati primarno kao član grupe, a ne kao pojedinac, prihvatili smo podjelu na „nas“ i „njih“ i našeg sugovornika kategorizirali kao člana vanjske grupe.

Teorija socijalnog identiteta (Tajfel i Turner, 1979) ističe da konstantno radimo podjele na „nas“ i „njih“ temeljem nama poznatih grupnih članstava, no naši kognitivni procesi idu i korak dalje. Naime, da bismo osigurali pozitivnu sliku o sebi, uspoređujemo grupe kojoj pripadamo s drugim grupama, pri čemu nastojimo potvrditi da je naša grupa bolja. Ako u tome dosljedno ne uspijevamo, možemo pokušati napustiti takvu grupu i učlaniti se u neku koja nam se čini boljom. Neke je grupe relativno lako napustiti (primjerice, grupu roditelja djece iz nekog razreda ako svoju djecu premjestimo u neku drugu školu). No, napuštanje drugih grupa (poput religijskih grupa) ili prestanak eksplicitnog poštivanja njihovih vrijednosti sa sobom može nositi brojne neugodne posljedice, poput osude, diskriminacije ili čak osvete preostalih članova (detaljniju raspravu o osvećivanju članovima vlastite grupe za koje se percipira kršenje pravila pogledati u Marques i Paez, 1994; Erikson i sur., 2021). Ako posljedice napuštanja grupe procjenjujemo neprihvatljivima (ili jednostavno ne želimo promijeniti grupu), preostaje nam usmjeriti se na poboljšanje percepcije vlastite grupe (Tajfel i Turner, 1979). No, ako nam je primarni cilj pokazati da je naša grupa bolja, je li realno očekivati da ćemo grupu koja je po nečem drugačija percipirati samo različitom ili ćemo ju ipak percipirati manje vrijednom jer, iz perspektive pravila koja smo usvojili, neke stvari radi „pogrešno“? I hoćemo li stati na jednom obilježju ili ćemo, sukladno horn efektu (Noor i sur., 2023), različitoj grupi zalijepiti više negativnih epiteta, često pozivajući se pritom na moralnost vlastite grupe?

Prikazani grubi opis temelja predrasuda primjenjiv na odnose različitih grupa. Pritom na umu valja imati da je odnos predrasuda između grupa najčešće simetričan – primjerice, istraživanja pokazuju da stavovi koje konzervativci imaju o liberalima nisu bitno različiti od stavova koje liberali imaju o konzervativcima (Chambers i sur., 2013). Takav rezultat nije iznenađujuć: evoluirali smo kao grupa i sve kognitivne pristranosti koje su čovjeku kao lovcu i sakupljaču iz kamenog doba pomogle opstati i proširiti se planetom prisutne su i u funkcioniranju suvremenog čovjeka (detaljnije u Fishbein, 2003). Iako je mehanizam proglašavanja različitosti lošima kao kognitivni prečac nekad omogućavao preživljavanje ljudskoj vrsti (uslijed, primjerice, očuvanja jasnih hijerarhija i uvježbanih procedura grupe), u suvremeno doba kad nismo više izravno izloženi predatorima njegova je korist upitna.

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- Eriksson, K., Strimling, P., Gelfand, M., Wu, J., Abernathy, J., Akotia, C. S., … i Van Lange, P. A. (2021). Perceptions of the appropriate response to norm violation in 57 societies. Nature communications, 12(1), 1481. https://doi.org/10.1038/s41467-021-21602-9
- Fishbein, H. D. (2003). The genetic/evolutionary basis of prejudice and hatred. Journal of Hate Studies, 3(1), 113-120. https://www.jstor.org/stable/48798812
- Marques, J. M. i Paez, D. (1994). The ‘black sheep effect’: Social categorization, rejection of ingroup deviates, and perception of group variability. European review of social psychology, 5(1), 37-68. https://doi.org/10.1080/14792779543000011

- Noor, N., Beram, S., Yuet, F. K. C., Gengatharan, K. i Rasidi, M. S. M. (2023). Bias, Halo Effect and Horn Effect: A Systematic Literature. International Journal of Academic Research in Business & Social Sciences, 13(3), 1116-1140. https://kwpublications.com/papers_submitted/10056/bias-halo-effect-and-horn-effect-a-systematic-literature-review.pdf
- Tajfel, H. i Turner, J. C. (1979). An integrative theory of inter-group conflict. U W. G. Austin i S. Worchel (Eds.), The social psychology of inter-group relations (str. 33–47). Monterey, CA: Brooks/Cole.
- Turner, J. C. (1999). Some current issues in research on social identity and self-categorization theories. In N. Ellemers, R. Spears, & B. Dossje (Eds.), Social identity: Context, commitment, content (pp. 6–34). Oxford, UK: Blackwell.

Aktivacija paketa

```
sapply(c("xfun", "mime", "haven", "ggplot2", "careless", "dplyr", "psych", "lavaan", "semTools"), libra
```

Učitavanje i priprema podataka

Iz ukupnog uzorka u prvom smo koraku isključili sve sudionike koji nisu potvrdno odgovorili na čestice informiranog pristanka (npr., sudionike koji su odgovorili da nisu pročitali tekst informiranog pristanka ili vjeruju da će ih naknadno biti moguće identificirati; $N = 10$). Osim što služi kao indikator pažnje sudionika, ovime smo umanjili i vjerojatnost pristranosti uslijed davanja društveno poželjnih odgovora zbog percipiranog izostanka anonimnosti. U sljedećem su koraku iz baze isključeni sudionici koji su nakon ispunjavanja svih upitnika odlučili povući pristanak na sudjelovanje u istraživanju ($N = 2$). Zatim smo isključili i sudionike koji su neobično mali ili velik broj puta za redom dali identičan odgovor. Operacionalno, z-vrijednosti njihovog najdužeg niza istih odgovora na čestice korištene u ovom istraživanju u odnosu na ostatak uzorka bile su ili veće od 3.09 ili manje od -3.09; $N = 2$) pod pretpostavkom nedovoljnog truda. Zatim smo isključili i sudionike za koje je, prema Mahalanobisovom statistiku, procijenjeno da je vjerojatnost pojave njihovog obrasca odgovora s obzirom na ostatak uzorka manja od .1% ($N = 13$). Konačno, s obzirom na temu istraživanja isključili smo i sudionike koje nije bilo moguće jednoznačno kategorizirati kao cisrodne heteroseksualne ili LGBTQ+ osobe ($N = 4$), što nas je dovelo do konačnog uzorka od 358 sudionika.

Kod određenja broja sudionika potrebnih za valjane zaključke vodili smo se dvama kriterijima. Prvo, uzevši u obzir očekivanu visoku unutarnju konzistenciju mjera (>= .8), za ostvarivanje stabilnih korelacija latentnih varijabli srednjih veličina učinka (r = .24; detaljnije u Lovakov i Agadullina, 2021) bilo je potrebno prikupiti podatke oko 350 sudionika (Kretzschmar i Gignac, 2019). S druge strane, ekstrapolacijom procjena simulacije provedene na kompleksnim medijacijskim modelima s punom medijacijom također se ispostavlja da bi kod mjera visoke unutarnje konzistencije (> .7 po čestici) uz tri do četiri indikatora po čestici za valjane rezultate uz umjerenu veličinu učinka bilo potrebno prikupiti 330 do 400 sudionika (Sim i sur., 2022;). Stoga je cilj bio prikupiti 350 do 400 sudionika. Općenito, uz ovakvu veličinu uzorka CFI i SRMR uspješno odbacuju netočno specificirane modele čak i uz malo stupnjeva slobode (Shi i sur., 2022).

- Kretzschmar, A. i Gignac, G. E. (2019). At what sample size do latent variable correlations stabilize? Journal of Research in Personality, 80, 17-22. https://doi.org/10.1016/j.jrp.2019.03.007
- Lovakov, A. i Agadullina, E. R. (2021). Empirically derived guidelines for effect size interpretation in social psychology. European Journal of Social Psychology, 51(3), 485-504. https://doi.org/10.1002/ejsp.2752
- Shi, D., DiStefano, C., Maydeu-Olivares, A. i Lee, T. (2022). Evaluating SEM model fit with small degrees of freedom. Multivariate behavioral research, 57(2-3), 179-207. https://doi.org/10.1080/00273171.2020.1868965

- Sim, M., Kim, S. Y. i Suh, Y. (2022). Sample size requirements for simple and complex mediation models. Educational and Psychological Measurement, 82(1), 76-106. https://doi.org/10.1177/00131644211003261

```
data <- read_sav("cishet_lgbtq.sav")
nrow(data)
```

```
## [1] 389
```

```
data <- subset(data, consent1 == "da" & consent2 == "da" & consent3 == "da" & consent4 == "da" & consen
nrow(data)
```

```
## [1] 379
```

```
data <- subset(data, consent_f == "da")
nrow(data)
```

```
## [1] 377
```

```
data <- data[which(as.data.frame(scale(longstring(data[, grep("min|dep|scs|sat", names(data))], avg = T
nrow(data)
```

```
## [1] 375
```

```
data <- data[which(outlier(data[, grep("min|dep|scs|sat", names(data))], plot = F) %>% as.numeric() < q
nrow(data)
```

```
## [1] 362
```

```
data$gndr_rec <- factor(ifelse(data$gndr %in% c("muški", "ženski") & data$sex_ori == "heteroseksualna os
data$gndrr <- ifelse(data$gndr_rec == "cis_het", 0, 1)
data$ageg_rec <- ifelse(data$ageg == "18-25 godina", 21.5,
                        ifelse(data$ageg == "26-30 godina", 28,
                               ifelse(data$ageg == "31-35 godina", 33,
                                      ifelse(data$ageg == "36-40 godina", 38,
                                             ifelse(data$ageg == "41-45 godina", 43,
                                                    ifelse(data$ageg == "46-50 godina", 48,
                                                           ifelse(data$ageg == "51-55 godina", 53,
                                                                  ifelse(data$ageg == "56-60 godina", 58
                                                                         ifelse(data$ageg == "61-65 godi
                                                                                ifelse(data$ageg == "66+
                                                                                       ifelse(data$ageg
data$ed <- ifelse(data$edu %in% c("doktorat", "fakultet"), 1, 0)
data$reg <- ifelse(data$region == "ne želim odgovoriti (i to je u redu :))", NA, data$region)

data <- subset(data, gndr_rec %in% c("cis_het", "lgbtq"))
nrow(data)
```

```
## [1] 358
```

```r
write_sav(data, "procisceni_podaci.sav")
embed_file("procisceni_podaci.sav")
```

```r
eval(parse(text = paste0("data$", c("scs1", "scs2", "scs4", "scs6", "scs8", "scs11", "scs13", "scs16",
```

Opis uzorka

```r
table(data$gndr_rec, exclude = NULL)
```

```
##
## cis_het   lgbtq
##     139     219
```

```r
round(prop.table(table(data$gndr_rec, exclude = NULL)), 2)
```

```
##
## cis_het   lgbtq
##    0.39    0.61
```

```r
table(data$gndr, data$gndr_rec, exclude = NULL)
```

```
##
##                               cis_het lgbtq
##   muški                            51    25
##   Nebinarna osoba                   0     1
##   preispitujem                      0     6
##   queer (gender)                    0     1
##   rodno varijantna osoba            0    15
##   transrodna/transspolna osoba      0     9
##   transrodni muškarac               0     1
##   ženski                           88   161
```

```r
round(prop.table(table(data$gndr, data$gndr_rec, exclude = NULL), margin = 2), 3)
```

```
##
##                               cis_het lgbtq
##   muški                         0.367 0.114
##   Nebinarna osoba               0.000 0.005
##   preispitujem                  0.000 0.027
##   queer (gender)                0.000 0.005
##   rodno varijantna osoba        0.000 0.068
##   transrodna/transspolna osoba  0.000 0.041
##   transrodni muškarac           0.000 0.005
##   ženski                        0.633 0.735
```

```r
t.test(data$ageg_rec ~ data$gndr_rec)
```

```
##
##  Welch Two Sample t-test
##
## data:  data$ageg_rec by data$gndr_rec
## t = 6.051, df = 233.02, p-value = 5.697e-09
## alternative hypothesis: true difference in means between group cis_het and group lgbtq is not equal t
## 95 percent confidence interval:
##  4.339586 8.529899
## sample estimates:
## mean in group cis_het   mean in group lgbtq
##              33.61511              27.18037
```

```r
t.test(data$ed ~ data$gndr_rec)
```

```
##
##  Welch Two Sample t-test
##
## data:  data$ed by data$gndr_rec
## t = 4.792, df = 326.45, p-value = 2.511e-06
## alternative hypothesis: true difference in means between group cis_het and group lgbtq is not equal t
## 95 percent confidence interval:
##  0.1399858 0.3349658
## sample estimates:
## mean in group cis_het   mean in group lgbtq
##             0.7625899             0.5251142
```

```r
round(prop.table(table(data$gndr_rec, data$region, exclude = NULL), margin = 1), 2)
```

```
##
##           kontinentalna Hrvatska ne stanujem u Hrvatskoj
##   cis_het                   0.73                    0.01
##   lgbtq                     0.69                    0.05
##
##           ne želim odgovoriti (i to je u redu :)) primorska Hrvatska
##   cis_het                                   0.00               0.26
##   lgbtq                                     0.00               0.26
```

Obilježja mjera

Simptomi depresije

```r
mod <- "dep =~ dep1 + dep2 + dep3 + dep4"
modmod <- sem(mod, estimator = "WLSMV", data = data, ordered = c("dep1", "dep2", "dep3", "dep4"))
parameterestimates(modmod, standardized = T) %>% filter(op == "=~")
```

```
##   lhs op  rhs   est    se      z pvalue ci.lower ci.upper std.lv std.all
```

```
## 1 dep =~ dep1 1.000 0.000     NA     NA    1.000    1.000  0.866   0.866
## 2 dep =~ dep2 0.948 0.038 24.986      0    0.874    1.022  0.821   0.821
## 3 dep =~ dep3 0.920 0.045 20.462      0    0.832    1.008  0.796   0.796
## 4 dep =~ dep4 0.900 0.039 23.296      0    0.825    0.976  0.779   0.779
```

```
fitmeasures(modmod, fit.measures = c("cfi.scaled", "rmsea.scaled", "rmsea.ci.lower.scaled", "rmsea.ci.u
```

```
##            cfi.scaled          rmsea.scaled rmsea.ci.lower.scaled
##                 0.978                 0.230                 0.171
## rmsea.ci.upper.scaled                  srmr
##                 0.295                 0.055
```

```
semTools::reliability(modmod)
```

```
## Warning in semTools::reliability(modmod):
## The reliability() function was deprecated in 2022 and will cease to be included in future versions o
##
## It is replaced by the compRelSEM() function, which can estimate alpha and model-based reliability in
##
## The average variance extracted should never have been included because it is not a reliability coeff

## For constructs with categorical indicators, Zumbo et al.`s (2007) "ordinal alpha" is calculated in a
```

```
##                 dep
## alpha     0.8323738
## alpha.ord 0.8772830
## omega     0.8448951
## omega2    0.8448951
## omega3    0.8631485
## avevar    0.6660211
```

Zadovoljstvo životom

```
mod <- "sat =~ sat1 + sat2 + sat3 + sat4 + sat5 + sat6"
modmod <- sem(mod, estimator = "MLR", data = data)
parameterestimates(modmod, standardized = T) %>% filter(op == "=~")
```

```
##   lhs op  rhs   est    se      z pvalue ci.lower ci.upper std.lv std.all
## 1 sat =~ sat1 1.000 0.000     NA     NA    1.000    1.000  1.942   0.836
## 2 sat =~ sat2 0.923 0.072 12.830      0    0.782    1.064  1.792   0.717
## 3 sat =~ sat3 0.742 0.073 10.139      0    0.598    0.885  1.440   0.612
## 4 sat =~ sat4 0.717 0.069 10.381      0    0.581    0.852  1.392   0.639
## 5 sat =~ sat5 0.915 0.058 15.644      0    0.800    1.029  1.776   0.675
## 6 sat =~ sat6 0.644 0.081  7.979      0    0.485    0.802  1.250   0.486
```

```
fitmeasures(modmod, fit.measures = c("cfi.robust", "rmsea.robust", "rmsea.ci.lower.robust", "rmsea.ci.u
```

```
##            cfi.robust          rmsea.robust rmsea.ci.lower.robust
##                 0.954                 0.100                 0.068
## rmsea.ci.upper.robust                  srmr
##                 0.134                 0.042
```

```
reliability(modmod)
```

```
## Warning in reliability(modmod):
## The reliability() function was deprecated in 2022 and will cease to be included in future versions o
##
## It is replaced by the compRelSEM() function, which can estimate alpha and model-based reliability in
##
## The average variance extracted should never have been included because it is not a reliability coeffi
```

```
##              sat
## alpha  0.8199577
## omega  0.8232756
## omega2 0.8232756
## omega3 0.8217089
## avevar 0.4430470
```

Manjinski stres

```
mod <- "mstres1 =~ min1 + min2 + min3
        mstres2 =~ min4 + min5 + min6
        mstres3 =~ min7 + min8 + min9"
modmod <- sem(mod, estimator = "MLR", data = data)
parameterestimates(modmod, standardized = T) %>% filter(op == "=~")
```

```
##       lhs op  rhs   est    se      z pvalue ci.lower ci.upper std.lv std.all
## 1 mstres1 =~ min1 1.000 0.000     NA     NA    1.000    1.000  1.200   0.833
## 2 mstres1 =~ min2 0.977 0.058 16.871      0    0.864    1.091  1.173   0.770
## 3 mstres1 =~ min3 0.884 0.076 11.693      0    0.736    1.033  1.061   0.755
## 4 mstres2 =~ min4 1.000 0.000     NA     NA    1.000    1.000  0.690   0.721
## 5 mstres2 =~ min5 0.638 0.065  9.807      0    0.511    0.766  0.441   0.517
## 6 mstres2 =~ min6 1.264 0.154  8.218      0    0.963    1.566  0.873   0.794
## 7 mstres3 =~ min7 1.000 0.000     NA     NA    1.000    1.000  0.831   0.693
## 8 mstres3 =~ min8 1.347 0.092 14.629      0    1.167    1.528  1.119   0.884
## 9 mstres3 =~ min9 1.481 0.096 15.463      0    1.293    1.668  1.230   0.886
```

```
fitmeasures(modmod, fit.measures = c("cfi.robust", "rmsea.robust", "rmsea.ci.lower.robust", "rmsea.ci.u
```

```
##            cfi.robust          rmsea.robust rmsea.ci.lower.robust
##                 0.938                 0.103                 0.084
## rmsea.ci.upper.robust                  srmr
##                 0.124                 0.062
```

```
reliability(modmod)
```

```
## Warning in reliability(modmod):
## The reliability() function was deprecated in 2022 and will cease to be included in future versions o
##
## It is replaced by the compRelSEM() function, which can estimate alpha and model-based reliability in
##
## The average variance extracted should never have been included because it is not a reliability coeffi
```

```
##          mstres1   mstres2   mstres3
## alpha  0.8249764 0.7282460 0.8569284
## omega  0.8294415 0.7390514 0.8698643
## omega2 0.8294415 0.7390514 0.8698643
## omega3 0.8335486 0.7247674 0.8725342
## avevar 0.6191178 0.5026167 0.6955196
```

```
lavInspect(modmod, "cor.lv")
```

```
##         mstrs1 mstrs2 mstrs3
## mstres1  1.000
## mstres2  0.314  1.000
## mstres3  0.540  0.726  1.000
```

```
mod <- "mstres =~ min1 + min2 + min3 + min4 + min5 + min6 + min7 + min8 + min9
        min1 ~~ min2
        min2 ~~ min3
        min1 ~~ min3
        min4 ~~ min5
        min5 ~~ min6
        min4 ~~ min6
        min7 ~~ min8
        min8 ~~ min9
        min7 ~~ min9"
modmod <- sem(mod, estimator = "MLR", data = data)
```

```
## Warning: lavaan->lav_object_post_check():
##    the covariance matrix of the residuals of the observed variables (theta)
##    is not positive definite ; use lavInspect(fit, "theta") to investigate.
```

```
lavInspect(modmod, "theta")
```

```
##        min1   min2   min3   min4   min5   min6   min7   min8   min9
## min1  1.833
## min2  1.184  1.961
## min3  0.914  0.708  1.449
## min4  0.000  0.000  0.000  0.724
## min5  0.000  0.000  0.000  0.339  0.681
## min6  0.000  0.000  0.000  0.284  0.205  0.780
## min7  0.000  0.000  0.000  0.000  0.000  0.000  0.551
## min8  0.000  0.000  0.000  0.000  0.000  0.000 -0.229  0.163
## min9  0.000  0.000  0.000  0.000  0.000  0.000 -0.197 -0.166  0.251
```

```
mod <- "mstres =~ min1 + min2 + min3 + min4 + min5 + min6 + min7 + min8 + min9
        min1 ~~ min2
        min2 ~~ min3
        min1 ~~ min3
        min4 ~~ min5
        min5 ~~ min6
        min4 ~~ min6
        min7 ~~ min8
```

```
        min7 ~~ min9"
modmod <- sem(mod, estimator = "MLR", data = data)
parameterestimates(modmod, standardized = T) %>% filter(op == "=~")
```

```
##      lhs op  rhs   est    se     z pvalue ci.lower ci.upper std.lv std.all
## 1 mstres =~ min1 1.000 0.000    NA     NA    1.000    1.000  0.509   0.354
## 2 mstres =~ min2 1.241 0.148 8.376      0    0.950    1.531  0.632   0.415
## 3 mstres =~ min3 1.489 0.207 7.204      0    1.084    1.894  0.758   0.540
## 4 mstres =~ min4 0.896 0.158 5.682      0    0.587    1.205  0.456   0.477
## 5 mstres =~ min5 0.427 0.117 3.641      0    0.197    0.657  0.218   0.255
## 6 mstres =~ min6 1.353 0.237 5.716      0    0.889    1.817  0.689   0.627
## 7 mstres =~ min7 1.767 0.263 6.711      0    1.251    2.283  0.900   0.751
## 8 mstres =~ min8 2.229 0.342 6.511      0    1.558    2.901  1.136   0.897
## 9 mstres =~ min9 2.402 0.367 6.542      0    1.682    3.121  1.224   0.882
```

```
fitmeasures(modmod, fit.measures = c("cfi.robust", "rmsea.robust", "rmsea.ci.lower.robust", "rmsea.ci.u
```

```
##            cfi.robust          rmsea.robust rmsea.ci.lower.robust
##                 0.995                 0.032                 0.000
## rmsea.ci.upper.robust                  srmr
##                 0.062                 0.027
```

```
reliability(modmod)
```

```
## Warning in reliability(modmod):
## The reliability() function was deprecated in 2022 and will cease to be included in future versions o
##
## It is replaced by the compRelSEM() function, which can estimate alpha and model-based reliability in
##
## The average variance extracted should never have been included because it is not a reliability coeffi
```

```
##           mstres
## alpha  0.8455354
## omega  0.7369633
## omega2 0.7369633
## omega3 0.7450808
## avevar 0.3921325
```

Samosuosjećanje

```
mod <- "scs =~ scs6 + scs26 + scs14 + scs13 + scs15 + scs12 + scs9 + scs25 + scs2 + scs10 + scs1 + scs1
        scs12 ~~ scs26
        scs2 ~~ scs6
        scs10 ~~ scs15
        scs14 ~~ scs9
        scs13 ~~ scs25
        scs1 ~~ scs11"
modmod <- sem(mod, estimator = "MLR", data = data)
summary(modmod, standardized = T, fit.measures = T)
```

```
## lavaan 0.6-19 ended normally after 28 iterations
##
##   Estimator                                         ML
##   Optimization method                           NLMINB
##   Number of model parameters                        30
##
##   Number of observations                           358
##
## Model Test User Model:
##                                              Standard      Scaled
##   Test Statistic                              459.183     410.370
##   Degrees of freedom                               48          48
##   P-value (Chi-square)                          0.000       0.000
##   Scaling correction factor                                 1.119
##     Yuan-Bentler correction (Mplus variant)
##
## Model Test Baseline Model:
##
##   Test statistic                             1844.071    1543.018
##   Degrees of freedom                               66          66
##   P-value                                       0.000       0.000
##   Scaling correction factor                                 1.195
##
## User Model versus Baseline Model:
##
##   Comparative Fit Index (CFI)                   0.769       0.755
##   Tucker-Lewis Index (TLI)                      0.682       0.663
##
##   Robust Comparative Fit Index (CFI)                        0.770
##   Robust Tucker-Lewis Index (TLI)                           0.684
##
## Loglikelihood and Information Criteria:
##
##   Loglikelihood user model (H0)              -6002.571   -6002.571
##   Scaling correction factor                                 1.095
##       for the MLR correction
##   Loglikelihood unrestricted model (H1)      -5772.979   -5772.979
##   Scaling correction factor                                 1.110
##       for the MLR correction
##
##   Akaike (AIC)                               12065.142   12065.142
##   Bayesian (BIC)                             12181.558   12181.558
##   Sample-size adjusted Bayesian (SABIC)      12086.384   12086.384
##
## Root Mean Square Error of Approximation:
##
##   RMSEA                                         0.155       0.145
##   90 Percent confidence interval - lower        0.142       0.133
##   90 Percent confidence interval - upper        0.168       0.158
##   P-value H_0: RMSEA <= 0.050                   0.000       0.000
##   P-value H_0: RMSEA >= 0.080                   1.000       1.000
##
##   Robust RMSEA                                              0.154
##   90 Percent confidence interval - lower                    0.140
```

```
##   90 Percent confidence interval - upper                    0.167
##   P-value H_0: Robust RMSEA <= 0.050                        0.000
##   P-value H_0: Robust RMSEA >= 0.080                        1.000
##
## Standardized Root Mean Square Residual:
##
##   SRMR                                           0.131       0.131
##
## Parameter Estimates:
##
##   Standard errors                             Sandwich
##   Information bread                           Observed
##   Observed information based on                Hessian
##
## Latent Variables:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##   scs =~
##     scs6             1.000                               0.800    0.679
##     scs26            0.543    0.129    4.212    0.000    0.435    0.440
##     scs14            0.552    0.129    4.288    0.000    0.441    0.451
##     scs13            1.041    0.104    9.984    0.000    0.833    0.602
##     scs15            0.621    0.146    4.241    0.000    0.497    0.467
##     scs12            0.551    0.139    3.965    0.000    0.441    0.395
##     scs9             0.420    0.117    3.603    0.000    0.336    0.329
##     scs25            1.093    0.079   13.774    0.000    0.874    0.686
##     scs2             1.295    0.108   11.960    0.000    1.036    0.792
##     scs10            0.423    0.124    3.402    0.001    0.338    0.305
##     scs1             1.119    0.095   11.722    0.000    0.895    0.741
##     scs11            1.118    0.116    9.604    0.000    0.895    0.718
##
## Covariances:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##  .scs26 ~~
##    .scs12            0.389    0.071    5.460    0.000    0.389    0.428
##  .scs6 ~~
##    .scs2            -0.022    0.073   -0.301    0.763   -0.022   -0.032
##  .scs15 ~~
##    .scs10            0.335    0.064    5.253    0.000    0.335    0.337
##  .scs14 ~~
##    .scs9             0.402    0.065    6.163    0.000    0.402    0.477
##  .scs13 ~~
##    .scs25            0.013    0.066    0.203    0.839    0.013    0.013
##  .scs1 ~~
##    .scs11            0.165    0.059    2.814    0.005    0.165    0.235
##
## Variances:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##    .scs6             0.749    0.106    7.093    0.000    0.749    0.539
##    .scs26            0.787    0.071   11.086    0.000    0.787    0.806
##    .scs14            0.762    0.070   10.933    0.000    0.762    0.796
##    .scs13            1.219    0.108   11.248    0.000    1.219    0.638
##    .scs15            0.883    0.084   10.561    0.000    0.883    0.782
##    .scs12            1.054    0.083   12.681    0.000    1.054    0.844
##    .scs9             0.934    0.071   13.177    0.000    0.934    0.892
```

```
##    .scs25            0.859    0.088    9.811    0.000    0.859    0.529
##    .scs2             0.640    0.083    7.693    0.000    0.640    0.373
##    .scs10            1.119    0.082   13.605    0.000    1.119    0.907
##    .scs1             0.658    0.070    9.361    0.000    0.658    0.451
##    .scs11            0.751    0.074   10.113    0.000    0.751    0.484
##     scs              0.640    0.119    5.397    0.000    1.000    1.000
```

```
reliability(modmod)
```

```
## Warning in reliability(modmod):
## The reliability() function was deprecated in 2022 and will cease to be included in future versions o
##
## It is replaced by the compRelSEM() function, which can estimate alpha and model-based reliability in
##
## The average variance extracted should never have been included because it is not a reliability coeffi
```

```
##              scs
## alpha  0.8631191
## omega  0.8249187
## omega2 0.8249187
## omega3 0.7864078
## avevar 0.3586738
```

```
mod <- "scs =~ scs6 + scs26 + scs14 + scs13 + scs15 + scs12 + scs9 + scs25 + scs2 + scs10 + scs1 + scs1
        scs26 ~~ scs12
        scs26 ~~ scs14
        scs26 ~~ scs9
        scs26 ~~ scs15
        scs26 ~~ scs10
        scs12 ~~ scs14
        scs12 ~~ scs9
        scs12 ~~ scs15
        scs12 ~~ scs10
        scs14 ~~ scs9
        scs14 ~~ scs15
        scs14 ~~ scs10
        scs9 ~~ scs15
        scs9 ~~ scs10
        scs15 ~~ scs10"
modmod <- sem(mod, estimator = "MLR", data = data)
summary(modmod, standardized = T, fit.measures = T)
```

```
## lavaan 0.6-19 ended normally after 35 iterations
##
##   Estimator                                         ML
##   Optimization method                           NLMINB
##   Number of model parameters                        39
##
##   Number of observations                           358
##
## Model Test User Model:
##                                              Standard      Scaled
```

```
##   Test Statistic                                127.896     108.631
##   Degrees of freedom                                39          39
##   P-value (Chi-square)                           0.000       0.000
##   Scaling correction factor                                  1.177
##     Yuan-Bentler correction (Mplus variant)
##
## Model Test Baseline Model:
##
##   Test statistic                               1844.071    1543.018
##   Degrees of freedom                                66          66
##   P-value                                        0.000       0.000
##   Scaling correction factor                                  1.195
##
## User Model versus Baseline Model:
##
##   Comparative Fit Index (CFI)                    0.950       0.953
##   Tucker-Lewis Index (TLI)                       0.915       0.920
##
##   Robust Comparative Fit Index (CFI)                         0.954
##   Robust Tucker-Lewis Index (TLI)                            0.921
##
## Loglikelihood and Information Criteria:
##
##   Loglikelihood user model (H0)              -5836.927   -5836.927
##   Scaling correction factor                                  1.042
##       for the MLR correction
##   Loglikelihood unrestricted model (H1)      -5772.979   -5772.979
##   Scaling correction factor                                  1.110
##       for the MLR correction
##
##   Akaike (AIC)                               11751.855   11751.855
##   Bayesian (BIC)                             11903.196   11903.196
##   Sample-size adjusted Bayesian (SABIC)      11779.469   11779.469
##
## Root Mean Square Error of Approximation:
##
##   RMSEA                                          0.080       0.071
##   90 Percent confidence interval - lower         0.065       0.056
##   90 Percent confidence interval - upper         0.095       0.085
##   P-value H_0: RMSEA <= 0.050                    0.001       0.010
##   P-value H_0: RMSEA >= 0.080                    0.509       0.151
##
##   Robust RMSEA                                               0.077
##   90 Percent confidence interval - lower                     0.060
##   90 Percent confidence interval - upper                     0.094
##   P-value H_0: Robust RMSEA <= 0.050                         0.006
##   P-value H_0: Robust RMSEA >= 0.080                         0.391
##
## Standardized Root Mean Square Residual:
##
##   SRMR                                           0.043       0.043
##
## Parameter Estimates:
##
```

```
##   Standard errors                             Sandwich
##   Information bread                           Observed
##   Observed information based on                Hessian
##
## Latent Variables:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##   scs =~
##     scs6             1.000                               0.831    0.705
##     scs26            0.441    0.077    5.760    0.000    0.367    0.371
##     scs14            0.416    0.078    5.347    0.000    0.346    0.354
##     scs13            0.983    0.087   11.269    0.000    0.817    0.591
##     scs15            0.482    0.085    5.685    0.000    0.401    0.377
##     scs12            0.428    0.086    4.966    0.000    0.356    0.319
##     scs9             0.315    0.081    3.891    0.000    0.262    0.256
##     scs25            1.067    0.064   16.621    0.000    0.887    0.696
##     scs2             1.224    0.087   14.139    0.000    1.017    0.777
##     scs10            0.312    0.087    3.575    0.000    0.259    0.233
##     scs1             1.150    0.079   14.552    0.000    0.956    0.791
##     scs11            1.125    0.088   12.757    0.000    0.935    0.751
##
## Covariances:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##  .scs26 ~~
##    .scs12            0.451    0.059    7.681    0.000    0.451    0.464
##    .scs14            0.336    0.048    6.948    0.000    0.336    0.401
##    .scs9             0.326    0.050    6.557    0.000    0.326    0.359
##    .scs15            0.490    0.054    9.089    0.000    0.490    0.543
##    .scs10            0.371    0.060    6.195    0.000    0.371    0.375
##  .scs14 ~~
##    .scs12            0.427    0.053    8.079    0.000    0.427    0.441
##  .scs12 ~~
##    .scs9             0.304    0.062    4.892    0.000    0.304    0.291
##  .scs15 ~~
##    .scs12            0.459    0.059    7.762    0.000    0.459    0.441
##  .scs12 ~~
##    .scs10            0.479    0.065    7.322    0.000    0.479    0.419
##  .scs14 ~~
##    .scs9             0.460    0.056    8.214    0.000    0.460    0.508
##    .scs15            0.494    0.057    8.646    0.000    0.494    0.549
##    .scs10            0.296    0.052    5.673    0.000    0.296    0.300
##  .scs15 ~~
##    .scs9             0.344    0.059    5.809    0.000    0.344    0.353
##  .scs9 ~~
##    .scs10            0.299    0.059    5.080    0.000    0.299    0.280
##  .scs15 ~~
##    .scs10            0.399    0.054    7.369    0.000    0.399    0.376
##
## Variances:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##    .scs6             0.698    0.079    8.893    0.000    0.698    0.503
##    .scs26            0.841    0.060   13.948    0.000    0.841    0.862
##    .scs14            0.838    0.060   14.057    0.000    0.838    0.875
##    .scs13            1.246    0.109   11.384    0.000    1.246    0.651
##    .scs15            0.969    0.064   15.107    0.000    0.969    0.858
```

```
##    .scs12            1.121    0.072   15.601    0.000    1.121    0.899
##    .scs9             0.978    0.066   14.898    0.000    0.978    0.935
##    .scs25            0.838    0.077   10.916    0.000    0.838    0.516
##    .scs2             0.679    0.073    9.249    0.000    0.679    0.396
##    .scs10            1.166    0.079   14.725    0.000    1.166    0.946
##    .scs1             0.546    0.057    9.612    0.000    0.546    0.374
##    .scs11            0.678    0.069    9.756    0.000    0.678    0.437
##     scs              0.691    0.091    7.590    0.000    1.000    1.000
```

```
reliability(modmod)
```

```
## Warning in reliability(modmod):
## The reliability() function was deprecated in 2022 and will cease to be included in future versions o
##
## It is replaced by the compRelSEM() function, which can estimate alpha and model-based reliability in
##
## The average variance extracted should never have been included because it is not a reliability coeffi
```

```
##             scs
## alpha  0.8631191
## omega  0.7108270
## omega2 0.7108270
## omega3 0.7102085
## avevar 0.3474683
```

Razlike u prosjecima

```
t_test_summary <- function(data, dvs, ivar) {
  data[[ivar]] <- factor(data[[ivar]])
  if (length(levels(data[[ivar]])) != 2) {
    stop("Nezavisna varijabla mora imati točno dvije razine.")
  }
  results <- data.frame(
    variable = character(),
    mean_group1 = numeric(),
    mean_group2 = numeric(),
    t = numeric(),
    df = numeric(),
    p = numeric(),
    cohen_d = numeric(),
    stringsAsFactors = FALSE
  )
  for (dv in dvs) {
    formula <- as.formula(paste(dv, "~", ivar))
    t_res <- t.test(formula, data = data, var.equal = F)
    g1 <- data[data[[ivar]] == levels(data[[ivar]])[1], dv]
    g2 <- data[data[[ivar]] == levels(data[[ivar]])[2], dv]
    g1 <- g1[!is.na(g1)]
    g2 <- g2[!is.na(g2)]
```

```
    pooled_sd <- sqrt(((length(g1) - 1) * var(g1) + (length(g2) - 1) * var(g2)) / (length(g1) + length(g
    d <- (mean(g1) - mean(g2)) / pooled_sd

    results <- rbind(results, data.frame(
      variable = dv,
      mean_group1 = round(mean(g1), 2),
      mean_group2 = round(mean(g2), 2),
      t = round(as.numeric(t_res$statistic), 2),
      df = round(as.numeric(t_res$parameter), 2),
      p = round(t_res$p.value, 3),
      cohen_d = round(d, 2),
      mean_poms_group1 = round((mean(g1) - min(c(g1, g2)))/(max(g1) - min(c(g1, g2))), 2),
      mean_poms_group2 = round((mean(g2) - min(c(g1, g2)))/(max(g2) - min(c(g1, g2))), 2)
    ))
  }
  return(results)
}

t_test_summary(data, grep("dep|sat|min", names(data), value = T), "gndr_rec") #bonferroni p .0026
```

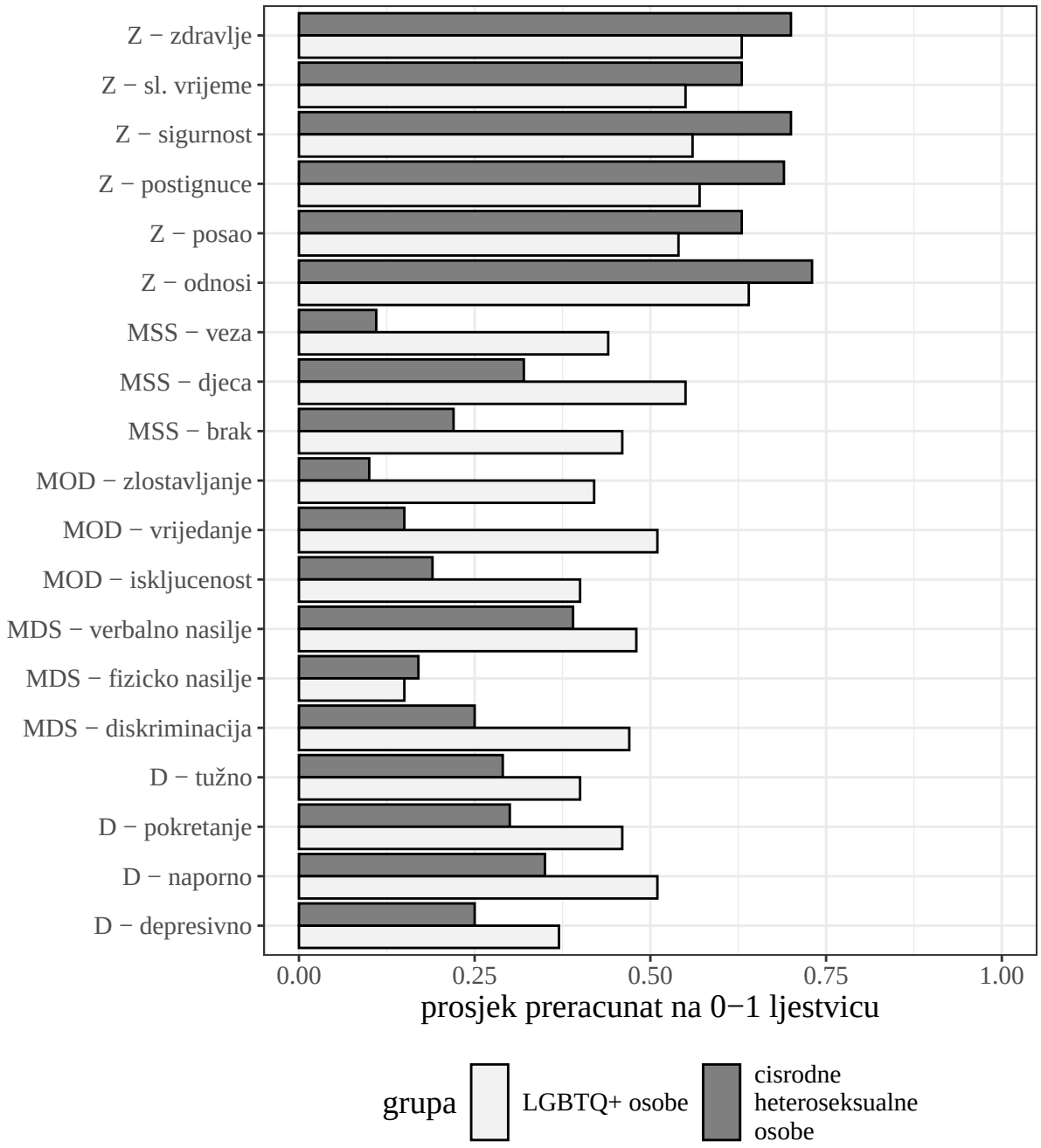
```
##    variable mean_group1 mean_group2      t     df     p cohen_d
## 1      dep1        1.76        2.12  -4.19 293.82 0.000   -0.45
## 2      dep2        2.06        2.52  -4.81 302.11 0.000   -0.52
## 3      dep3        1.87        2.21  -4.27 295.66 0.000   -0.46
## 4      dep4        1.91        2.39  -4.93 317.81 0.000   -0.52
## 5      sat1        6.87        5.72   4.68 291.05 0.000    0.51
## 6      sat2        6.96        5.62   5.01 273.06 0.000    0.56
## 7      sat3        7.01        6.27   2.91 290.70 0.004    0.32
## 8      sat4        7.31        6.38   3.96 278.68 0.000    0.44
## 9      sat5        6.33        5.45   3.07 277.28 0.002    0.34
## 10     sat6        6.27        5.55   2.56 281.58 0.011    0.28
## 11     min1        1.86        2.83  -6.75 323.07 0.000   -0.71
## 12     min2        2.28        3.18  -5.67 289.54 0.000   -0.62
## 13     min3        1.45        2.78 -10.58 354.29 0.000   -1.06
## 14     min4        2.55        2.91  -3.52 288.49 0.001   -0.38
## 15     min5        1.50        1.61  -1.18 303.71 0.238   -0.13
## 16     min6        2.00        2.89  -8.10 293.38 0.000   -0.88
## 17     min7        1.74        2.59  -7.20 328.72 0.000   -0.75
## 18     min8        1.41        2.69 -12.00 353.20 0.000   -1.16
## 19     min9        1.60        3.04 -11.94 352.59 0.000   -1.20
##    mean_poms_group1 mean_poms_group2
## 1              0.25             0.37
## 2              0.35             0.51
## 3              0.29             0.40
## 4              0.30             0.46
## 5              0.69             0.57
## 6              0.70             0.56
## 7              0.70             0.63
## 8              0.73             0.64
## 9              0.63             0.54
## 10             0.63             0.55
## 11             0.22             0.46
## 12             0.32             0.55
```

```
## 13             0.11             0.44
## 14             0.39             0.48
## 15             0.17             0.15
## 16             0.25             0.47
## 17             0.19             0.40
## 18             0.10             0.42
## 19             0.15             0.51
```

```
dp <- t_test_summary(data, grep("dep|sat|min", names(data), value = T), "gndr_rec") #bonferroni p .0026

dp %>%
  select(mean_poms_group1, mean_poms_group2, variable) %>%
  tidyr::pivot_longer(., 1:2) %>%
  mutate(name = factor(ifelse(name == "mean_poms_group1", "cisrodne\nheteroseksualne\nosobe", "LGBTQ+ os
         variable = ifelse(variable == "dep1", "D - depresivno",
                           ifelse(variable == "dep2", "D - naporno",
                                  ifelse(variable == "dep3", "D - tužno",
                                         ifelse(variable == "dep4", "D - pokretanje",
                                                ifelse(variable == "sat1", "Z - postignuće",
                                                       ifelse(variable == "sat2", "Z - sigurnost",
                                                              ifelse(variable == "sat3", "Z - zdravlje"
                                                                     ifelse(variable == "sat4", "Z - odr
                                                                            ifelse(variable == "sat5",
                                                                                   ifelse(variable == "
                                                                                          ifelse(variabl
                                                                                                 ifelse
  ggplot(aes(x = variable, y = value, fill = name)) +
  geom_histogram(stat = "identity", position = position_dodge(width = .9), col = "black") +
  theme_bw() +
  ylim(c(0, 1)) +
  ylab("prosjek preračunat na 0-1 ljestvicu") +
  xlab("") +
  scale_fill_manual("grupa", values = c("gray95", "gray50")) +
  theme(text = element_text(size = 14, family = "serif"), legend.position = "bottom") +
  coord_flip()
```

```
## Warning in geom_histogram(stat = "identity", position = position_dodge(width =
## 0.9), : Ignoring unknown parameters: `binwidth`, `bins`, and `pad`
```



Medijacije

Osnovni modeli

Simptomi depresije

```
mod <- "dep =~ dep1 + dep2 + dep3 + dep4
        dep ~ gndr_rec"
```

```r
modmod <- sem(mod, estimator = "WLSMV", data = data, ordered = c("dep1", "dep2", "dep3", "dep4"))
summary(modmod, standardized = T, fit.measures = T, rsq = T)
```

```
## lavaan 0.6-19 ended normally after 13 iterations
##
##   Estimator                                         DWLS
##   Optimization method                           NLMINB
##   Number of model parameters                        17
##
##   Number of observations                           358
##
## Model Test User Model:
##                                              Standard      Scaled
##   Test Statistic                               27.984      49.205
##   Degrees of freedom                                5           5
##   P-value (Chi-square)                          0.000       0.000
##   Scaling correction factor                                 0.574
##   Shift parameter                                           0.491
##     simple second-order correction
##
## Model Test Baseline Model:
##
##   Test statistic                             2019.367    1521.140
##   Degrees of freedom                                6           6
##   P-value                                       0.000       0.000
##   Scaling correction factor                                 1.329
##
## User Model versus Baseline Model:
##
##   Comparative Fit Index (CFI)                   0.989       0.971
##   Tucker-Lewis Index (TLI)                      0.986       0.965
##
##   Robust Comparative Fit Index (CFI)                           NA
##   Robust Tucker-Lewis Index (TLI)                              NA
##
## Root Mean Square Error of Approximation:
##
##   RMSEA                                         0.113       0.157
##   90 Percent confidence interval - lower        0.075       0.119
##   90 Percent confidence interval - upper        0.156       0.199
##   P-value H_0: RMSEA <= 0.050                   0.005       0.000
##   P-value H_0: RMSEA >= 0.080                   0.925       0.999
##
##   Robust RMSEA                                                 NA
##   90 Percent confidence interval - lower                       NA
##   90 Percent confidence interval - upper                       NA
##   P-value H_0: Robust RMSEA <= 0.050                           NA
##   P-value H_0: Robust RMSEA >= 0.080                           NA
##
## Standardized Root Mean Square Residual:
##
##   SRMR                                          0.056       0.056
##
```

```
## Parameter Estimates:
##
##   Parameterization                              Delta
##   Standard errors                           Robust.sem
##   Information                                 Expected
##   Information saturated (h1) model        Unstructured
##
## Latent Variables:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##   dep =~
##     dep1             1.000                               0.901    0.867
##     dep2             0.940    0.040   23.597    0.000    0.847    0.819
##     dep3             0.914    0.047   19.269    0.000    0.823    0.797
##     dep4             0.890    0.041   21.647    0.000    0.801    0.778
##
## Regressions:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##   dep ~
##     gndr_rec         0.574    0.104    5.546    0.000    0.637    0.311
##
## Thresholds:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##     dep1|t1          0.272    0.197    1.384    0.166    0.272    0.262
##     dep1|t2          1.619    0.206    7.862    0.000    1.619    1.559
##     dep1|t3          2.552    0.218   11.728    0.000    2.552    2.457
##     dep2|t1          0.003    0.201    0.014    0.989    0.003    0.003
##     dep2|t2          1.037    0.204    5.075    0.000    1.037    1.002
##     dep2|t3          2.207    0.216   10.233    0.000    2.207    2.134
##     dep3|t1         -0.008    0.199   -0.038    0.969   -0.008   -0.007
##     dep3|t2          1.579    0.211    7.493    0.000    1.579    1.530
##     dep3|t3          2.624    0.226   11.619    0.000    2.624    2.542
##     dep4|t1          0.238    0.203    1.171    0.242    0.238    0.231
##     dep4|t2          1.276    0.210    6.070    0.000    1.276    1.239
##     dep4|t3          2.199    0.228    9.646    0.000    2.199    2.134
##
## Variances:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##    .dep1             0.267                               0.267    0.248
##    .dep2             0.353                               0.353    0.330
##    .dep3             0.388                               0.388    0.364
##    .dep4             0.420                               0.420    0.395
##    .dep              0.733    0.047   15.753    0.000    0.903    0.903
##
## R-Square:
##                   Estimate
##     dep1             0.752
##     dep2             0.670
##     dep3             0.636
##     dep4             0.605
##     dep              0.097
```

Zadovoljstvo

```
mod <- "sat =~ sat1 + sat2 + sat3 + sat4 + sat5 + sat6
        sat ~ gndr_rec"
modmod <- sem(mod, estimator = "MLR", data = data)
summary(modmod, standardized = T, fit.measures = T, rsq = T)
```

```
## lavaan 0.6-19 ended normally after 30 iterations
##
##   Estimator                                         ML
##   Optimization method                           NLMINB
##   Number of model parameters                        13
##
##   Number of observations                           358
##
## Model Test User Model:
##                                              Standard      Scaled
##   Test Statistic                               46.506      42.190
##   Degrees of freedom                               14          14
##   P-value (Chi-square)                          0.000       0.000
##   Scaling correction factor                                 1.102
##     Yuan-Bentler correction (Mplus variant)
##
## Model Test Baseline Model:
##
##   Test statistic                              746.006     639.474
##   Degrees of freedom                               21          21
##   P-value                                       0.000       0.000
##   Scaling correction factor                                 1.167
##
## User Model versus Baseline Model:
##
##   Comparative Fit Index (CFI)                   0.955       0.954
##   Tucker-Lewis Index (TLI)                      0.933       0.932
##
##   Robust Comparative Fit Index (CFI)                        0.957
##   Robust Tucker-Lewis Index (TLI)                           0.935
##
## Loglikelihood and Information Criteria:
##
##   Loglikelihood user model (H0)              -4597.098   -4597.098
##   Scaling correction factor                                 1.051
##       for the MLR correction
##   Loglikelihood unrestricted model (H1)      -4573.845   -4573.845
##   Scaling correction factor                                 1.078
##       for the MLR correction
##
##   Akaike (AIC)                                9220.195    9220.195
##   Bayesian (BIC)                              9270.642    9270.642
##   Sample-size adjusted Bayesian (SABIC)       9229.400    9229.400
##
## Root Mean Square Error of Approximation:
##
```

```
##   RMSEA                                          0.081       0.075
##   90 Percent confidence interval - lower         0.056       0.051
##   90 Percent confidence interval - upper         0.107       0.100
##   P-value H_0: RMSEA <= 0.050                    0.024       0.045
##   P-value H_0: RMSEA >= 0.080                    0.544       0.397
##
##   Robust RMSEA                                                0.079
##   90 Percent confidence interval - lower                      0.052
##   90 Percent confidence interval - upper                      0.107
##   P-value H_0: Robust RMSEA <= 0.050                          0.039
##   P-value H_0: Robust RMSEA >= 0.080                          0.501
##
## Standardized Root Mean Square Residual:
##
##   SRMR                                           0.039       0.039
##
## Parameter Estimates:
##
##   Standard errors                             Sandwich
##   Information bread                           Observed
##   Observed information based on                Hessian
##
## Latent Variables:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##   sat =~
##     sat1             1.000                               1.937    0.834
##     sat2             0.931    0.072   12.958    0.000    1.804    0.722
##     sat3             0.743    0.072   10.337    0.000    1.438    0.612
##     sat4             0.721    0.068   10.574    0.000    1.396    0.641
##     sat5             0.912    0.058   15.655    0.000    1.767    0.671
##     sat6             0.645    0.080    8.083    0.000    1.250    0.486
##
## Regressions:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##   sat ~
##     gndr_rec        -1.178    0.232   -5.075    0.000   -0.608   -0.296
##
## Variances:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##    .sat1             1.639    0.266    6.152    0.000    1.639    0.304
##    .sat2             2.986    0.328    9.089    0.000    2.986    0.478
##    .sat3             3.463    0.274   12.635    0.000    3.463    0.626
##    .sat4             2.790    0.254   10.991    0.000    2.790    0.589
##    .sat5             3.809    0.374   10.197    0.000    3.809    0.550
##    .sat6             5.062    0.393   12.875    0.000    5.062    0.764
##    .sat              3.422    0.417    8.200    0.000    0.912    0.912
##
## R-Square:
##                   Estimate
##     sat1             0.696
##     sat2             0.522
##     sat3             0.374
##     sat4             0.411
##     sat5             0.450
```

```
##     sat6              0.236
##     sat               0.088
```

X -> M1 -> Y

Simptomi depresije

```
mod <- "dep =~ dep1 + dep2 + dep3 + dep4
        mstres =~ min1 + min2 + min3 + min4 + min5 + min6 + min7 + min8 + min9
        min1 ~~ min2
        min2 ~~ min3
        min1 ~~ min3
        min4 ~~ min5
        min5 ~~ min6
        min4 ~~ min6
        min7 ~~ min8
        min7 ~~ min9
        dep ~ b*mstres + c*gndr_rec
        mstres ~ a*gndr_rec
        indi_m := a*b
        total := c + a*b"
modmod <- sem(mod, estimator = "WLSMV", data = data, ordered = c("dep1", "dep2", "dep3", "dep4"))
summary(modmod, standardized = T, fit.measures = T, rsq = T)
```

```
## lavaan 0.6-19 ended normally after 70 iterations
##
##   Estimator                                         DWLS
##   Optimization method                           NLMINB
##   Number of model parameters                        54
##
##   Number of observations                           358
##
## Model Test User Model:
##                                               Standard      Scaled
##   Test Statistic                               178.547     261.651
##   Degrees of freedom                                67          67
##   P-value (Chi-square)                           0.000       0.000
##   Scaling correction factor                                  0.747
##   Shift parameter                                           22.508
##     simple second-order correction
##
## Model Test Baseline Model:
##
##   Test statistic                              3712.899    1517.900
##   Degrees of freedom                                78          78
##   P-value                                        0.000       0.000
##   Scaling correction factor                                  2.524
##
## User Model versus Baseline Model:
##
##   Comparative Fit Index (CFI)                    0.969       0.865
##   Tucker-Lewis Index (TLI)                       0.964       0.843
```

```
##
##   Robust Comparative Fit Index (CFI)                            NA
##   Robust Tucker-Lewis Index (TLI)                               NA
##
## Root Mean Square Error of Approximation:
##
##   RMSEA                                          0.068       0.090
##   90 Percent confidence interval - lower         0.056       0.079
##   90 Percent confidence interval - upper         0.081       0.102
##   P-value H_0: RMSEA <= 0.050                    0.007       0.000
##   P-value H_0: RMSEA >= 0.080                    0.058       0.931
##
##   Robust RMSEA                                                  NA
##   90 Percent confidence interval - lower                        NA
##   90 Percent confidence interval - upper                        NA
##   P-value H_0: Robust RMSEA <= 0.050                            NA
##   P-value H_0: Robust RMSEA >= 0.080                            NA
##
## Standardized Root Mean Square Residual:
##
##   SRMR                                           0.063       0.063
##
## Parameter Estimates:
##
##   Parameterization                                 Delta
##   Standard errors                            Robust.sem
##   Information                                  Expected
##   Information saturated (h1) model        Unstructured
##
## Latent Variables:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##   dep =~
##     dep1             1.000                               0.913    0.878
##     dep2             0.899    0.040   22.510    0.000    0.821    0.796
##     dep3             0.912    0.046   19.759    0.000    0.832    0.806
##     dep4             0.880    0.041   21.594    0.000    0.803    0.779
##   mstres =~
##     min1             1.000                               0.407    0.295
##     min2             1.535    0.312    4.924    0.000    0.625    0.417
##     min3             1.391    0.314    4.427    0.000    0.566    0.439
##     min4             1.444    0.345    4.183    0.000    0.587    0.590
##     min5             0.789    0.234    3.376    0.001    0.321    0.370
##     min6             1.727    0.442    3.903    0.000    0.703    0.648
##     min7             2.372    0.563    4.215    0.000    0.965    0.774
##     min8             2.437    0.591    4.124    0.000    0.992    0.805
##     min9             2.497    0.625    3.994    0.000    1.016    0.767
##
## Regressions:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##   dep ~
##     mstres     (b)    1.367    0.330    4.149    0.000    0.610    0.610
##     gndr_rec   (c)   -0.055    0.108   -0.506    0.613   -0.060   -0.029
##   mstres ~
##     gndr_rec   (a)    0.466    0.117    3.987    0.000    1.144    0.558
```

```
##
## Covariances:
##                    Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##  .min1 ~~
##    .min2              1.096    0.183    5.996    0.000    1.096    0.610
##  .min2 ~~
##    .min3              0.615    0.118    5.216    0.000    0.615    0.390
##  .min1 ~~
##    .min3              0.809    0.125    6.477    0.000    0.809    0.530
##  .min4 ~~
##    .min5              0.292    0.049    5.899    0.000    0.292    0.449
##  .min5 ~~
##    .min6              0.165    0.038    4.315    0.000    0.165    0.248
##  .min4 ~~
##    .min6              0.210    0.042    4.980    0.000    0.210    0.316
##  .min7 ~~
##    .min8             -0.016    0.056   -0.286    0.775   -0.016   -0.028
##    .min9              0.056    0.069    0.809    0.418    0.056    0.083
##
## Intercepts:
##                    Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##    .min1              0.896    0.321    2.788    0.005    0.896    0.649
##    .min2              1.379    0.311    4.438    0.000    1.379    0.920
##    .min3              0.130    0.355    0.367    0.714    0.130    0.101
##    .min4              2.185    0.171   12.803    0.000    2.185    2.194
##    .min5              1.395    0.169    8.255    0.000    1.395    1.606
##    .min6              1.110    0.204    5.452    0.000    1.110    1.024
##    .min7              0.893    0.250    3.571    0.000    0.893    0.715
##    .min8              0.126    0.312    0.404    0.686    0.126    0.102
##    .min9              0.158    0.320    0.493    0.622    0.158    0.119
##
## Thresholds:
##                    Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##     dep1|t1            0.272    0.197    1.384    0.166    0.272    0.262
##     dep1|t2            1.619    0.206    7.862    0.000    1.619    1.558
##     dep1|t3            2.552    0.218   11.728    0.000    2.552    2.455
##     dep2|t1            0.003    0.201    0.014    0.989    0.003    0.003
##     dep2|t2            1.037    0.204    5.075    0.000    1.037    1.004
##     dep2|t3            2.207    0.216   10.233    0.000    2.207    2.138
##     dep3|t1           -0.008    0.199   -0.038    0.969   -0.008   -0.007
##     dep3|t2            1.579    0.211    7.493    0.000    1.579    1.529
##     dep3|t3            2.624    0.226   11.619    0.000    2.624    2.540
##     dep4|t1            0.238    0.203    1.171    0.242    0.238    0.231
##     dep4|t2            1.276    0.210    6.070    0.000    1.276    1.238
##     dep4|t3            2.199    0.228    9.646    0.000    2.199    2.134
##
## Variances:
##                    Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##    .dep1              0.247                               0.247    0.229
##    .dep2              0.391                               0.391    0.367
##    .dep3              0.374                               0.374    0.351
##    .dep4              0.417                               0.417    0.393
##    .min1              1.738    0.207    8.402    0.000    1.738    0.913
##    .min2              1.856    0.235    7.898    0.000    1.856    0.826
```

```
##    .min3              1.339    0.130   10.279    0.000    1.339    0.807
##    .min4              0.647    0.052   12.357    0.000    0.647    0.652
##    .min5              0.652    0.055   11.836    0.000    0.652    0.863
##    .min6              0.681    0.060   11.439    0.000    0.681    0.580
##    .min7              0.626    0.084    7.487    0.000    0.626    0.402
##    .min8              0.536    0.066    8.138    0.000    0.536    0.352
##    .min9              0.722    0.080    9.028    0.000    0.722    0.412
##    .dep               0.539    0.052   10.280    0.000    0.648    0.648
##    .mstres            0.114    0.054    2.110    0.035    0.688    0.688
##
## R-Square:
##                    Estimate
##     dep1              0.771
##     dep2              0.633
##     dep3              0.649
##     dep4              0.607
##     min1              0.087
##     min2              0.174
##     min3              0.193
##     min4              0.348
##     min5              0.137
##     min6              0.420
##     min7              0.598
##     min8              0.648
##     min9              0.588
##     dep               0.352
##     mstres            0.312
##
## Defined Parameters:
##                    Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##     indi_m            0.637    0.088    7.229    0.000    0.697    0.340
##     total             0.582    0.105    5.545    0.000    0.637    0.311
```

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```
mod <- "sat =~ sat1 + sat2 + sat3 + sat4 + sat5 + sat6
        mstres =~ min1 + min2 + min3 + min4 + min5 + min6 + min7 + min8 + min9
        min1 ~~ min2
        min2 ~~ min3
        min1 ~~ min3
        min4 ~~ min5
        min5 ~~ min6
        min4 ~~ min6
        min7 ~~ min8
        min7 ~~ min9
        sat ~ b*mstres + c*gndr_rec
        mstres ~ a*gndr_rec
        indi_m := a*b
        total := c + a*b"

modmod <- sem(mod, estimator = "MLR", data = data)
summary(modmod, standardized = T, fit.measures = T, rsq = T)
```

```
## lavaan 0.6-19 ended normally after 56 iterations
##
##   Estimator                                         ML
##   Optimization method                           NLMINB
##   Number of model parameters                        41
##
##   Number of observations                           358
##
## Model Test User Model:
##                                              Standard      Scaled
##   Test Statistic                              259.546     233.377
##   Degrees of freedom                               94          94
##   P-value (Chi-square)                          0.000       0.000
##   Scaling correction factor                                 1.112
##     Yuan-Bentler correction (Mplus variant)
##
## Model Test Baseline Model:
##
##   Test statistic                             2640.874    2298.081
##   Degrees of freedom                              120         120
##   P-value                                       0.000       0.000
##   Scaling correction factor                                 1.149
##
## User Model versus Baseline Model:
##
##   Comparative Fit Index (CFI)                   0.934       0.936
##   Tucker-Lewis Index (TLI)                      0.916       0.918
##
##   Robust Comparative Fit Index (CFI)                        0.938
##   Robust Tucker-Lewis Index (TLI)                           0.921
##
## Loglikelihood and Information Criteria:
##
##   Loglikelihood user model (H0)             -8958.699   -8958.699
##   Scaling correction factor                                 1.082
##       for the MLR correction
##   Loglikelihood unrestricted model (H1)     -8828.926   -8828.926
##   Scaling correction factor                                 1.103
##       for the MLR correction
##
##   Akaike (AIC)                              17999.398   17999.398
##   Bayesian (BIC)                            18158.500   18158.500
##   Sample-size adjusted Bayesian (SABIC)     18028.428   18028.428
##
## Root Mean Square Error of Approximation:
##
##   RMSEA                                         0.070       0.064
##   90 Percent confidence interval - lower        0.060       0.055
##   90 Percent confidence interval - upper        0.080       0.074
##   P-value H_0: RMSEA <= 0.050                   0.001       0.009
##   P-value H_0: RMSEA >= 0.080                   0.057       0.004
##
##   Robust RMSEA                                              0.068
##   90 Percent confidence interval - lower                    0.057
```

```
##   90 Percent confidence interval - upper                    0.079
##   P-value H_0: Robust RMSEA <= 0.050                        0.004
##   P-value H_0: Robust RMSEA >= 0.080                        0.034
##
## Standardized Root Mean Square Residual:
##
##   SRMR                                            0.065       0.065
##
## Parameter Estimates:
##
##   Standard errors                               Sandwich
##   Information bread                             Observed
##   Observed information based on                  Hessian
##
## Latent Variables:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##   sat =~
##     sat1             1.000                               1.909    0.822
##     sat2             0.966    0.073   13.242    0.000    1.844    0.738
##     sat3             0.754    0.071   10.659    0.000    1.439    0.612
##     sat4             0.739    0.067   11.057    0.000    1.411    0.648
##     sat5             0.916    0.058   15.764    0.000    1.749    0.664
##     sat6             0.650    0.079    8.257    0.000    1.240    0.482
##   mstres =~
##     min1             1.000                               0.530    0.368
##     min2             1.226    0.140    8.779    0.000    0.649    0.426
##     min3             1.467    0.188    7.812    0.000    0.777    0.553
##     min4             0.869    0.145    6.010    0.000    0.460    0.481
##     min5             0.417    0.111    3.749    0.000    0.221    0.260
##     min6             1.320    0.216    6.117    0.000    0.699    0.636
##     min7             1.697    0.247    6.857    0.000    0.899    0.750
##     min8             2.108    0.308    6.856    0.000    1.117    0.882
##     min9             2.319    0.337    6.874    0.000    1.228    0.885
##
## Regressions:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##   sat ~
##     mstres     (b)   -1.972    0.370   -5.331    0.000   -0.547   -0.547
##     gndr_rec   (c)    0.023    0.274    0.083    0.933    0.012    0.006
##   mstres ~
##     gndr_rec   (a)    0.604    0.102    5.930    0.000    1.140    0.556
##
## Covariances:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##  .min1 ~~
##    .min2             1.135    0.113   10.037    0.000    1.135    0.615
##  .min2 ~~
##    .min3             0.637    0.105    6.078    0.000    0.637    0.395
##  .min1 ~~
##    .min3             0.860    0.107    8.044    0.000    0.860    0.548
##  .min4 ~~
##    .min5             0.329    0.048    6.790    0.000    0.329    0.477
##  .min5 ~~
##    .min6             0.189    0.044    4.328    0.000    0.189    0.270
```

```
##  .min4 ~~
##    .min6              0.249    0.044    5.668    0.000    0.249    0.349
##  .min7 ~~
##    .min8             -0.099    0.049   -2.034    0.042   -0.099   -0.209
##    .min9             -0.078    0.058   -1.351    0.177   -0.078   -0.153
##
## Variances:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##    .sat1             1.745    0.257    6.803    0.000    1.745    0.324
##    .sat2             2.837    0.317    8.939    0.000    2.837    0.455
##    .sat3             3.460    0.270   12.808    0.000    3.460    0.625
##    .sat4             2.749    0.246   11.157    0.000    2.749    0.580
##    .sat5             3.872    0.369   10.489    0.000    3.872    0.559
##    .sat6             5.085    0.386   13.160    0.000    5.085    0.768
##    .min1             1.794    0.110   16.368    0.000    1.794    0.865
##    .min2             1.897    0.112   16.965    0.000    1.897    0.818
##    .min3             1.372    0.113   12.141    0.000    1.372    0.694
##    .min4             0.704    0.052   13.466    0.000    0.704    0.769
##    .min5             0.677    0.073    9.301    0.000    0.677    0.933
##    .min6             0.720    0.062   11.677    0.000    0.720    0.595
##    .min7             0.629    0.085    7.423    0.000    0.629    0.438
##    .min8             0.357    0.050    7.134    0.000    0.357    0.223
##    .min9             0.417    0.056    7.461    0.000    0.417    0.216
##    .sat              2.568    0.356    7.222    0.000    0.704    0.704
##    .mstres           0.194    0.056    3.493    0.000    0.691    0.691
##
## R-Square:
##                   Estimate
##     sat1             0.676
##     sat2             0.545
##     sat3             0.375
##     sat4             0.420
##     sat5             0.441
##     sat6             0.232
##     min1             0.135
##     min2             0.182
##     min3             0.306
##     min4             0.231
##     min5             0.067
##     min6             0.405
##     min7             0.562
##     min8             0.777
##     min9             0.784
##     sat              0.296
##     mstres           0.309
##
## Defined Parameters:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##     indi_m          -1.191    0.167   -7.150    0.000   -0.624   -0.304
##     total           -1.168    0.229   -5.097    0.000   -0.612   -0.298
```

M1 -> M2 -> Y

Simptomi depresije

```
mod <- "dep =~ dep1 + dep2 + dep3 + dep4
        mstres =~ min1 + min2 + min3 + min4 + min5 + min6 + min7 + min8 + min9
        min1 ~~ min2
        min2 ~~ min3
        min1 ~~ min3
        min4 ~~ min5
        min5 ~~ min6
        min4 ~~ min6
        min7 ~~ min8
        min7 ~~ min9
        scs =~ scs6 + scs26 + scs14 + scs13 + scs15 + scs12 + scs9 + scs25 + scs2 + scs10 + scs1 + scs1
        scs26 ~~ scs12
        scs26 ~~ scs14
        scs26 ~~ scs9
        scs26 ~~ scs15
        scs26 ~~ scs10
        scs12 ~~ scs14
        scs12 ~~ scs9
        scs12 ~~ scs15
        scs12 ~~ scs10
        scs14 ~~ scs9
        scs14 ~~ scs15
        scs14 ~~ scs10
        scs9 ~~ scs15
        scs9 ~~ scs10
        scs15 ~~ scs10
        dep ~ b*scs + c*mstres
        scs ~ a * mstres
        indi_m := a*b
        total := c + a*b"
modmod <- sem(mod, estimator = "WLSMV", data = data, ordered = c("dep1", "dep2", "dep3", "dep4"))
summary(modmod, standardized = T, fit.measures = T, rsq = T)
```

```
## lavaan 0.6-19 ended normally after 74 iterations
##
##   Estimator                                         DWLS
##   Optimization method                           NLMINB
##   Number of model parameters                       105
##
##   Number of observations                           358
##
## Model Test User Model:
##                                              Standard      Scaled
##   Test Statistic                              255.755     419.979
##   Degrees of freedom                              249         249
##   P-value (Chi-square)                          0.371       0.000
##   Scaling correction factor                                 0.869
##   Shift parameter                                         125.818
##     simple second-order correction
```

```
##
## Model Test Baseline Model:
##
##   Test statistic                                8663.217    2522.628
##   Degrees of freedom                                300         300
##   P-value                                         0.000       0.000
##   Scaling correction factor                                   3.763
##
## User Model versus Baseline Model:
##
##   Comparative Fit Index (CFI)                     0.999       0.923
##   Tucker-Lewis Index (TLI)                        0.999       0.907
##
##   Robust Comparative Fit Index (CFI)                             NA
##   Robust Tucker-Lewis Index (TLI)                                NA
##
## Root Mean Square Error of Approximation:
##
##   RMSEA                                           0.009       0.044
##   90 Percent confidence interval - lower          0.000       0.036
##   90 Percent confidence interval - upper          0.023       0.051
##   P-value H_0: RMSEA <= 0.050                     1.000       0.919
##   P-value H_0: RMSEA >= 0.080                     0.000       0.000
##
##   Robust RMSEA                                                   NA
##   90 Percent confidence interval - lower                         NA
##   90 Percent confidence interval - upper                         NA
##   P-value H_0: Robust RMSEA <= 0.050                             NA
##   P-value H_0: Robust RMSEA >= 0.080                             NA
##
## Standardized Root Mean Square Residual:
##
##   SRMR                                            0.052       0.052
##
## Parameter Estimates:
##
##   Parameterization                                Delta
##   Standard errors                             Robust.sem
##   Information                                   Expected
##   Information saturated (h1) model          Unstructured
##
## Latent Variables:
##                    Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##   dep =~
##     dep1              1.000                               0.862    0.862
##     dep2              0.955    0.040   23.628    0.000    0.823    0.823
##     dep3              0.927    0.044   21.028    0.000    0.799    0.799
##     dep4              0.901    0.041   21.727    0.000    0.777    0.777
##   mstres =~
##     min1              1.000                               0.555    0.385
##     min2              1.255    0.227    5.534    0.000    0.697    0.458
##     min3              1.239    0.219    5.660    0.000    0.688    0.489
##     min4              0.979    0.206    4.753    0.000    0.543    0.568
##     min5              0.500    0.142    3.515    0.000    0.278    0.326
```

```
##     min6              1.176    0.263    4.478    0.000    0.653    0.593
##     min7              1.707    0.354    4.828    0.000    0.947    0.790
##     min8              1.659    0.339    4.891    0.000    0.921    0.727
##     min9              1.837    0.395    4.647    0.000    1.019    0.735
##   scs =~
##     scs6              1.000                               0.752    0.638
##     scs26             0.369    0.088    4.216    0.000    0.278    0.281
##     scs14             0.487    0.095    5.121    0.000    0.366    0.374
##     scs13             1.187    0.163    7.281    0.000    0.893    0.645
##     scs15             0.519    0.104    5.009    0.000    0.390    0.367
##     scs12             0.534    0.107    4.971    0.000    0.401    0.359
##     scs9              0.375    0.091    4.132    0.000    0.282    0.276
##     scs25             1.154    0.139    8.293    0.000    0.868    0.681
##     scs2              1.451    0.185    7.832    0.000    1.091    0.834
##     scs10             0.383    0.096    3.980    0.000    0.288    0.259
##     scs1              1.176    0.140    8.427    0.000    0.885    0.733
##     scs11             1.185    0.156    7.615    0.000    0.892    0.716
##
## Regressions:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##   dep ~
##     scs        (b)   -0.600    0.098   -6.108    0.000   -0.523   -0.523
##     mstres     (c)    0.532    0.144    3.687    0.000    0.343    0.343
##   scs ~
##     mstres     (a)   -0.715    0.160   -4.457    0.000   -0.528   -0.528
##
## Covariances:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##  .min1 ~~
##    .min2              1.092    0.189    5.762    0.000    1.092    0.607
##  .min2 ~~
##    .min3              0.663    0.135    4.897    0.000    0.663    0.399
##  .min1 ~~
##    .min3              0.890    0.148    6.016    0.000    0.890    0.546
##  .min4 ~~
##    .min5              0.280    0.053    5.289    0.000    0.280    0.442
##  .min5 ~~
##    .min6              0.162    0.042    3.848    0.000    0.162    0.228
##  .min4 ~~
##    .min6              0.216    0.051    4.271    0.000    0.216    0.310
##  .min7 ~~
##    .min8              0.030    0.078    0.378    0.706    0.030    0.046
##    .min9              0.056    0.100    0.554    0.580    0.056    0.080
##  .scs26 ~~
##    .scs12             0.470    0.063    7.446    0.000    0.470    0.475
##    .scs14             0.361    0.051    7.073    0.000    0.361    0.420
##    .scs9              0.344    0.055    6.293    0.000    0.344    0.369
##    .scs15             0.529    0.067    7.838    0.000    0.529    0.564
##    .scs10             0.386    0.060    6.454    0.000    0.386    0.380
##  .scs14 ~~
##    .scs12             0.403    0.057    7.115    0.000    0.403    0.426
##  .scs12 ~~
##    .scs9              0.284    0.057    5.023    0.000    0.284    0.277
##  .scs15 ~~
```

```
##    .scs12             0.445    0.065    6.888    0.000    0.445    0.432
##  .scs12 ~~
##    .scs10             0.456    0.068    6.730    0.000    0.456    0.408
##  .scs14 ~~
##    .scs9              0.447    0.057    7.865    0.000    0.447    0.501
##    .scs15             0.490    0.059    8.349    0.000    0.490    0.546
##    .scs10             0.281    0.056    5.053    0.000    0.281    0.288
##  .scs15 ~~
##    .scs9              0.338    0.056    6.034    0.000    0.338    0.348
##  .scs9 ~~
##    .scs10             0.286    0.058    4.964    0.000    0.286    0.271
##  .scs15 ~~
##    .scs10             0.391    0.064    6.134    0.000    0.391    0.369
##
## Intercepts:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##    .min1             2.455    0.089   27.604    0.000    2.455    1.705
##    .min2             2.832    0.081   34.889    0.000    2.832    1.860
##    .min3             2.263    0.096   23.468    0.000    2.263    1.610
##    .min4             2.768    0.051   54.636    0.000    2.768    2.893
##    .min5             1.570    0.072   21.744    0.000    1.570    1.843
##    .min6             2.545    0.059   42.843    0.000    2.545    2.314
##    .min7             2.260    0.074   30.560    0.000    2.260    1.884
##    .min8             2.196    0.086   25.588    0.000    2.196    1.733
##    .min9             2.478    0.083   29.705    0.000    2.478    1.786
##    .scs6             2.126    0.081   26.310    0.000    2.126    1.803
##    .scs26            2.827    0.056   50.438    0.000    2.827    2.862
##    .scs14            3.271    0.053   61.962    0.000    3.271    3.343
##    .scs13            2.793    0.076   36.756    0.000    2.793    2.020
##    .scs15            3.179    0.058   54.540    0.000    3.179    2.990
##    .scs12            2.774    0.061   45.413    0.000    2.774    2.483
##    .scs9             3.226    0.054   59.300    0.000    3.226    3.154
##    .scs25            2.520    0.074   34.014    0.000    2.520    1.977
##    .scs2             2.760    0.070   39.233    0.000    2.760    2.108
##    .scs10            2.514    0.064   38.984    0.000    2.514    2.264
##    .scs1             2.595    0.066   39.137    0.000    2.595    2.148
##    .scs11            2.902    0.066   44.006    0.000    2.902    2.330
##
## Thresholds:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##     dep1|t1         -0.552    0.070   -7.869    0.000   -0.552   -0.552
##     dep1|t2          0.751    0.074   10.206    0.000    0.751    0.751
##     dep1|t3          1.670    0.114   14.681    0.000    1.670    1.670
##     dep2|t1         -0.848    0.076  -11.188    0.000   -0.848   -0.848
##     dep2|t2          0.148    0.067    2.216    0.027    0.148    0.148
##     dep2|t3          1.278    0.090   14.153    0.000    1.278    1.278
##     dep3|t1         -0.828    0.075  -10.994    0.000   -0.828   -0.828
##     dep3|t2          0.706    0.073    9.706    0.000    0.706    0.706
##     dep3|t3          1.729    0.119   14.590    0.000    1.729    1.729
##     dep4|t1         -0.644    0.072   -8.997    0.000   -0.644   -0.644
##     dep4|t2          0.358    0.068    5.266    0.000    0.358    0.358
##     dep4|t3          1.247    0.089   14.022    0.000    1.247    1.247
##
## Variances:
```

```
##                    Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##    .dep1              0.257                               0.257    0.257
##    .dep2              0.322                               0.322    0.322
##    .dep3              0.361                               0.361    0.361
##    .dep4              0.397                               0.397    0.397
##    .min1              1.767    0.220    8.019    0.000    1.767    0.852
##    .min2              1.833    0.241    7.620    0.000    1.833    0.791
##    .min3              1.503    0.177    8.501    0.000    1.503    0.761
##    .min4              0.620    0.058   10.628    0.000    0.620    0.677
##    .min5              0.649    0.056   11.598    0.000    0.649    0.894
##    .min6              0.783    0.077   10.176    0.000    0.783    0.648
##    .min7              0.541    0.109    4.955    0.000    0.541    0.376
##    .min8              0.756    0.085    8.950    0.000    0.756    0.472
##    .min9              0.886    0.117    7.563    0.000    0.886    0.460
##    .scs6              0.824    0.092    8.938    0.000    0.824    0.593
##    .scs26             0.899    0.079   11.329    0.000    0.899    0.921
##    .scs14             0.823    0.070   11.814    0.000    0.823    0.860
##    .scs13             1.116    0.114    9.762    0.000    1.116    0.583
##    .scs15             0.978    0.088   11.153    0.000    0.978    0.865
##    .scs12             1.087    0.098   11.099    0.000    1.087    0.871
##    .scs9              0.967    0.083   11.585    0.000    0.967    0.924
##    .scs25             0.871    0.095    9.157    0.000    0.871    0.536
##    .scs2              0.523    0.082    6.362    0.000    0.523    0.305
##    .scs10             1.150    0.102   11.310    0.000    1.150    0.933
##    .scs1              0.676    0.074    9.164    0.000    0.676    0.463
##    .scs11             0.757    0.081    9.301    0.000    0.757    0.488
##    .dep               0.312    0.040    7.871    0.000    0.420    0.420
##     mstres            0.308    0.118    2.605    0.009    1.000    1.000
##    .scs               0.408    0.094    4.321    0.000    0.721    0.721
##
## R-Square:
##                    Estimate
##     dep1              0.743
##     dep2              0.678
##     dep3              0.639
##     dep4              0.603
##     min1              0.148
##     min2              0.209
##     min3              0.239
##     min4              0.323
##     min5              0.106
##     min6              0.352
##     min7              0.624
##     min8              0.528
##     min9              0.540
##     scs6              0.407
##     scs26             0.079
##     scs14             0.140
##     scs13             0.417
##     scs15             0.135
##     scs12             0.129
##     scs9              0.076
##     scs25             0.464
##     scs2              0.695
```

```
##     scs10             0.067
##     scs1              0.537
##     scs11             0.512
##     dep               0.580
##     scs               0.279
##
## Defined Parameters:
##                    Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##     indi_m            0.429    0.099    4.332    0.000    0.276    0.276
##     total             0.961    0.193    4.989    0.000    0.619    0.619
```

Zadovoljstvo

```
mod <- "sat =~ sat1 + sat2 + sat3 + sat4 + sat5 + sat6
        mstres =~ min1 + min2 + min3 + min4 + min5 + min6 + min7 + min8 + min9
        scs =~ scs6 + scs26 + scs14 + scs13 + scs15 + scs12 + scs9 + scs25 + scs2 + scs10 + scs1 + scs1
        scs26 ~~ scs12
        scs26 ~~ scs14
        scs26 ~~ scs9
        scs26 ~~ scs15
        scs26 ~~ scs10
        scs12 ~~ scs14
        scs12 ~~ scs9
        scs12 ~~ scs15
        scs12 ~~ scs10
        scs14 ~~ scs9
        scs14 ~~ scs15
        scs14 ~~ scs10
        scs9 ~~ scs15
        scs9 ~~ scs10
        scs15 ~~ scs10
        min1 ~~ min2
        min2 ~~ min3
        min1 ~~ min3
        min4 ~~ min5
        min5 ~~ min6
        min4 ~~ min6
        min7 ~~ min8
        min7 ~~ min9
        sat ~ b*scs+ c*mstres
        scs ~ a*mstres
        indi_m := a*b
        total := c + a*b"

modmod <- sem(mod, estimator = "MLR", data = data)
summary(modmod, standardized = T, fit.measures = T, rsq = T)
```

```
## lavaan 0.6-19 ended normally after 68 iterations
##
##   Estimator                                         ML
##   Optimization method                           NLMINB
##   Number of model parameters                        80
```

```
##
##   Number of observations                           358
##
## Model Test User Model:
##                                                Standard      Scaled
##   Test Statistic                                594.294     561.162
##   Degrees of freedom                                298         298
##   P-value (Chi-square)                            0.000       0.000
##   Scaling correction factor                                   1.059
##     Yuan-Bentler correction (Mplus variant)
##
## Model Test Baseline Model:
##
##   Test statistic                               4685.498    4308.632
##   Degrees of freedom                                351         351
##   P-value                                         0.000       0.000
##   Scaling correction factor                                   1.087
##
## User Model versus Baseline Model:
##
##   Comparative Fit Index (CFI)                     0.932       0.934
##   Tucker-Lewis Index (TLI)                        0.919       0.922
##
##   Robust Comparative Fit Index (CFI)                          0.935
##   Robust Tucker-Lewis Index (TLI)                             0.924
##
## Loglikelihood and Information Criteria:
##
##   Loglikelihood user model (H0)              -14798.776  -14798.776
##   Scaling correction factor                                   1.060
##       for the MLR correction
##   Loglikelihood unrestricted model (H1)      -14501.629  -14501.629
##   Scaling correction factor                                   1.059
##       for the MLR correction
##
##   Akaike (AIC)                                29757.552   29757.552
##   Bayesian (BIC)                              30067.995   30067.995
##   Sample-size adjusted Bayesian (SABIC)       29814.196   29814.196
##
## Root Mean Square Error of Approximation:
##
##   RMSEA                                           0.053       0.050
##   90 Percent confidence interval - lower          0.047       0.044
##   90 Percent confidence interval - upper          0.059       0.056
##   P-value H_0: RMSEA <= 0.050                     0.231       0.527
##   P-value H_0: RMSEA >= 0.080                     0.000       0.000
##
##   Robust RMSEA                                                0.051
##   90 Percent confidence interval - lower                      0.045
##   90 Percent confidence interval - upper                      0.058
##   P-value H_0: Robust RMSEA <= 0.050                          0.381
##   P-value H_0: Robust RMSEA >= 0.080                          0.000
##
## Standardized Root Mean Square Residual:
```

```
##
##   SRMR                                           0.065       0.065
##
## Parameter Estimates:
##
##   Standard errors                             Sandwich
##   Information bread                           Observed
##   Observed information based on                Hessian
##
## Latent Variables:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##   sat =~
##     sat1             1.000                               1.917    0.826
##     sat2             0.969    0.071   13.617    0.000    1.858    0.744
##     sat3             0.742    0.069   10.791    0.000    1.424    0.605
##     sat4             0.733    0.066   11.170    0.000    1.405    0.646
##     sat5             0.906    0.057   15.932    0.000    1.738    0.660
##     sat6             0.646    0.077    8.356    0.000    1.239    0.481
##   mstres =~
##     min1             1.000                               0.518    0.360
##     min2             1.232    0.144    8.559    0.000    0.639    0.419
##     min3             1.445    0.188    7.672    0.000    0.749    0.533
##     min4             0.878    0.146    6.003    0.000    0.455    0.475
##     min5             0.425    0.112    3.778    0.000    0.220    0.258
##     min6             1.307    0.215    6.090    0.000    0.677    0.616
##     min7             1.870    0.272    6.880    0.000    0.969    0.809
##     min8             2.155    0.313    6.876    0.000    1.117    0.882
##     min9             2.383    0.347    6.863    0.000    1.235    0.890
##   scs =~
##     scs6             1.000                               0.823    0.698
##     scs26            0.446    0.078    5.725    0.000    0.367    0.371
##     scs14            0.445    0.080    5.576    0.000    0.366    0.374
##     scs13            1.020    0.088   11.656    0.000    0.839    0.607
##     scs15            0.502    0.086    5.843    0.000    0.413    0.388
##     scs12            0.454    0.089    5.094    0.000    0.374    0.335
##     scs9             0.333    0.082    4.069    0.000    0.274    0.267
##     scs25            1.076    0.066   16.234    0.000    0.885    0.695
##     scs2             1.250    0.089   13.982    0.000    1.028    0.786
##     scs10            0.335    0.089    3.758    0.000    0.276    0.248
##     scs1             1.148    0.080   14.325    0.000    0.944    0.782
##     scs11            1.124    0.089   12.682    0.000    0.925    0.742
##
## Regressions:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##   sat ~
##     scs        (b)    0.903    0.153    5.883    0.000    0.387    0.387
##     mstres     (c)   -1.384    0.274   -5.057    0.000   -0.374   -0.374
##   scs ~
##     mstres     (a)   -0.707    0.122   -5.818    0.000   -0.445   -0.445
##
## Covariances:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##  .scs26 ~~
##    .scs12             0.444    0.059    7.564    0.000    0.444    0.460
```

```
##    .scs14             0.329    0.048    6.843    0.000    0.329    0.395
##    .scs9              0.322    0.050    6.486    0.000    0.322    0.356
##    .scs15             0.486    0.054    9.033    0.000    0.486    0.541
##    .scs10             0.365    0.060    6.082    0.000    0.365    0.370
##  .scs14 ~~
##    .scs12             0.413    0.053    7.859    0.000    0.413    0.433
##  .scs12 ~~
##    .scs9              0.295    0.062    4.773    0.000    0.295    0.285
##  .scs15 ~~
##    .scs12             0.448    0.059    7.576    0.000    0.448    0.434
##  .scs12 ~~
##    .scs10             0.469    0.065    7.180    0.000    0.469    0.414
##  .scs14 ~~
##    .scs9              0.450    0.056    8.055    0.000    0.450    0.503
##    .scs15             0.482    0.057    8.470    0.000    0.482    0.542
##    .scs10             0.285    0.052    5.510    0.000    0.285    0.292
##  .scs15 ~~
##    .scs9              0.335    0.059    5.711    0.000    0.335    0.347
##  .scs9 ~~
##    .scs10             0.292    0.059    4.983    0.000    0.292    0.275
##  .scs15 ~~
##    .scs10             0.389    0.054    7.213    0.000    0.389    0.369
##  .min1 ~~
##    .min2              1.148    0.111   10.300    0.000    1.148    0.618
##  .min2 ~~
##    .min3              0.663    0.103    6.421    0.000    0.663    0.404
##  .min1 ~~
##    .min3              0.883    0.106    8.320    0.000    0.883    0.553
##  .min4 ~~
##    .min5              0.331    0.048    6.826    0.000    0.331    0.478
##  .min5 ~~
##    .min6              0.194    0.044    4.402    0.000    0.194    0.273
##  .min4 ~~
##    .min6              0.262    0.045    5.894    0.000    0.262    0.360
##  .min7 ~~
##    .min8             -0.177    0.054   -3.301    0.001   -0.177   -0.421
##    .min9             -0.171    0.062   -2.761    0.006   -0.171   -0.383
##
## Variances:
##                    Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##    .sat1              1.714    0.247    6.931    0.000    1.714    0.318
##    .sat2              2.789    0.307    9.097    0.000    2.789    0.447
##    .sat3              3.505    0.269   13.017    0.000    3.505    0.634
##    .sat4              2.765    0.244   11.319    0.000    2.765    0.583
##    .sat5              3.912    0.366   10.697    0.000    3.912    0.564
##    .sat6              5.089    0.391   13.031    0.000    5.089    0.768
##    .min1              1.806    0.109   16.645    0.000    1.806    0.871
##    .min2              1.910    0.110   17.417    0.000    1.910    0.824
##    .min3              1.415    0.112   12.636    0.000    1.415    0.716
##    .min4              0.709    0.052   13.561    0.000    0.709    0.774
##    .min5              0.677    0.073    9.300    0.000    0.677    0.933
##    .min6              0.750    0.062   12.142    0.000    0.750    0.621
##    .min7              0.496    0.086    5.765    0.000    0.496    0.346
##    .min8              0.357    0.054    6.627    0.000    0.357    0.222
```

```
##    .min9              0.401    0.058    6.868    0.000    0.401    0.208
##    .scs6              0.713    0.081    8.802    0.000    0.713    0.513
##    .scs26             0.841    0.061   13.871    0.000    0.841    0.862
##    .scs14             0.823    0.059   13.894    0.000    0.823    0.860
##    .scs13             1.209    0.107   11.316    0.000    1.209    0.632
##    .scs15             0.960    0.064   14.993    0.000    0.960    0.849
##    .scs12             1.108    0.072   15.439    0.000    1.108    0.888
##    .scs9              0.972    0.065   14.883    0.000    0.972    0.929
##    .scs25             0.840    0.076   10.989    0.000    0.840    0.517
##    .scs2              0.656    0.069    9.500    0.000    0.656    0.383
##    .scs10             1.157    0.079   14.690    0.000    1.157    0.938
##    .scs1              0.567    0.057    9.954    0.000    0.567    0.389
##    .scs11             0.697    0.069   10.072    0.000    0.697    0.449
##    .sat               2.136    0.338    6.330    0.000    0.581    0.581
##     mstres            0.269    0.078    3.456    0.001    1.000    1.000
##    .scs               0.542    0.074    7.304    0.000    0.802    0.802
##
## R-Square:
##                   Estimate
##     sat1             0.682
##     sat2             0.553
##     sat3             0.366
##     sat4             0.417
##     sat5             0.436
##     sat6             0.232
##     min1             0.129
##     min2             0.176
##     min3             0.284
##     min4             0.226
##     min5             0.067
##     min6             0.379
##     min7             0.654
##     min8             0.778
##     min9             0.792
##     scs6             0.487
##     scs26            0.138
##     scs14            0.140
##     scs13            0.368
##     scs15            0.151
##     scs12            0.112
##     scs9             0.071
##     scs25            0.483
##     scs2             0.617
##     scs10            0.062
##     scs1             0.611
##     scs11            0.551
##     sat              0.419
##     scs              0.198
##
## Defined Parameters:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##     indi_m          -0.638    0.146   -4.362    0.000   -0.173   -0.173
##     total           -2.022    0.336   -6.022    0.000   -0.546   -0.546
```

X -> M1 -> M2 -> Y

Simptomi depresije

```
mod <- "dep =~ dep1 + dep2 + dep3 + dep4
        mstres =~ min1 + min2 + min3 + min4 + min5 + min6 + min7 + min8 + min9
        scs =~ scs6 + scs26 + scs14 + scs13 + scs15 + scs12 + scs9 + scs25 + scs2 + scs10 + scs1 + scs1
        min1 ~~ min2
        min2 ~~ min3
        min1 ~~ min3
        min4 ~~ min5
        min5 ~~ min6
        min4 ~~ min6
        min7 ~~ min8
        min7 ~~ min9
        scs26 ~~ scs12
        scs26 ~~ scs14
        scs26 ~~ scs9
        scs26 ~~ scs15
        scs26 ~~ scs10
        scs12 ~~ scs14
        scs12 ~~ scs9
        scs12 ~~ scs15
        scs12 ~~ scs10
        scs14 ~~ scs9
        scs14 ~~ scs15
        scs14 ~~ scs10
        scs9 ~~ scs15
        scs9 ~~ scs10
        scs15 ~~ scs10
        dep ~ c*scs + e*gndr_rec + f*mstres
        scs ~ b*mstres + d*gndr_rec
        mstres ~ a*gndr_rec
        ind1 := a*b       # X → M1 → M2
        ind2 := b*c       # M1 → M2 → Y
        indlanac := a*b*c     # X → M1 → M2 → Y
        ind_mstres := f*a       # X → M1 → Y
        total := a*b*c + e + f*a"
modmod <- sem(mod, estimator = "WLSMV", data = data, ordered = c("dep1", "dep2", "dep3", "dep4"))
summary(modmod, standardized = T, fit.measures = T, rsq = T)
```

```
## lavaan 0.6-19 ended normally after 70 iterations
##
##   Estimator                                         DWLS
##   Optimization method                           NLMINB
##   Number of model parameters                       108
##
##   Number of observations                           358
##
## Model Test User Model:
##                                               Standard      Scaled
##   Test Statistic                               378.342     497.103
##   Degrees of freedom                               271         271
```

```
##   P-value (Chi-square)                           0.000       0.000
##   Scaling correction factor                                  1.041
##   Shift parameter                                          133.548
##     simple second-order correction
##
## Model Test Baseline Model:
##
##   Test statistic                              7509.073    2397.376
##   Degrees of freedom                           300         300
##   P-value                                        0.000       0.000
##   Scaling correction factor                                  3.437
##
## User Model versus Baseline Model:
##
##   Comparative Fit Index (CFI)                    0.985       0.892
##   Tucker-Lewis Index (TLI)                       0.984       0.881
##
##   Robust Comparative Fit Index (CFI)                            NA
##   Robust Tucker-Lewis Index (TLI)                               NA
##
## Root Mean Square Error of Approximation:
##
##   RMSEA                                          0.033       0.048
##   90 Percent confidence interval - lower         0.025       0.042
##   90 Percent confidence interval - upper         0.041       0.055
##   P-value H_0: RMSEA <= 0.050                    1.000       0.651
##   P-value H_0: RMSEA >= 0.080                    0.000       0.000
##
##   Robust RMSEA                                                  NA
##   90 Percent confidence interval - lower                        NA
##   90 Percent confidence interval - upper                        NA
##   P-value H_0: Robust RMSEA <= 0.050                            NA
##   P-value H_0: Robust RMSEA >= 0.080                            NA
##
## Standardized Root Mean Square Residual:
##
##   SRMR                                           0.055       0.055
##
## Parameter Estimates:
##
##   Parameterization                                     Delta
##   Standard errors                                Robust.sem
##   Information                                      Expected
##   Information saturated (h1) model            Unstructured
##
## Latent Variables:
##                    Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##   dep =~
##     dep1              1.000                                0.900    0.867
##     dep2              0.945    0.043   22.222    0.000    0.851    0.823
##     dep3              0.918    0.046   20.119    0.000    0.826    0.800
##     dep4              0.882    0.044   19.999    0.000    0.794    0.771
##   mstres =~
##     min1              1.000                                0.469    0.339
```

```
##     min2              1.444    0.299    4.824    0.000    0.678    0.450
##     min3              1.234    0.262    4.709    0.000    0.579    0.449
##     min4              1.283    0.301    4.266    0.000    0.602    0.603
##     min5              0.710    0.212    3.351    0.001    0.333    0.383
##     min6              1.365    0.347    3.936    0.000    0.641    0.598
##     min7              2.141    0.506    4.232    0.000    1.005    0.799
##     min8              1.941    0.458    4.240    0.000    0.911    0.751
##     min9              2.113    0.525    4.026    0.000    0.992    0.752
##   scs =~
##     scs6              1.000                               0.693    0.608
##     scs26             0.449    0.096    4.678    0.000    0.311    0.314
##     scs14             0.533    0.102    5.206    0.000    0.370    0.377
##     scs13             1.266    0.174    7.255    0.000    0.878    0.637
##     scs15             0.558    0.109    5.101    0.000    0.387    0.364
##     scs12             0.573    0.116    4.930    0.000    0.397    0.356
##     scs9              0.395    0.097    4.051    0.000    0.274    0.268
##     scs25             1.254    0.142    8.799    0.000    0.869    0.682
##     scs2              1.578    0.190    8.287    0.000    1.094    0.834
##     scs10             0.409    0.102    4.004    0.000    0.284    0.255
##     scs1              1.310    0.146    8.948    0.000    0.908    0.746
##     scs11             1.334    0.165    8.090    0.000    0.925    0.734
##
## Regressions:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##   dep ~
##     scs        (c)   -0.695    0.105   -6.610    0.000   -0.535   -0.535
##     gndr_rec   (e)   -0.094    0.091   -1.038    0.299   -0.105   -0.051
##     mstres     (f)    0.681    0.197    3.450    0.001    0.355    0.355
##   scs ~
##     mstres     (b)   -0.729    0.198   -3.685    0.000   -0.494   -0.494
##     gndr_rec   (d)   -0.043    0.099   -0.435    0.664   -0.062   -0.030
##   mstres ~
##     gndr_rec   (a)    0.537    0.131    4.103    0.000    1.144    0.558
##
## Covariances:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##  .min1 ~~
##    .min2             1.052    0.177    5.945    0.000    1.052    0.600
##  .min2 ~~
##    .min3             0.588    0.116    5.062    0.000    0.588    0.379
##  .min1 ~~
##    .min3             0.780    0.123    6.364    0.000    0.780    0.519
##  .min4 ~~
##    .min5             0.283    0.052    5.494    0.000    0.283    0.443
##  .min5 ~~
##    .min6             0.173    0.039    4.427    0.000    0.173    0.251
##  .min4 ~~
##    .min6             0.228    0.046    4.978    0.000    0.228    0.333
##  .min7 ~~
##    .min8             0.013    0.065    0.196    0.845    0.013    0.021
##    .min9             0.045    0.083    0.541    0.588    0.045    0.068
##  .scs26 ~~
##    .scs12            0.464    0.063    7.338    0.000    0.464    0.473
##    .scs14            0.355    0.051    6.969    0.000    0.355    0.416
```

```
##    .scs9              0.341    0.055    6.237    0.000    0.341    0.368
##    .scs15             0.524    0.067    7.839    0.000    0.524    0.562
##    .scs10             0.383    0.059    6.439    0.000    0.383    0.379
##  .scs14 ~~
##    .scs12             0.404    0.056    7.166    0.000    0.404    0.427
##  .scs12 ~~
##    .scs9              0.285    0.056    5.069    0.000    0.285    0.278
##  .scs15 ~~
##    .scs12             0.446    0.064    6.916    0.000    0.446    0.432
##  .scs12 ~~
##    .scs10             0.457    0.068    6.676    0.000    0.457    0.408
##  .scs14 ~~
##    .scs9              0.449    0.057    7.814    0.000    0.449    0.502
##    .scs15             0.491    0.059    8.313    0.000    0.491    0.547
##    .scs10             0.281    0.055    5.079    0.000    0.281    0.289
##  .scs15 ~~
##    .scs9              0.340    0.057    6.003    0.000    0.340    0.349
##  .scs9 ~~
##    .scs10             0.287    0.057    5.024    0.000    0.287    0.272
##  .scs15 ~~
##    .scs10             0.392    0.063    6.185    0.000    0.392    0.369
##
## Intercepts:
##                    Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##    .min1              0.896    0.321    2.788    0.005    0.896    0.646
##    .min2              1.379    0.311    4.438    0.000    1.379    0.915
##    .min3              0.130    0.355    0.367    0.714    0.130    0.101
##    .min4              2.185    0.171   12.803    0.000    2.185    2.188
##    .min5              1.395    0.169    8.255    0.000    1.395    1.603
##    .min6              1.110    0.204    5.452    0.000    1.110    1.035
##    .min7              0.893    0.250    3.571    0.000    0.893    0.710
##    .min8              0.126    0.312    0.404    0.686    0.126    0.104
##    .min9              0.158    0.320    0.493    0.622    0.158    0.120
##    .scs6              3.330    0.193   17.256    0.000    3.330    2.919
##    .scs26             2.942    0.186   15.792    0.000    2.942    2.967
##    .scs14             3.600    0.175   20.618    0.000    3.600    3.673
##    .scs13             3.774    0.255   14.795    0.000    3.774    2.740
##    .scs15             3.599    0.197   18.292    0.000    3.599    3.388
##    .scs12             3.218    0.190   16.913    0.000    3.218    2.885
##    .scs9              3.559    0.186   19.088    0.000    3.559    3.484
##    .scs25             3.406    0.225   15.125    0.000    3.406    2.674
##    .scs2              3.829    0.226   16.940    0.000    3.829    2.919
##    .scs10             2.828    0.195   14.524    0.000    2.828    2.548
##    .scs1              3.359    0.213   15.783    0.000    3.359    2.758
##    .scs11             3.615    0.222   16.270    0.000    3.615    2.871
##
## Thresholds:
##                    Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##     dep1|t1           0.272    0.197    1.384    0.166    0.272    0.262
##     dep1|t2           1.619    0.206    7.862    0.000    1.619    1.559
##     dep1|t3           2.552    0.218   11.728    0.000    2.552    2.457
##     dep2|t1           0.003    0.201    0.014    0.989    0.003    0.003
##     dep2|t2           1.037    0.204    5.075    0.000    1.037    1.002
##     dep2|t3           2.207    0.216   10.233    0.000    2.207    2.133
```

```
##     dep3|t1          -0.008    0.199   -0.038    0.969   -0.008   -0.007
##     dep3|t2           1.579    0.211    7.493    0.000    1.579    1.530
##     dep3|t3           2.624    0.226   11.619    0.000    2.624    2.541
##     dep4|t1           0.238    0.203    1.171    0.242    0.238    0.231
##     dep4|t2           1.276    0.210    6.070    0.000    1.276    1.239
##     dep4|t3           2.199    0.228    9.646    0.000    2.199    2.135
##
## Variances:
##                    Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##    .dep1              0.268                               0.268    0.249
##    .dep2              0.346                               0.346    0.323
##    .dep3              0.384                               0.384    0.360
##    .dep4              0.431                               0.431    0.406
##    .min1              1.701    0.202    8.438    0.000    1.701    0.885
##    .min2              1.809    0.230    7.872    0.000    1.809    0.797
##    .min3              1.329    0.131   10.152    0.000    1.329    0.798
##    .min4              0.635    0.057   11.197    0.000    0.635    0.636
##    .min5              0.646    0.056   11.604    0.000    0.646    0.853
##    .min6              0.738    0.066   11.126    0.000    0.738    0.643
##    .min7              0.572    0.097    5.891    0.000    0.572    0.362
##    .min8              0.641    0.072    8.920    0.000    0.641    0.436
##    .min9              0.756    0.093    8.118    0.000    0.756    0.435
##    .scs6              0.821    0.085    9.631    0.000    0.821    0.631
##    .scs26             0.887    0.078   11.334    0.000    0.887    0.902
##    .scs14             0.824    0.070   11.705    0.000    0.824    0.858
##    .scs13             1.127    0.116    9.702    0.000    1.127    0.594
##    .scs15             0.978    0.088   11.125    0.000    0.978    0.867
##    .scs12             1.087    0.098   11.130    0.000    1.087    0.873
##    .scs9              0.969    0.084   11.495    0.000    0.969    0.928
##    .scs25             0.867    0.091    9.546    0.000    0.867    0.534
##    .scs2              0.523    0.077    6.798    0.000    0.523    0.304
##    .scs10             1.151    0.102   11.287    0.000    1.151    0.935
##    .scs1              0.658    0.072    9.082    0.000    0.658    0.444
##    .scs11             0.730    0.078    9.363    0.000    0.730    0.461
##    .dep               0.346    0.043    8.063    0.000    0.427    0.427
##    .mstres            0.152    0.068    2.224    0.026    0.688    0.688
##    .scs               0.355    0.078    4.546    0.000    0.738    0.738
##
## R-Square:
##                    Estimate
##     dep1              0.751
##     dep2              0.677
##     dep3              0.640
##     dep4              0.594
##     min1              0.115
##     min2              0.203
##     min3              0.202
##     min4              0.364
##     min5              0.147
##     min6              0.357
##     min7              0.638
##     min8              0.564
##     min9              0.565
##     scs6              0.369
```

```
##     scs26             0.098
##     scs14             0.142
##     scs13             0.406
##     scs15             0.133
##     scs12             0.127
##     scs9              0.072
##     scs25             0.466
##     scs2              0.696
##     scs10             0.065
##     scs1              0.556
##     scs11             0.539
##     dep               0.573
##     mstres            0.312
##     scs               0.262
##
## Defined Parameters:
##                    Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##     ind1             -0.392    0.087   -4.512    0.000   -0.565   -0.276
##     ind2              0.507    0.135    3.758    0.000    0.264    0.264
##     indlanac          0.272    0.053    5.143    0.000    0.302    0.148
##     ind_mstres        0.366    0.080    4.576    0.000    0.406    0.198
##     total             0.544    0.107    5.094    0.000    0.604    0.295
```

Zadovoljstvo

```
mod <- "sat =~ sat1 + sat2 + sat3 + sat4 + sat5 + sat6
        mstres =~ min1 + min2 + min3 + min4 + min5 + min6 + min7 + min8 + min9
        scs =~ scs6 + scs26 + scs14 + scs13 + scs15 + scs12 + scs9 + scs25 + scs2 + scs10 + scs1 + scs1
        scs26 ~~ scs12
        scs26 ~~ scs14
        scs26 ~~ scs9
        scs26 ~~ scs15
        scs26 ~~ scs10
        scs12 ~~ scs14
        scs12 ~~ scs9
        scs12 ~~ scs15
        scs12 ~~ scs10
        scs14 ~~ scs9
        scs14 ~~ scs15
        scs14 ~~ scs10
        scs9 ~~ scs15
        scs9 ~~ scs10
        scs15 ~~ scs10
        min1 ~~ min2
        min2 ~~ min3
        min1 ~~ min3
        min4 ~~ min5
        min5 ~~ min6
        min4 ~~ min6
        min7 ~~ min8
        min7 ~~ min9
        sat ~ c*scs + e*gndr_rec + f*mstres
```

```
        scs ~ b*mstres + d*gndr_rec
        mstres ~ a*gndr_rec
        ind1 := a*b       # X → M1 → M2
        ind2 := b*c       # M1 → M2 → Y
        indlanac := a*b*c     # X → M1 → M2 → Y
        ind_mstres := f*a       # X → M1 → Y
        total := a*b*c + e + f*a"

modmod <- sem(mod, estimator = "MLR", data = data)
summary(modmod, standardized = T, fit.measures = T, rsq = T)
```

```
## lavaan 0.6-19 ended normally after 70 iterations
##
##   Estimator                                         ML
##   Optimization method                           NLMINB
##   Number of model parameters                        83
##
##   Number of observations                           358
##
## Model Test User Model:
##                                              Standard      Scaled
##   Test Statistic                              652.835     618.852
##   Degrees of freedom                              322         322
##   P-value (Chi-square)                          0.000       0.000
##   Scaling correction factor                                 1.055
##     Yuan-Bentler correction (Mplus variant)
##
## Model Test Baseline Model:
##
##   Test statistic                             4863.404    4488.203
##   Degrees of freedom                              378         378
##   P-value                                       0.000       0.000
##   Scaling correction factor                                 1.084
##
## User Model versus Baseline Model:
##
##   Comparative Fit Index (CFI)                   0.926       0.928
##   Tucker-Lewis Index (TLI)                      0.913       0.915
##
##   Robust Comparative Fit Index (CFI)                        0.930
##   Robust Tucker-Lewis Index (TLI)                           0.917
##
## Loglikelihood and Information Criteria:
##
##   Loglikelihood user model (H0)            -14739.094  -14739.094
##   Scaling correction factor                                 1.068
##       for the MLR correction
##   Loglikelihood unrestricted model (H1)    -14412.676  -14412.676
##   Scaling correction factor                                 1.058
##       for the MLR correction
##
##   Akaike (AIC)                              29644.187   29644.187
##   Bayesian (BIC)                            29966.272   29966.272
```

```
##   Sample-size adjusted Bayesian (SABIC)      29702.955   29702.955
##
## Root Mean Square Error of Approximation:
##
##   RMSEA                                          0.054       0.051
##   90 Percent confidence interval - lower         0.048       0.045
##   90 Percent confidence interval - upper         0.059       0.057
##   P-value H_0: RMSEA <= 0.050                    0.157       0.409
##   P-value H_0: RMSEA >= 0.080                    0.000       0.000
##
##   Robust RMSEA                                                0.052
##   90 Percent confidence interval - lower                      0.046
##   90 Percent confidence interval - upper                      0.058
##   P-value H_0: Robust RMSEA <= 0.050                          0.280
##   P-value H_0: Robust RMSEA >= 0.080                          0.000
##
## Standardized Root Mean Square Residual:
##
##   SRMR                                           0.065       0.065
##
## Parameter Estimates:
##
##   Standard errors                             Sandwich
##   Information bread                           Observed
##   Observed information based on                Hessian
##
## Latent Variables:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##   sat =~
##     sat1             1.000                               1.915    0.825
##     sat2             0.971    0.072   13.565    0.000    1.860    0.745
##     sat3             0.745    0.069   10.792    0.000    1.426    0.606
##     sat4             0.733    0.066   11.138    0.000    1.404    0.645
##     sat5             0.907    0.057   15.878    0.000    1.737    0.660
##     sat6             0.647    0.077    8.353    0.000    1.239    0.482
##   mstres =~
##     min1             1.000                               0.531    0.369
##     min2             1.226    0.139    8.815    0.000    0.651    0.428
##     min3             1.461    0.186    7.859    0.000    0.776    0.552
##     min4             0.867    0.143    6.043    0.000    0.461    0.481
##     min5             0.415    0.111    3.754    0.000    0.220    0.259
##     min6             1.312    0.214    6.143    0.000    0.697    0.634
##     min7             1.700    0.247    6.890    0.000    0.903    0.754
##     min8             2.096    0.305    6.874    0.000    1.114    0.879
##     min9             2.317    0.335    6.907    0.000    1.231    0.887
##   scs =~
##     scs6             1.000                               0.826    0.701
##     scs26            0.443    0.078    5.692    0.000    0.366    0.371
##     scs14            0.442    0.080    5.556    0.000    0.365    0.373
##     scs13            1.016    0.087   11.691    0.000    0.839    0.607
##     scs15            0.499    0.086    5.831    0.000    0.412    0.388
##     scs12            0.453    0.089    5.093    0.000    0.374    0.335
##     scs9             0.331    0.082    4.060    0.000    0.273    0.267
##     scs25            1.073    0.066   16.207    0.000    0.886    0.695
```

```
##     scs2              1.245    0.089   13.933    0.000    1.028    0.785
##     scs10             0.334    0.089    3.756    0.000    0.276    0.248
##     scs1              1.142    0.080   14.234    0.000    0.943    0.781
##     scs11             1.118    0.089   12.620    0.000    0.924    0.741
##
## Regressions:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##   sat ~
##     scs        (c)    0.905    0.154    5.867    0.000    0.390    0.390
##     gndr_rec   (e)    0.139    0.261    0.535    0.593    0.073    0.035
##     mstres     (f)   -1.405    0.319   -4.411    0.000   -0.390   -0.390
##   scs ~
##     mstres     (b)   -0.629    0.127   -4.945    0.000   -0.405   -0.405
##     gndr_rec   (d)   -0.131    0.114   -1.146    0.252   -0.159   -0.077
##   mstres ~
##     gndr_rec   (a)    0.605    0.102    5.928    0.000    1.138    0.555
##
## Covariances:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##  .scs26 ~~
##    .scs12             0.444    0.059    7.579    0.000    0.444    0.460
##    .scs14             0.330    0.048    6.863    0.000    0.330    0.396
##    .scs9              0.322    0.050    6.497    0.000    0.322    0.356
##    .scs15             0.486    0.054    9.055    0.000    0.486    0.541
##    .scs10             0.365    0.060    6.087    0.000    0.365    0.370
##  .scs14 ~~
##    .scs12             0.414    0.053    7.863    0.000    0.414    0.433
##  .scs12 ~~
##    .scs9              0.295    0.062    4.770    0.000    0.295    0.285
##  .scs15 ~~
##    .scs12             0.448    0.059    7.580    0.000    0.448    0.434
##  .scs12 ~~
##    .scs10             0.468    0.065    7.183    0.000    0.468    0.414
##  .scs14 ~~
##    .scs9              0.451    0.056    8.066    0.000    0.451    0.504
##    .scs15             0.483    0.057    8.480    0.000    0.483    0.543
##    .scs10             0.285    0.052    5.512    0.000    0.285    0.292
##  .scs15 ~~
##    .scs9              0.336    0.059    5.718    0.000    0.336    0.348
##  .scs9 ~~
##    .scs10             0.292    0.059    4.980    0.000    0.292    0.275
##  .scs15 ~~
##    .scs10             0.389    0.054    7.213    0.000    0.389    0.369
##  .min1 ~~
##    .min2              1.132    0.113   10.026    0.000    1.132    0.615
##  .min2 ~~
##    .min3              0.636    0.105    6.076    0.000    0.636    0.394
##  .min1 ~~
##    .min3              0.859    0.107    8.046    0.000    0.859    0.548
##  .min4 ~~
##    .min5              0.329    0.049    6.791    0.000    0.329    0.477
##  .min5 ~~
##    .min6              0.190    0.043    4.358    0.000    0.190    0.271
##  .min4 ~~
```

```
##    .min6              0.249    0.044    5.699    0.000    0.249    0.350
##  .min7 ~~
##    .min8             -0.101    0.048   -2.108    0.035   -0.101   -0.213
##    .min9             -0.087    0.057   -1.527    0.127   -0.087   -0.172
##
## Variances:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##    .sat1             1.722    0.249    6.923    0.000    1.722    0.319
##    .sat2             2.780    0.308    9.039    0.000    2.780    0.446
##    .sat3             3.497    0.269   13.020    0.000    3.497    0.632
##    .sat4             2.769    0.245   11.322    0.000    2.769    0.584
##    .sat5             3.913    0.367   10.670    0.000    3.913    0.565
##    .sat6             5.088    0.390   13.037    0.000    5.088    0.768
##    .min1             1.792    0.110   16.362    0.000    1.792    0.864
##    .min2             1.894    0.112   16.933    0.000    1.894    0.817
##    .min3             1.373    0.113   12.194    0.000    1.373    0.695
##    .min4             0.703    0.052   13.467    0.000    0.703    0.768
##    .min5             0.677    0.073    9.299    0.000    0.677    0.933
##    .min6             0.723    0.061   11.790    0.000    0.723    0.598
##    .min7             0.620    0.082    7.582    0.000    0.620    0.432
##    .min8             0.364    0.050    7.210    0.000    0.364    0.227
##    .min9             0.409    0.056    7.359    0.000    0.409    0.213
##    .scs6             0.707    0.081    8.723    0.000    0.707    0.509
##    .scs26            0.842    0.061   13.887    0.000    0.842    0.863
##    .scs14            0.824    0.059   13.912    0.000    0.824    0.861
##    .scs13            1.209    0.107   11.337    0.000    1.209    0.632
##    .scs15            0.960    0.064   15.010    0.000    0.960    0.849
##    .scs12            1.108    0.072   15.441    0.000    1.108    0.888
##    .scs9             0.972    0.065   14.881    0.000    0.972    0.929
##    .scs25            0.839    0.077   10.958    0.000    0.839    0.517
##    .scs2             0.656    0.069    9.522    0.000    0.656    0.383
##    .scs10            1.157    0.079   14.682    0.000    1.157    0.938
##    .scs1             0.570    0.057    9.958    0.000    0.570    0.390
##    .scs11            0.699    0.069   10.076    0.000    0.699    0.450
##    .sat              2.135    0.342    6.248    0.000    0.582    0.582
##    .mstres           0.196    0.056    3.513    0.000    0.692    0.692
##    .scs              0.542    0.074    7.328    0.000    0.795    0.795
##
## R-Square:
##                   Estimate
##     sat1             0.681
##     sat2             0.554
##     sat3             0.368
##     sat4             0.416
##     sat5             0.435
##     sat6             0.232
##     min1             0.136
##     min2             0.183
##     min3             0.305
##     min4             0.232
##     min5             0.067
##     min6             0.402
##     min7             0.568
##     min8             0.773
```

```
##     min9              0.787
##     scs6              0.491
##     scs26             0.137
##     scs14             0.139
##     scs13             0.368
##     scs15             0.151
##     scs12             0.112
##     scs9              0.071
##     scs25             0.483
##     scs2              0.617
##     scs10             0.062
##     scs1              0.610
##     scs11             0.550
##     sat               0.418
##     mstres            0.308
##     scs               0.205
##
## Defined Parameters:
##                    Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##     ind1             -0.380    0.072   -5.283    0.000   -0.461   -0.225
##     ind2             -0.569    0.144   -3.958    0.000   -0.158   -0.158
##     indlanac         -0.344    0.081   -4.271    0.000   -0.180   -0.088
##     ind_mstres       -0.850    0.155   -5.490    0.000   -0.444   -0.216
##     total            -1.055    0.223   -4.726    0.000   -0.551   -0.268
```

...+ kontrolni faktori

```
mod <- "dep =~ dep1 + dep2 + dep3 + dep4
        mstres =~ min1 + min2 + min3 + min4 + min5 + min6 + min7 + min8 + min9
        scs =~ scs6 + scs26 + scs14 + scs13 + scs15 + scs12 + scs9 + scs25 + scs2 + scs10 + scs1 + scs1
        min1 ~~ min2
        min2 ~~ min3
        min1 ~~ min3
        min4 ~~ min5
        min5 ~~ min6
        min4 ~~ min6
        min7 ~~ min8
        min7 ~~ min9
        scs26 ~~ scs12
        scs26 ~~ scs14
        scs26 ~~ scs9
        scs26 ~~ scs15
        scs26 ~~ scs10
        scs12 ~~ scs14
        scs12 ~~ scs9
        scs12 ~~ scs15
        scs12 ~~ scs10
        scs14 ~~ scs9
        scs14 ~~ scs15
        scs14 ~~ scs10
        scs9 ~~ scs15
```

```
        scs9 ~~ scs10
        scs15 ~~ scs10
        dep ~ c*scs + e*gndr_rec + f*mstres + ageg_rec + ed
        scs ~ b*mstres + d*gndr_rec
        mstres ~ a*gndr_rec
        ind1 := a*b           # X → M1 → M2
        ind2 := b*c           # M1 → M2 → Y
        indlanac := a*b*c     # X → M1 → M2 → Y
        ind_mstres := f*a     # X → M1 → Y
        total := a*b*c + e + f*a"
modmod <- sem(mod, estimator = "WLSMV", data = data, ordered = c("dep1", "dep2", "dep3", "dep4"))
summary(modmod, standardized = T, fit.measures = T, rsq = T)
```

Simptomi depresije

```
## lavaan 0.6-19 ended normally after 74 iterations
##
##   Estimator                                         DWLS
##   Optimization method                           NLMINB
##   Number of model parameters                       110
##
##   Number of observations                           358
##
## Model Test User Model:
##                                               Standard      Scaled
##   Test Statistic                               588.298     649.364
##   Degrees of freedom                               319         319
##   P-value (Chi-square)                           0.000       0.000
##   Scaling correction factor                                  1.199
##   Shift parameter                                          158.749
##     simple second-order correction
##
## Model Test Baseline Model:
##
##   Test statistic                              7308.248    2427.079
##   Degrees of freedom                               300         300
##   P-value                                        0.000       0.000
##   Scaling correction factor                                  3.295
##
## User Model versus Baseline Model:
##
##   Comparative Fit Index (CFI)                    0.962       0.845
##   Tucker-Lewis Index (TLI)                       0.964       0.854
##
##   Robust Comparative Fit Index (CFI)                            NA
##   Robust Tucker-Lewis Index (TLI)                               NA
##
## Root Mean Square Error of Approximation:
##
##   RMSEA                                          0.049       0.054
##   90 Percent confidence interval - lower         0.042       0.048
##   90 Percent confidence interval - upper         0.055       0.060
##   P-value H_0: RMSEA <= 0.050                    0.636       0.140
```

```
##   P-value H_0: RMSEA >= 0.080                    0.000       0.000
##
##   Robust RMSEA                                                  NA
##   90 Percent confidence interval - lower                        NA
##   90 Percent confidence interval - upper                        NA
##   P-value H_0: Robust RMSEA <= 0.050                            NA
##   P-value H_0: Robust RMSEA >= 0.080                            NA
##
## Standardized Root Mean Square Residual:
##
##   SRMR                                           0.055       0.055
##
## Parameter Estimates:
##
##   Parameterization                                 Delta
##   Standard errors                            Robust.sem
##   Information                                  Expected
##   Information saturated (h1) model        Unstructured
##
## Latent Variables:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##   dep =~
##     dep1             1.000                               0.910    0.866
##     dep2             0.945    0.043   22.134    0.000    0.860    0.823
##     dep3             0.926    0.047   19.860    0.000    0.843    0.808
##     dep4             0.876    0.045   19.368    0.000    0.798    0.767
##   mstres =~
##     min1             1.000                               0.408    0.299
##     min2             1.600    0.351    4.563    0.000    0.653    0.439
##     min3             1.249    0.289    4.323    0.000    0.510    0.404
##     min4             1.345    0.345    3.895    0.000    0.549    0.570
##     min5             0.817    0.260    3.149    0.002    0.333    0.386
##     min6             1.585    0.428    3.708    0.000    0.647    0.608
##     min7             2.409    0.620    3.884    0.000    0.983    0.799
##     min8             2.123    0.548    3.877    0.000    0.866    0.734
##     min9             2.338    0.627    3.727    0.000    0.954    0.741
##   scs =~
##     scs6             1.000                               0.642    0.581
##     scs26            0.475    0.101    4.698    0.000    0.305    0.312
##     scs14            0.589    0.104    5.639    0.000    0.378    0.390
##     scs13            1.334    0.187    7.142    0.000    0.856    0.629
##     scs15            0.576    0.109    5.269    0.000    0.369    0.354
##     scs12            0.631    0.120    5.268    0.000    0.405    0.369
##     scs9             0.461    0.100    4.599    0.000    0.296    0.291
##     scs25            1.260    0.145    8.692    0.000    0.809    0.655
##     scs2             1.583    0.198    8.001    0.000    1.016    0.823
##     scs10            0.450    0.106    4.224    0.000    0.289    0.262
##     scs1             1.315    0.156    8.457    0.000    0.844    0.732
##     scs11            1.382    0.177    7.814    0.000    0.887    0.723
##
## Regressions:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##   dep ~
##     scs        (c)   -0.718    0.107   -6.725    0.000   -0.506   -0.506
```

```
##     gndr_rec   (e)   -0.086    0.092   -0.937    0.349   -0.095   -0.046
##     mstres     (f)    0.769    0.231    3.334    0.001    0.345    0.345
##     ageg_rec         -0.013    0.006   -2.124    0.034   -0.014   -0.140
##     ed               -0.142    0.108   -1.319    0.187   -0.156   -0.076
##   scs ~
##     mstres     (b)   -0.708    0.209   -3.396    0.001   -0.450   -0.450
##     gndr_rec   (d)    0.011    0.096    0.114    0.909    0.017    0.008
##   mstres ~
##     gndr_rec   (a)    0.436    0.117    3.739    0.000    1.069    0.522
##
## Covariances:
##                    Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##  .min1 ~~
##    .min2              1.045    0.178    5.878    0.000    1.045    0.602
##  .min2 ~~
##    .min3              0.608    0.117    5.182    0.000    0.608    0.395
##  .min1 ~~
##    .min3              0.790    0.122    6.472    0.000    0.790    0.527
##  .min4 ~~
##    .min5              0.276    0.052    5.329    0.000    0.276    0.439
##  .min5 ~~
##    .min6              0.158    0.038    4.121    0.000    0.158    0.235
##  .min4 ~~
##    .min6              0.225    0.046    4.849    0.000    0.225    0.338
##  .min7 ~~
##    .min8              0.005    0.068    0.068    0.946    0.005    0.008
##    .min9              0.032    0.087    0.364    0.716    0.032    0.049
##  .scs26 ~~
##    .scs12             0.432    0.060    7.192    0.000    0.432    0.456
##    .scs14             0.331    0.048    6.838    0.000    0.331    0.400
##    .scs9              0.320    0.053    6.053    0.000    0.320    0.355
##    .scs15             0.497    0.063    7.824    0.000    0.497    0.549
##    .scs10             0.362    0.058    6.249    0.000    0.362    0.367
##  .scs14 ~~
##    .scs12             0.369    0.052    7.099    0.000    0.369    0.405
##  .scs12 ~~
##    .scs9              0.253    0.052    4.835    0.000    0.253    0.255
##  .scs15 ~~
##    .scs12             0.413    0.061    6.792    0.000    0.413    0.415
##  .scs12 ~~
##    .scs10             0.428    0.067    6.429    0.000    0.428    0.394
##  .scs14 ~~
##    .scs9              0.422    0.053    7.908    0.000    0.422    0.487
##    .scs15             0.466    0.056    8.382    0.000    0.466    0.536
##    .scs10             0.259    0.054    4.833    0.000    0.259    0.273
##  .scs15 ~~
##    .scs9              0.318    0.052    6.094    0.000    0.318    0.337
##  .scs9 ~~
##    .scs10             0.265    0.054    4.882    0.000    0.265    0.257
##  .scs15 ~~
##    .scs10             0.371    0.062    5.979    0.000    0.371    0.358
##
## Intercepts:
##                    Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
```

```
##    .min1              1.738    0.407    4.269    0.000    1.738    1.276
##    .min2              1.917    0.413    4.640    0.000    1.917    1.289
##    .min3              0.927    0.399    2.323    0.020    0.927    0.736
##    .min4              2.888    0.275   10.501    0.000    2.888    3.001
##    .min5              1.463    0.267    5.487    0.000    1.463    1.693
##    .min6              1.177    0.300    3.929    0.000    1.177    1.107
##    .min7              1.395    0.328    4.247    0.000    1.395    1.133
##    .min8              0.830    0.393    2.114    0.035    0.830    0.704
##    .min9              0.865    0.409    2.113    0.035    0.865    0.672
##    .scs6              2.306    0.304    7.592    0.000    2.306    2.088
##    .scs26             2.659    0.314    8.476    0.000    2.659    2.723
##    .scs14             3.530    0.271   13.030    0.000    3.530    3.644
##    .scs13             3.254    0.389    8.360    0.000    3.254    2.393
##    .scs15             3.187    0.294   10.831    0.000    3.187    3.057
##    .scs12             3.138    0.325    9.651    0.000    3.138    2.856
##    .scs9              3.719    0.291   12.763    0.000    3.719    3.667
##    .scs25             2.279    0.353    6.455    0.000    2.279    1.848
##    .scs2              2.237    0.369    6.059    0.000    2.237    1.813
##    .scs10             2.777    0.321    8.663    0.000    2.777    2.518
##    .scs1              1.937    0.333    5.815    0.000    1.937    1.680
##    .scs11             2.694    0.373    7.218    0.000    2.694    2.197
##
## Thresholds:
##                    Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##     dep1|t1          -0.454    0.331   -1.369    0.171   -0.454   -0.432
##     dep1|t2           0.911    0.334    2.729    0.006    0.911    0.867
##     dep1|t3           1.854    0.345    5.368    0.000    1.854    1.765
##     dep2|t1          -0.582    0.316   -1.843    0.065   -0.582   -0.557
##     dep2|t2           0.462    0.316    1.461    0.144    0.462    0.442
##     dep2|t3           1.648    0.321    5.125    0.000    1.648    1.576
##     dep3|t1          -0.512    0.330   -1.554    0.120   -0.512   -0.491
##     dep3|t2           1.086    0.333    3.263    0.001    1.086    1.041
##     dep3|t3           2.135    0.347    6.155    0.000    2.135    2.045
##     dep4|t1          -0.436    0.332   -1.314    0.189   -0.436   -0.419
##     dep4|t2           0.616    0.331    1.861    0.063    0.616    0.593
##     dep4|t3           1.561    0.341    4.579    0.000    1.561    1.502
##
## Variances:
##                    Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##    .dep1              0.275                               0.275    0.249
##    .dep2              0.353                               0.353    0.323
##    .dep3              0.379                               0.379    0.348
##    .dep4              0.444                               0.444    0.411
##    .min1              1.690    0.199    8.473    0.000    1.690    0.910
##    .min2              1.784    0.227    7.873    0.000    1.784    0.807
##    .min3              1.329    0.130   10.194    0.000    1.329    0.837
##    .min4              0.624    0.056   11.161    0.000    0.624    0.675
##    .min5              0.636    0.056   11.266    0.000    0.636    0.851
##    .min6              0.712    0.067   10.618    0.000    0.712    0.630
##    .min7              0.548    0.104    5.274    0.000    0.548    0.362
##    .min8              0.641    0.072    8.874    0.000    0.641    0.461
##    .min9              0.746    0.095    7.879    0.000    0.746    0.451
##    .scs6              0.808    0.080   10.152    0.000    0.808    0.662
##    .scs26             0.861    0.074   11.588    0.000    0.861    0.903
```

```
##    .scs14             0.796    0.067   11.838    0.000    0.796    0.848
##    .scs13             1.116    0.113    9.873    0.000    1.116    0.604
##    .scs15             0.950    0.083   11.394    0.000    0.950    0.874
##    .scs12             1.043    0.093   11.181    0.000    1.043    0.864
##    .scs9              0.941    0.081   11.568    0.000    0.941    0.915
##    .scs25             0.868    0.088    9.905    0.000    0.868    0.570
##    .scs2              0.491    0.068    7.194    0.000    0.491    0.322
##    .scs10             1.133    0.100   11.328    0.000    1.133    0.931
##    .scs1              0.616    0.065    9.499    0.000    0.616    0.464
##    .scs11             0.717    0.075    9.606    0.000    0.717    0.477
##    .dep               0.357    0.044    8.127    0.000    0.430    0.430
##    .mstres            0.121    0.059    2.038    0.042    0.728    0.728
##    .scs               0.330    0.072    4.569    0.000    0.801    0.801
##
## R-Square:
##                    Estimate
##     dep1              0.751
##     dep2              0.677
##     dep3              0.652
##     dep4              0.589
##     min1              0.090
##     min2              0.193
##     min3              0.163
##     min4              0.325
##     min5              0.149
##     min6              0.370
##     min7              0.638
##     min8              0.539
##     min9              0.549
##     scs6              0.338
##     scs26             0.097
##     scs14             0.152
##     scs13             0.396
##     scs15             0.126
##     scs12             0.136
##     scs9              0.085
##     scs25             0.430
##     scs2              0.678
##     scs10             0.069
##     scs1              0.536
##     scs11             0.523
##     dep               0.570
##     mstres            0.272
##     scs               0.199
##
## Defined Parameters:
##                    Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##     ind1             -0.309    0.073   -4.222    0.000   -0.481   -0.235
##     ind2              0.509    0.146    3.478    0.001    0.228    0.228
##     indlanac          0.222    0.046    4.797    0.000    0.244    0.119
##     ind_mstres        0.336    0.073    4.624    0.000    0.369    0.180
##     total             0.471    0.107    4.411    0.000    0.518    0.253
```

```
mod <- "sat =~ sat1 + sat2 + sat3 + sat4 + sat5 + sat6
        mstres =~ min1 + min2 + min3 + min4 + min5 + min6 + min7 + min8 + min9
        scs =~ scs6 + scs26 + scs14 + scs13 + scs15 + scs12 + scs9 + scs25 + scs2 + scs10 + scs1 + scs1
        scs26 ~~ scs12
        scs26 ~~ scs14
        scs26 ~~ scs9
        scs26 ~~ scs15
        scs26 ~~ scs10
        scs12 ~~ scs14
        scs12 ~~ scs9
        scs12 ~~ scs15
        scs12 ~~ scs10
        scs14 ~~ scs9
        scs14 ~~ scs15
        scs14 ~~ scs10
        scs9 ~~ scs15
        scs9 ~~ scs10
        scs15 ~~ scs10
        min1 ~~ min2
        min2 ~~ min3
        min1 ~~ min3
        min4 ~~ min5
        min5 ~~ min6
        min4 ~~ min6
        min7 ~~ min8
        min7 ~~ min9
        sat ~ c*scs + e*gndr_rec + f*mstres + ageg_rec + ed
        scs ~ b*mstres + d*gndr_rec
        mstres ~ a*gndr_rec
        ind1 := a*b             # X → M1 → M2
        ind2 := b*c             # M1 → M2 → Y
        indlanac := a*b*c       # X → M1 → M2 → Y
        ind_mstres := f*a       # X → M1 → Y
        total := a*b*c + e + f*a"

modmod <- sem(mod, estimator = "MLR", data = data)
summary(modmod, standardized = T, fit.measures = T, rsq = T)
```

Zadovoljstvo

```
## lavaan 0.6-19 ended normally after 67 iterations
##
##   Estimator                                         ML
##   Optimization method                           NLMINB
##   Number of model parameters                        85
##
##   Number of observations                           358
##
## Model Test User Model:
##                                              Standard      Scaled
##   Test Statistic                              774.496     742.134
##   Degrees of freedom                              374         374
```

```
##   P-value (Chi-square)                           0.000       0.000
##   Scaling correction factor                                  1.044
##     Yuan-Bentler correction (Mplus variant)
##
## Model Test Baseline Model:
##
##   Test statistic                              5000.310    4669.521
##   Degrees of freedom                           432         432
##   P-value                                        0.000       0.000
##   Scaling correction factor                                  1.071
##
## User Model versus Baseline Model:
##
##   Comparative Fit Index (CFI)                    0.912       0.913
##   Tucker-Lewis Index (TLI)                       0.899       0.900
##
##   Robust Comparative Fit Index (CFI)                         0.915
##   Robust Tucker-Lewis Index (TLI)                            0.902
##
## Loglikelihood and Information Criteria:
##
##   Loglikelihood user model (H0)             -14731.471  -14731.471
##   Scaling correction factor                                  1.071
##       for the MLR correction
##   Loglikelihood unrestricted model (H1)     -14344.223  -14344.223
##   Scaling correction factor                                  1.049
##       for the MLR correction
##
##   Akaike (AIC)                               29632.942   29632.942
##   Bayesian (BIC)                             29962.787   29962.787
##   Sample-size adjusted Bayesian (SABIC)      29693.126   29693.126
##
## Root Mean Square Error of Approximation:
##
##   RMSEA                                          0.055       0.052
##   90 Percent confidence interval - lower         0.049       0.047
##   90 Percent confidence interval - upper         0.060       0.058
##   P-value H_0: RMSEA <= 0.050                    0.078       0.225
##   P-value H_0: RMSEA >= 0.080                    0.000       0.000
##
##   Robust RMSEA                                               0.054
##   90 Percent confidence interval - lower                     0.048
##   90 Percent confidence interval - upper                     0.059
##   P-value H_0: Robust RMSEA <= 0.050                         0.147
##   P-value H_0: Robust RMSEA >= 0.080                         0.000
##
## Standardized Root Mean Square Residual:
##
##   SRMR                                           0.071       0.071
##
## Parameter Estimates:
##
##   Standard errors                             Sandwich
##   Information bread                           Observed
```

```
##   Observed information based on                Hessian
##
## Latent Variables:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##   sat =~
##     sat1             1.000                               1.942    0.829
##     sat2             0.970    0.073   13.342    0.000    1.883    0.749
##     sat3             0.749    0.069   10.782    0.000    1.454    0.616
##     sat4             0.732    0.066   11.049    0.000    1.421    0.649
##     sat5             0.900    0.058   15.635    0.000    1.747    0.660
##     sat6             0.641    0.078    8.266    0.000    1.245    0.482
##   mstres =~
##     min1             1.000                               0.532    0.370
##     min2             1.225    0.139    8.834    0.000    0.652    0.428
##     min3             1.457    0.185    7.871    0.000    0.776    0.552
##     min4             0.864    0.143    6.053    0.000    0.460    0.481
##     min5             0.413    0.110    3.757    0.000    0.220    0.258
##     min6             1.309    0.212    6.160    0.000    0.697    0.634
##     min7             1.696    0.246    6.907    0.000    0.903    0.753
##     min8             2.092    0.304    6.886    0.000    1.114    0.879
##     min9             2.314    0.334    6.922    0.000    1.232    0.888
##   scs =~
##     scs6             1.000                               0.825    0.700
##     scs26            0.441    0.078    5.685    0.000    0.364    0.369
##     scs14            0.441    0.079    5.551    0.000    0.364    0.372
##     scs13            1.016    0.086   11.755    0.000    0.839    0.607
##     scs15            0.498    0.085    5.831    0.000    0.411    0.387
##     scs12            0.452    0.089    5.104    0.000    0.373    0.334
##     scs9             0.330    0.081    4.049    0.000    0.272    0.266
##     scs25            1.072    0.066   16.245    0.000    0.885    0.695
##     scs2             1.248    0.089   13.952    0.000    1.030    0.787
##     scs10            0.334    0.089    3.760    0.000    0.276    0.248
##     scs1             1.143    0.080   14.242    0.000    0.944    0.781
##     scs11            1.117    0.088   12.622    0.000    0.922    0.740
##
## Regressions:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##   sat ~
##     scs        (c)    0.984    0.157    6.279    0.000    0.418    0.418
##     gndr_rec   (e)    0.120    0.260    0.461    0.645    0.062    0.030
##     mstres     (f)   -1.379    0.306   -4.507    0.000   -0.378   -0.378
##     ageg_rec         -0.031    0.012   -2.509    0.012   -0.016   -0.153
##     ed                0.646    0.225    2.871    0.004    0.333    0.162
##   scs ~
##     mstres     (b)   -0.628    0.127   -4.952    0.000   -0.405   -0.405
##     gndr_rec   (d)   -0.131    0.114   -1.146    0.252   -0.159   -0.077
##   mstres ~
##     gndr_rec   (a)    0.606    0.102    5.937    0.000    1.138    0.555
##
## Covariances:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##  .scs26 ~~
##    .scs12             0.445    0.059    7.601    0.000    0.445    0.460
##    .scs14             0.330    0.048    6.892    0.000    0.330    0.396
```

```
##    .scs9             0.323    0.050    6.518    0.000    0.323    0.356
##    .scs15            0.487    0.054    9.079    0.000    0.487    0.541
##    .scs10            0.366    0.060    6.091    0.000    0.366    0.370
##  .scs14 ~~
##    .scs12            0.414    0.053    7.874    0.000    0.414    0.433
##  .scs12 ~~
##    .scs9             0.296    0.062    4.779    0.000    0.296    0.285
##  .scs15 ~~
##    .scs12            0.448    0.059    7.602    0.000    0.448    0.434
##  .scs12 ~~
##    .scs10            0.469    0.065    7.189    0.000    0.469    0.414
##  .scs14 ~~
##    .scs9             0.451    0.056    8.080    0.000    0.451    0.504
##    .scs15            0.483    0.057    8.494    0.000    0.483    0.543
##    .scs10            0.285    0.052    5.514    0.000    0.285    0.292
##  .scs15 ~~
##    .scs9             0.337    0.059    5.735    0.000    0.337    0.348
##  .scs9 ~~
##    .scs10            0.292    0.059    4.985    0.000    0.292    0.275
##  .scs15 ~~
##    .scs10            0.390    0.054    7.224    0.000    0.390    0.370
##  .min1 ~~
##    .min2             1.131    0.113   10.014    0.000    1.131    0.614
##  .min2 ~~
##    .min3             0.636    0.105    6.071    0.000    0.636    0.394
##  .min1 ~~
##    .min3             0.859    0.107    8.042    0.000    0.859    0.547
##  .min4 ~~
##    .min5             0.330    0.049    6.791    0.000    0.330    0.478
##  .min5 ~~
##    .min6             0.190    0.044    4.364    0.000    0.190    0.271
##  .min4 ~~
##    .min6             0.250    0.044    5.718    0.000    0.250    0.350
##  .min7 ~~
##    .min8            -0.101    0.048   -2.109    0.035   -0.101   -0.212
##    .min9            -0.087    0.056   -1.546    0.122   -0.087   -0.173
##
## Variances:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##    .sat1             1.712    0.255    6.717    0.000    1.712    0.312
##    .sat2             2.777    0.307    9.060    0.000    2.777    0.439
##    .sat3             3.467    0.268   12.937    0.000    3.467    0.621
##    .sat4             2.770    0.245   11.286    0.000    2.770    0.578
##    .sat5             3.951    0.370   10.691    0.000    3.951    0.564
##    .sat6             5.111    0.391   13.060    0.000    5.111    0.767
##    .min1             1.791    0.110   16.347    0.000    1.791    0.863
##    .min2             1.893    0.112   16.914    0.000    1.893    0.816
##    .min3             1.374    0.113   12.206    0.000    1.374    0.695
##    .min4             0.704    0.052   13.464    0.000    0.704    0.769
##    .min5             0.677    0.073    9.296    0.000    0.677    0.933
##    .min6             0.723    0.061   11.812    0.000    0.723    0.598
##    .min7             0.621    0.081    7.634    0.000    0.621    0.432
##    .min8             0.364    0.050    7.243    0.000    0.364    0.227
##    .min9             0.408    0.055    7.384    0.000    0.408    0.212
```

```
##    .scs6             0.708    0.081    8.721    0.000    0.708    0.510
##    .scs26            0.843    0.061   13.909    0.000    0.843    0.864
##    .scs14            0.825    0.059   13.922    0.000    0.825    0.861
##    .scs13            1.209    0.106   11.365    0.000    1.209    0.632
##    .scs15            0.961    0.064   15.014    0.000    0.961    0.851
##    .scs12            1.108    0.072   15.454    0.000    1.108    0.888
##    .scs9             0.973    0.065   14.891    0.000    0.973    0.929
##    .scs25            0.840    0.076   11.008    0.000    0.840    0.518
##    .scs2             0.652    0.068    9.528    0.000    0.652    0.380
##    .scs10            1.157    0.079   14.698    0.000    1.157    0.938
##    .scs1             0.568    0.057    9.926    0.000    0.568    0.389
##    .scs11            0.702    0.069   10.118    0.000    0.702    0.453
##    .sat              2.010    0.310    6.490    0.000    0.533    0.533
##    .mstres           0.196    0.056    3.522    0.000    0.692    0.692
##    .scs              0.542    0.074    7.328    0.000    0.795    0.795
##
## R-Square:
##                   Estimate
##     sat1             0.688
##     sat2             0.561
##     sat3             0.379
##     sat4             0.422
##     sat5             0.436
##     sat6             0.233
##     min1             0.137
##     min2             0.184
##     min3             0.305
##     min4             0.231
##     min5             0.067
##     min6             0.402
##     min7             0.568
##     min8             0.773
##     min9             0.788
##     scs6             0.490
##     scs26            0.136
##     scs14            0.139
##     scs13            0.368
##     scs15            0.149
##     scs12            0.112
##     scs9             0.071
##     scs25            0.482
##     scs2             0.620
##     scs10            0.062
##     scs1             0.611
##     scs11            0.547
##     sat              0.467
##     mstres           0.308
##     scs              0.205
##
## Defined Parameters:
##                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
##     ind1            -0.380    0.072   -5.280    0.000   -0.461   -0.225
##     ind2            -0.618    0.153   -4.048    0.000   -0.169   -0.169
##     indlanac        -0.374    0.085   -4.408    0.000   -0.193   -0.094
```

```
##     ind_mstres       -0.836    0.148   -5.640    0.000   -0.430   -0.210
##     total            -1.090    0.234   -4.664    0.000   -0.561   -0.274
```

Dodatak - invarijantnost mjera

Kako bismo provjerili funkcioniraju li mjere različito za sudionike različite dobi, odnosno obrazovanja, provjerili smo njihovu invarijantnost/ekvivalentnost u tri koraka. Prvo smo sudionike grupirali s obzirom na dob, odnosno razinu obrazovanja, u dvije grupe (prikazano u donjem kodu), a zatim smo uspoređivali funkcioniranje mjera s obzirom na navedene grupe s obzirom na dob, odnosno obrazovni status. Provedene analize pokazale su da skale podjednako funkcioniraju kod obrazovanijih i manje obrazovanih, odnosno mlađih i starijih sudionika pa razlike u funkcioniranju ne bi trebale predstavljati izvor pristranosti kod tumačenja rezultata. Za informacije o razlikama u kriterijima ovog istraživanja s obzirom na dob i obrazovanje čitatelje usmjeravamo na **Medijacije -> X -> M1 -> M2 -> Y -> ...+ kontrolni faktori** dio rezultata.

```
data$ag <- ifelse(data$ageg_rec < 22, "18-25", "26+")
data$eg <- ifelse(data$edu %in% c("osnovna škola", "srednja škola"), "oss", ifelse(data$edu %in% c("dok
table(data$ag)
```

```
##
## 18-25   26+
##   146   212
```

```
table(data$eg)
```

```
##
## oss vss
## 132 221
```

Depresija

```
mod <- "dep =~ dep1 + dep2 + dep3 + dep4"

modmodc <- sem(mod, estimator = "WLSMV", data = data, group = "ag", ordered = c("dep1", "dep2", "dep3",
modmodw <- sem(mod, estimator = "WLSMV", data = data, group = "ag", group.equal = "loadings", ordered =
modmods <- sem(mod, estimator = "WLSMV", data = data, group = "ag", group.equal = c("loadings", "interc

summary(compareFit(modmodc, modmodw, modmods))
```

```
## ################### Nested Model Comparison #########################
##
## Scaled Chi-Squared Difference Test (method = "satorra.2000")
##
## lavaan->unknown():
##    lavaan NOTE: The "Chisq" column contains standard test statistics, not the
##    robust test that should be reported per model. A robust difference test is
##    a function of two standard (not robust) statistics.
##         Df AIC BIC  Chisq Chisq diff Df diff Pr(>Chisq)
## modmodc  4         24.747
## modmodw  7         27.953     4.3611       3     0.2250
```

```
## modmods 14         29.892     3.3866       7     0.8471
##
## ######################## Model Fit Indices ############################
##         chisq.scaled df.scaled pvalue.scaled rmsea.scaled cfi.scaled tli.scaled
## modmodc      38.451†         4          .000        .220       .981       .942
## modmodw      40.719          7          .000        .165       .981       .968
## modmods      43.315         14          .000        .108†      .984†      .986†
##          srmr
## modmodc .056†
## modmodw .058
## modmods .056
##
## ################### Differences in Fit Indices ########################
##                   df.scaled rmsea.scaled cfi.scaled tli.scaled   srmr
## modmodw - modmodc         3       -0.055      0.000      0.026  0.002
## modmods - modmodw         7       -0.056      0.002      0.018 -0.002
```

```
modmodc <- sem(mod, estimator = "WLSMV", data = data, group = "eg", ordered = c("dep1", "dep2", "dep3",
```

```
## Warning: lavaan->lav_data_full():
##    group variable 'eg' contains missing values
```

```
modmodw <- sem(mod, estimator = "WLSMV", data = data, group = "eg", group.equal = "loadings", ordered =
```

```
## Warning: lavaan->lav_data_full():
##    group variable 'eg' contains missing values
```

```
modmods <- sem(mod, estimator = "WLSMV", data = data, group = "eg", group.equal = c("loadings", "interc
```

```
## Warning: lavaan->lav_data_full():
##    group variable 'eg' contains missing values
```

```
summary(compareFit(modmodc, modmodw, modmods))
```

```
## ################### Nested Model Comparison #########################
##
## Scaled Chi-Squared Difference Test (method = "satorra.2000")
##
## lavaan->unknown():
##    lavaan NOTE: The "Chisq" column contains standard test statistics, not the
##    robust test that should be reported per model. A robust difference test is
##    a function of two standard (not robust) statistics.
##         Df AIC BIC  Chisq Chisq diff Df diff Pr(>Chisq)
## modmodc  4         25.636
## modmodw  7         30.023     6.3469       3     0.0959 .
## modmods 14         34.621     7.6615       7     0.3634
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## ######################## Model Fit Indices ############################
##         chisq.scaled df.scaled pvalue.scaled rmsea.scaled cfi.scaled tli.scaled
```

```
## modmodc      35.446†         4          .000        .212       .981†      .943
## modmodw      42.282          7          .000        .169        .979       .964
## modmods      49.645         14          .000        .120†       .979      .982†
##          srmr
## modmodc .053†
## modmodw .059
## modmods .055
##
## ################### Differences in Fit Indices ########################
##                   df.scaled rmsea.scaled cfi.scaled tli.scaled   srmr
## modmodw - modmodc         3       -0.042     -0.002      0.020  0.006
## modmods - modmodw         7       -0.049      0.000      0.018 -0.004
```

Zadovoljstvo

```
mod <- "sat =~ sat1 + sat2 + sat3 + sat4 + sat5 + sat6"

modmodc <- sem(mod, estimator = "MLR", data = data, group = "ag")
modmodw <- sem(mod, estimator = "MLR", data = data, group = "ag", group.equal = "loadings")
modmods <- sem(mod, estimator = "MLR", data = data, group = "ag", group.equal = c("loadings", "intercep

summary(compareFit(modmodc, modmodw, modmods))
```

```
## ################### Nested Model Comparison #########################
##
## Scaled Chi-Squared Difference Test (method = "satorra.bentler.2001")
##
## lavaan->unknown():
##    lavaan NOTE: The "Chisq" column contains standard test statistics, not the
##    robust test that should be reported per model. A robust difference test is
##    a function of two standard (not robust) statistics.
##         Df    AIC    BIC  Chisq Chisq diff Df diff Pr(>Chisq)
## modmodc 18 9262.2 9401.9 46.998
## modmodw 23 9253.6 9373.9 48.432     1.1322       5     0.9512
## modmods 28 9246.7 9347.6 51.504     3.0105       5     0.6984
##
## ####################### Model Fit Indices ###########################
##         chisq.scaled df.scaled pvalue.scaled rmsea.robust cfi.robust tli.robust
## modmodc      43.482         18          .001        .092       .960       .934
## modmodw      43.196†        23          .007        .074       .967       .957
## modmods      46.685         28          .015        .064†      .970†      .968†
##          srmr       aic       bic
## modmodc .040† 9262.166  9401.865
## modmodw .044  9253.600  9373.896
## modmods .045  9246.672† 9347.566†
##
## ################### Differences in Fit Indices ########################
##                   df.scaled rmsea.robust cfi.robust tli.robust  srmr    aic
## modmodw - modmodc         5       -0.018      0.007      0.024 0.003 -8.566
## modmods - modmodw         5       -0.010      0.003      0.011 0.002 -6.928
##                        bic
## modmodw - modmodc -27.969
```

```
## modmods - modmodw -26.330
```

```
modmodc <- sem(mod, estimator = "MLR", data = data, group = "eg")
```

```
## Warning: lavaan->lav_data_full():
##    group variable 'eg' contains missing values
```

```
modmodw <- sem(mod, estimator = "MLR", data = data, group = "eg", group.equal = "loadings")
```

```
## Warning: lavaan->lav_data_full():
##    group variable 'eg' contains missing values
```

```
modmods <- sem(mod, estimator = "MLR", data = data, group = "eg", group.equal = c("loadings", "intercep
```

```
## Warning: lavaan->lav_data_full():
##    group variable 'eg' contains missing values
```

```
summary(compareFit(modmodc, modmodw, modmods))
```

```
## ################### Nested Model Comparison #########################
##
## Scaled Chi-Squared Difference Test (method = "satorra.bentler.2001")
##
## lavaan->unknown():
##    lavaan NOTE: The "Chisq" column contains standard test statistics, not the
##    robust test that should be reported per model. A robust difference test is
##    a function of two standard (not robust) statistics.
##         Df    AIC    BIC  Chisq Chisq diff Df diff Pr(>Chisq)
## modmodc 18 9104.8 9244.0 49.334
## modmodw 23 9097.2 9217.0 51.678     2.0403       5     0.8435
## modmods 28 9095.3 9195.9 59.858     8.0229       5     0.1550
##
## ######################## Model Fit Indices ###########################
##         chisq.scaled df.scaled pvalue.scaled rmsea.robust cfi.robust tli.robust
## modmodc      45.970†        18          .000        .097       .954       .924
## modmodw      47.428         23          .002        .081       .960†      .947
## modmods      55.573         28          .001        .078†      .955       .952†
##          srmr       aic       bic
## modmodc .038† 9104.811  9244.004
## modmodw .041  9097.155  9217.016
## modmods .046  9095.336† 9195.864†
##
## ################### Differences in Fit Indices ######################
##                   df.scaled rmsea.robust cfi.robust tli.robust  srmr    aic
## modmodw - modmodc         5       -0.016      0.005      0.023 0.003 -7.656
## modmods - modmodw         5       -0.003     -0.005      0.004 0.005 -1.819
##                         bic
## modmodw - modmodc -26.989
## modmods - modmodw -21.152
```

SessionInfo

```
sessionInfo()
```

```
## R version 4.5.1 (2025-06-13 ucrt)
## Platform: x86_64-w64-mingw32/x64
## Running under: Windows 11 x64 (build 26200)
##
## Matrix products: default
##   LAPACK version 3.12.1
##
## locale:
## [1] LC_COLLATE=Croatian_Croatia.utf8  LC_CTYPE=Croatian_Croatia.utf8
## [3] LC_MONETARY=Croatian_Croatia.utf8 LC_NUMERIC=C
## [5] LC_TIME=Croatian_Croatia.utf8
##
## time zone: Europe/Zagreb
## tzcode source: internal
##
## attached base packages:
## [1] stats     graphics  grDevices utils     datasets  methods   base
##
## other attached packages:
## [1] semTools_0.5-7 lavaan_0.6-19  psych_2.5.6    dplyr_1.1.4    careless_1.2.2
## [6] ggplot2_3.5.2  haven_2.5.5    mime_0.13      xfun_0.52
##
## loaded via a namespace (and not attached):
##  [1] tidyr_1.3.1        sandwich_3.1-1     generics_0.1.4     lattice_0.22-7
##  [5] hms_1.1.3          digest_0.6.37      magrittr_2.0.3     evaluate_1.0.4
##  [9] grid_4.5.1         estimability_1.5.1 RColorBrewer_1.1-3 mvtnorm_1.3-3
## [13] fastmap_1.2.0      lavaan.mi_0.1-0    Matrix_1.7-3       survival_3.8-3
## [17] multcomp_1.4-28    purrr_1.1.0        scales_1.4.0       TH.data_1.1-3
## [21] pbivnorm_0.6.0     codetools_0.2-20   mnormt_2.1.1       cli_3.6.5
## [25] rlang_1.1.6        splines_4.5.1      withr_3.0.2        yaml_2.3.10
## [29] tools_4.5.1        parallel_4.5.1     tzdb_0.5.0         coda_0.19-4.1
## [33] forcats_1.0.0      vctrs_0.6.5        R6_2.6.1           stats4_4.5.1
## [37] zoo_1.8-14         lifecycle_1.0.4    emmeans_1.11.2     MASS_7.3-65
## [41] pkgconfig_2.0.3    pillar_1.11.0      gtable_0.3.6       glue_1.8.0
## [45] tibble_3.3.0       tidyselect_1.2.1   rstudioapi_0.17.1  knitr_1.50
## [49] xtable_1.8-4       farver_2.1.2       htmltools_0.5.8.1  nlme_3.1-168
## [53] labeling_0.4.3     rmarkdown_2.29     readr_2.1.5        compiler_4.5.1
## [57] quadprog_1.5-8
```