Dynamic SEM on ESM Data

Structural Equation Modeling Course Project - KU Leuven

MohammadHossein Manuel Haqiqatkhah - R0607671 2019-08-23

Introduction

Experience sampling method (ESM)

```
m_pa.na.simp <- "</pre>
 pa.1 =~ mood_relaxed.1 + sat.f*mood_satisfi.1 + ent.f*mood_enthus.1 + che.f*mood_cheerf.1 + str.f*moo
 na.1 =~ dow.f*mood_down.1 + irr.f*mood_irritat.1 + lon.f*mood_lonely.1 + anx.f*mood_anxious.1 + sus.f
 pa.1 ~~ na.1
f_pa.na.simp <- sem(m_pa.na.simp, data = d.1, std.lv = TRUE)</pre>
f_pa.na.simp %>% summary(standardized = TRUE) %>% kable(format = "latex")
## lavaan 0.6-4 ended normally after 42 iterations
##
##
     Optimization method
                                                     NLMINB
##
     Number of free parameters
                                                         25
##
##
                                                                  Total
                                                       Used
##
     Number of observations
                                                       1473
                                                                   1476
##
##
     Estimator
                                                        ML
     Model Fit Test Statistic
                                                  2007.575
##
##
    Degrees of freedom
                                                         53
##
     P-value (Chi-square)
                                                     0.000
##
## Parameter Estimates:
##
##
     Information
                                                  Expected
##
     Information saturated (h1) model
                                                Structured
##
     Standard Errors
                                                  Standard
##
## Latent Variables:
                      Estimate Std.Err z-value P(>|z|)
##
                                                              Std.lv Std.all
##
    pa.1 =~
##
       md_rl.1
                         0.504
                                   0.018
                                           28.785
                                                     0.000
                                                               0.504
                                                                        0.677
##
       md_st.1 (st.f)
                         0.870
                                   0.021
                                           42.386
                                                     0.000
                                                               0.870
                                                                        0.882
       md_nt.1 (ent.)
                         0.733
                                   0.018
                                           39.933
                                                     0.000
                                                               0.733
                                                                        0.851
##
```

##	md_ch.1 (ch.f)	0.730	0.018	41.052	0.000	0.730	0.865
##	md_st.1 (str.)	0.727	0.019	39.103	0.000	0.727	0.839
##	na.1 =~						
##	md_dw.1 (dw.f)	0.641	0.016	40.486	0.000	0.641	0.866
##	md_rr.1 (irr.)	0.327	0.031	10.421	0.000	0.327	0.279
##	md_ln.1 (ln.f)	0.409	0.011	38.897	0.000	0.409	0.844
##	md_nx.1 (anx.)	0.187	0.008	24.493	0.000	0.187	0.603
##	md_ss.1 (ss.f)	0.308	0.014	22.176	0.000	0.308	0.555
##	md_gl.1 (gu.f)	0.358	0.011	33.979	0.000	0.358	0.771
##	md_db.1 (do.f)	0.498	0.022	22.974	0.000	0.498	0.572
##							
	Covariances:						
##		Estimate	Std.Err	z-value	P(> z)	Std.lv	Std.all
##	pa.1 ~~						
##	na.1	-0.748	0.014	-52.651	0.000	-0.748	-0.748
##							
##	Variances:	_		_	- () ()		
##		Estimate	Std.Err	z-value	P(> z)	Std.lv	Std.all
## ##	.mood_relaxed.1	0.300	0.012	25.400	0.000	0.300	0.541
## ## ##	.mood_relaxed.1 .mood_satisfi.1	0.300 0.215	0.012 0.011	25.400 19.759	0.000	0.300 0.215	0.541 0.221
## ## ## ##	<pre>.mood_relaxed.1 .mood_satisfi.1 .mood_enthus.1</pre>	0.300 0.215 0.205	0.012 0.011 0.009	25.400 19.759 21.673	0.000 0.000 0.000	0.300 0.215 0.205	0.541 0.221 0.277
## ## ## ##	<pre>.mood_relaxed.1 .mood_satisfi.1 .mood_enthus.1 .mood_cheerf.1</pre>	0.300 0.215 0.205 0.179	0.012 0.011 0.009 0.009	25.400 19.759 21.673 20.894	0.000 0.000 0.000 0.000	0.300 0.215 0.205 0.179	0.541 0.221 0.277 0.251
## ## ## ## ##	<pre>.mood_relaxed.1 .mood_satisfi.1 .mood_enthus.1 .mood_cheerf.1 .mood_strong.1</pre>	0.300 0.215 0.205 0.179 0.222	0.012 0.011 0.009 0.009 0.010	25.400 19.759 21.673 20.894 22.169	0.000 0.000 0.000 0.000	0.300 0.215 0.205 0.179 0.222	0.541 0.221 0.277 0.251 0.296
## ## ## ## ## ##	<pre>.mood_relaxed.1 .mood_satisfi.1 .mood_enthus.1 .mood_cheerf.1 .mood_strong.1 .mood_down.1</pre>	0.300 0.215 0.205 0.179 0.222 0.137	0.012 0.011 0.009 0.009 0.010 0.007	25.400 19.759 21.673 20.894 22.169 18.340	0.000 0.000 0.000 0.000 0.000	0.300 0.215 0.205 0.179 0.222 0.137	0.541 0.221 0.277 0.251 0.296 0.250
## ## ## ## ## ##	.mood_relaxed.1 .mood_satisfi.1 .mood_enthus.1 .mood_cheerf.1 .mood_strong.1 .mood_down.1 .mood_irritat.1	0.300 0.215 0.205 0.179 0.222 0.137 1.260	0.012 0.011 0.009 0.009 0.010 0.007 0.047	25.400 19.759 21.673 20.894 22.169 18.340 26.899	0.000 0.000 0.000 0.000 0.000 0.000	0.300 0.215 0.205 0.179 0.222 0.137 1.260	0.541 0.221 0.277 0.251 0.296 0.250 0.922
## ## ## ## ## ## ##	.mood_relaxed.1 .mood_satisfi.1 .mood_enthus.1 .mood_cheerf.1 .mood_strong.1 .mood_down.1 .mood_irritat.1 .mood_lonely.1	0.300 0.215 0.205 0.179 0.222 0.137 1.260 0.067	0.012 0.011 0.009 0.009 0.010 0.007 0.047 0.003	25.400 19.759 21.673 20.894 22.169 18.340 26.899 19.837	0.000 0.000 0.000 0.000 0.000 0.000 0.000	0.300 0.215 0.205 0.179 0.222 0.137 1.260 0.067	0.541 0.221 0.277 0.251 0.296 0.250 0.922 0.287
## ## ## ## ## ## ##	.mood_relaxed.1 .mood_satisfi.1 .mood_enthus.1 .mood_cheerf.1 .mood_strong.1 .mood_down.1 .mood_irritat.1 .mood_lonely.1 .mood_anxious.1	0.300 0.215 0.205 0.179 0.222 0.137 1.260 0.067 0.061	0.012 0.011 0.009 0.009 0.010 0.007 0.047 0.003 0.002	25.400 19.759 21.673 20.894 22.169 18.340 26.899 19.837 25.513	0.000 0.000 0.000 0.000 0.000 0.000 0.000	0.300 0.215 0.205 0.179 0.222 0.137 1.260 0.067 0.061	0.541 0.221 0.277 0.251 0.296 0.250 0.922 0.287 0.637
## ## ## ## ## ## ##	.mood_relaxed.1 .mood_satisfi.1 .mood_enthus.1 .mood_cheerf.1 .mood_strong.1 .mood_down.1 .mood_irritat.1 .mood_lonely.1 .mood_anxious.1 .mood_suspic.1	0.300 0.215 0.205 0.179 0.222 0.137 1.260 0.067 0.061	0.012 0.011 0.009 0.009 0.010 0.007 0.047 0.003 0.002 0.008	25.400 19.759 21.673 20.894 22.169 18.340 26.899 19.837 25.513 25.871	0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	0.300 0.215 0.205 0.179 0.222 0.137 1.260 0.067 0.061 0.213	0.541 0.221 0.277 0.251 0.296 0.250 0.922 0.287 0.637 0.692
######################################	.mood_relaxed.1 .mood_satisfi.1 .mood_enthus.1 .mood_cheerf.1 .mood_strong.1 .mood_down.1 .mood_irritat.1 .mood_lonely.1 .mood_anxious.1 .mood_suspic.1 .mood_guilty.1	0.300 0.215 0.205 0.179 0.222 0.137 1.260 0.067 0.061 0.213 0.087	0.012 0.011 0.009 0.009 0.010 0.007 0.047 0.003 0.002 0.008 0.004	25.400 19.759 21.673 20.894 22.169 18.340 26.899 19.837 25.513 25.871 22.887	0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	0.300 0.215 0.205 0.179 0.222 0.137 1.260 0.067 0.061 0.213 0.087	0.541 0.221 0.277 0.251 0.296 0.250 0.922 0.287 0.637 0.692 0.405
## ## ## ## ## ## ##	.mood_relaxed.1 .mood_satisfi.1 .mood_enthus.1 .mood_cheerf.1 .mood_strong.1 .mood_down.1 .mood_irritat.1 .mood_lonely.1 .mood_anxious.1 .mood_suspic.1 .mood_guilty.1 .mood_doubt.1	0.300 0.215 0.205 0.179 0.222 0.137 1.260 0.067 0.061 0.213 0.087 0.510	0.012 0.011 0.009 0.009 0.010 0.007 0.047 0.003 0.002 0.008	25.400 19.759 21.673 20.894 22.169 18.340 26.899 19.837 25.513 25.871	0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	0.300 0.215 0.205 0.179 0.222 0.137 1.260 0.067 0.061 0.213 0.087 0.510	0.541 0.221 0.277 0.251 0.296 0.250 0.922 0.287 0.637 0.692 0.405 0.673
## ## ## ## ## ## ##	.mood_relaxed.1 .mood_satisfi.1 .mood_enthus.1 .mood_cheerf.1 .mood_strong.1 .mood_down.1 .mood_irritat.1 .mood_lonely.1 .mood_anxious.1 .mood_suspic.1 .mood_guilty.1	0.300 0.215 0.205 0.179 0.222 0.137 1.260 0.067 0.061 0.213 0.087	0.012 0.011 0.009 0.009 0.010 0.007 0.047 0.003 0.002 0.008 0.004	25.400 19.759 21.673 20.894 22.169 18.340 26.899 19.837 25.513 25.871 22.887	0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	0.300 0.215 0.205 0.179 0.222 0.137 1.260 0.067 0.061 0.213 0.087	0.541 0.221 0.277 0.251 0.296 0.250 0.922 0.287 0.637 0.692 0.405

f_pa.na.simp %>% fitmeasures() %>% kable(format = "latex")

op	rhs	label	exo	est	se	Z	pvalue	std.lv	1 '
=~	mood_relaxed.1		0	0.5044226	0.0175241	28.78454	0	0.5044226	0.
=~	mood_satisfi.1	sat.f	0	0.8701933	0.0205300	42.38635	0	0.8701933	0.
=~	mood_enthus.1	ent.f	0	0.7326649	0.0183471	39.93349	0	0.7326649	0.
=~	mood_cheerf.1	che.f	0	0.7302201	0.0177878	41.05182	0	0.7302201	0.
=~	mood_strong.1	str.f	0	0.7269635	0.0185909	39.10312	0	0.7269635	0.
=~	mood_down.1	dow.f	0	0.6407339	0.0158261	40.48591	0	0.6407339	0.
=~	mood_irritat.1	irr.f	0	0.3265554	0.0313377	10.42054	0	0.3265554	0.
=~	mood_lonely.1	lon.f	0	0.4091703	0.0105194	38.89691	0	0.4091703	0.
=~	mood_anxious.1	anx.f	0	0.1866864	0.0076222	24.49261	0	0.1866864	0.
=~	mood_suspic.1	sus.f	0	0.3080713	0.0138919	22.17627	0	0.3080713	0.
=~	mood_guilty.1	gui.f	0	0.3576612	0.0105261	33.97861	0	0.3576612	0.
=~	mood_doubt.1	dou.f	0	0.4979041	0.0216721	22.97448	0	0.4979041	0.
~~	na.1		0	-0.7484952	0.0142162	-52.65082	0	-0.7484952	-0.
~~	mood_relaxed.1		0	0.3000788	0.0118140	25.40022	0	0.3000788	0.
~~	mood_satisfi.1		0	0.2151375	0.0108878	19.75949	0	0.2151375	0.
~~	mood_enthus.1		0	0.2051689	0.0094666	21.67298	0	0.2051689	0.
~~	mood_cheerf.1		0	0.1788457	0.0085597	20.89386	0	0.1788457	0.
~~	mood_strong.1		0	0.2216833	0.0099996	22.16912	0	0.2216833	0.
~~	mood_down.1		0	0.1366204	0.0074494	18.33973	0	0.1366204	0.
~~	mood_irritat.1		0	1.2602615	0.0468509	26.89943	0	1.2602615	0.
~~	mood_lonely.1		0	0.0674456	0.0034000	19.83690	0	0.0674456	0.
~~	mood_anxious.1		0	0.0611087	0.0023952	25.51336	0	0.0611087	0.
~~	mood_suspic.1		0	0.2128483	0.0082274	25.87074	0	0.2128483	0.
~~	mood_guilty.1		0	0.0871821	0.0038092	22.88696	0	0.0871821	0.
~~	mood_doubt.1		0	0.5100244	0.0198025	25.75552	0	0.5100244	0.
~~	pa.1		0	1.0000000	0.0000000	NA	NA	1.0000000	1.
~~	na.1		0	1.0000000	0.0000000	NA	NA	1.0000000	1.
		=~ mood_relaxed.1 =~ mood_satisfi.1 =~ mood_enthus.1 =~ mood_cheerf.1 =~ mood_strong.1 =~ mood_down.1 =~ mood_irritat.1 =~ mood_lonely.1 =~ mood_anxious.1 =~ mood_suspic.1 =~ mood_guilty.1 =~ mood_relaxed.1 ~~ mood_relaxed.1 ~~ mood_enthus.1 ~~ mood_enthus.1 ~~ mood_strong.1 ~~ mood_down.1 -~ mood_lonely.1 -~ mood_lonely.1 -~ mood_lonely.1 -~ mood_lonely.1 -~ mood_lonely.1 -~ mood_suspic.1 -~ mood_suspic.1 -~ mood_lonely.1 -~ mood_doubt.1 -~ mood_doubt.1 -~ mood_doubt.1 -~ mood_lonely.1 -~ mood_lonely.1 -~ mood_doubt.1	=~ mood_relaxed.1 =~ mood_satisfi.1 sat.f =~ mood_enthus.1 ent.f =~ mood_cheerf.1 che.f =~ mood_strong.1 str.f =~ mood_down.1 dow.f =~ mood_lonely.1 lon.f =~ mood_lonely.1 lon.f =~ mood_suspic.1 sus.f =~ mood_guilty.1 gui.f =~ mood_guilty.1 gui.f =~ mood_guilty.1 dou.f ~~ na.1 ~~ mood_loubt.1 ~~ mood_enthus.1 ~~ mood_strong.1 ~~ mood_down.1 ~~ mood_lonely.1 ~~ mood_anxious.1 ~~ mood_suspic.1 ~~ mood_guilty.1 ~~ mood_guilty.1 ~~ mood_doubt.	=~ mood_relaxed.1 0 =~ mood_satisfi.1 sat.f 0 =~ mood_enthus.1 ent.f 0 =~ mood_cheerf.1 che.f 0 =~ mood_strong.1 str.f 0 =~ mood_down.1 dow.f 0 =~ mood_lonely.1 lon.f 0 =~ mood_lonely.1 lon.f 0 =~ mood_anxious.1 anx.f 0 =~ mood_suspic.1 sus.f 0 =~ mood_suspic.1 sus.f 0 =~ mood_guilty.1 gui.f 0 -~ mood_guilty.1 gui.f 0 -~ mood_satisfi.1 0 -~ mood_satisfi.1 0 -~ mood_strong.1 0 -~ mood_down.1 0 -~ mood_lonely.1 0 -~ mood_anxious.1 0 -~ mood_suspic.1 0 </td <td>=~ mood_relaxed.1 0 0.5044226 =~ mood_satisfi.1 sat.f 0 0.8701933 =~ mood_enthus.1 ent.f 0 0.7326649 =~ mood_enthus.1 ent.f 0 0.7326649 =~ mood_cheerf.1 che.f 0 0.7302201 =~ mood_strong.1 str.f 0 0.7269635 =~ mood_down.1 dow.f 0 0.6407339 =~ mood_lonely.1 lon.f 0 0.4091703 =~ mood_lonely.1 lon.f 0 0.3080713 =~ mood_guilty.1 gui.f 0 0.3576612 =~ mood_guilty.1 gui.f 0 0.4979041 -~ mood_guilty.1 gui.f 0 0.21513</td> <td>=~ mood_relaxed.1 0 0.5044226 0.0175241 =~ mood_satisfi.1 sat.f 0 0.8701933 0.0205300 =~ mood_enthus.1 ent.f 0 0.7326649 0.0183471 =~ mood_cheerf.1 che.f 0 0.7302201 0.0177878 =~ mood_strong.1 str.f 0 0.7269635 0.0185909 =~ mood_down.1 dow.f 0 0.6407339 0.0158261 =~ mood_irritat.1 irr.f 0 0.3265554 0.0313377 =~ mood_lonely.1 lon.f 0 0.4091703 0.0105194 =~ mood_anxious.1 anx.f 0 0.1866864 0.0076222 =~ mood_suspic.1 sus.f 0 0.380713 0.0138919 =~ mood_guilty.1 gui.f 0 0.3576612 0.0105261 =~ mood_doubt.1 dou.f 0 0.4979041 0.0216721 -~ mood_relaxed.1 0<</td> <td>=~ mood_relaxed.1 0 0.5044226 0.0175241 28.78454 =~ mood_satisfi.1 sat.f 0 0.8701933 0.0205300 42.38635 =~ mood_enthus.1 ent.f 0 0.7326649 0.0183471 39.93349 =~ mood_cheerf.1 che.f 0 0.7326649 0.0183471 39.93349 =~ mood_cheerf.1 che.f 0 0.7326649 0.0183471 39.93349 =~ mood_strong.1 str.f 0 0.7269635 0.0185909 39.10312 =~ mood_down.1 dow.f 0 0.6407339 0.0158261 40.48591 =~ mood_irritat.1 irr.f 0 0.3265554 0.0313377 10.42054 =~ mood_lonely.1 lon.f 0 0.4091703 0.0105194 38.89691 =~ mood_suspic.1 sus.f 0 0.3808713 0.0138919 22.17627 =~ mood_guilty.1 gui.f 0 0.3576612 0.010</td> <td>=~ mood_relaxed.1 0 0.5044226 0.0175241 28.78454 0 =~ mood_satisfi.1 sat.f 0 0.8701933 0.0205300 42.38635 0 =~ mood_enthus.1 ent.f 0 0.7326649 0.0183471 39.93349 0 =~ mood_cheerf.1 che.f 0 0.7302201 0.0177878 41.05182 0 =~ mood_strong.1 str.f 0 0.7269635 0.0185909 39.10312 0 =~ mood_down.1 dow.f 0 0.6407339 0.0158261 40.48591 0 =~ mood_irritat.1 irr.f 0 0.3265554 0.0313377 10.42054 0 =~ mood_louly.1 lon.f 0 0.4091703 0.0105194 38.89691 0 =~ mood_sanious.1 amx.f 0 0.380713 0.0105194 38.89691 0 =~ mood_suspic.1 sus.f 0 0.380731 0.0153691 2</td> <td>=~ mood_relaxed.1 0 0.5044226 0.0175241 28.78454 0 0.5044226 =~ mood_satisfi.1 sat.f 0 0.8701933 0.0205300 42.38635 0 0.8701933 =~ mood_enthus.1 ent.f 0 0.7326649 0.0183471 39.93349 0 0.7326649 =~ mood_cheerf.1 che.f 0 0.7302201 0.0178788 41.05182 0 0.7302201 =~ mood_strong.1 str.f 0 0.7269635 0.0185909 39.10312 0 0.7269635 =~ mood_down.1 dow.f 0 0.6407339 0.0158261 40.48591 0 0.3265554 =~ mood_iritat.1 irr.f 0 0.3265554 0.0313377 10.42054 0 0.3265554 =~ mood_anxious.1 anx.f 0 0.1866864 0.0076222 24.49261 0 0.1866864 =~ mood_suspic.1 sus.f 0 0.380713 0.0138919</td>	=~ mood_relaxed.1 0 0.5044226 =~ mood_satisfi.1 sat.f 0 0.8701933 =~ mood_enthus.1 ent.f 0 0.7326649 =~ mood_enthus.1 ent.f 0 0.7326649 =~ mood_cheerf.1 che.f 0 0.7302201 =~ mood_strong.1 str.f 0 0.7269635 =~ mood_down.1 dow.f 0 0.6407339 =~ mood_lonely.1 lon.f 0 0.4091703 =~ mood_lonely.1 lon.f 0 0.3080713 =~ mood_guilty.1 gui.f 0 0.3576612 =~ mood_guilty.1 gui.f 0 0.4979041 -~ mood_guilty.1 gui.f 0 0.21513	=~ mood_relaxed.1 0 0.5044226 0.0175241 =~ mood_satisfi.1 sat.f 0 0.8701933 0.0205300 =~ mood_enthus.1 ent.f 0 0.7326649 0.0183471 =~ mood_cheerf.1 che.f 0 0.7302201 0.0177878 =~ mood_strong.1 str.f 0 0.7269635 0.0185909 =~ mood_down.1 dow.f 0 0.6407339 0.0158261 =~ mood_irritat.1 irr.f 0 0.3265554 0.0313377 =~ mood_lonely.1 lon.f 0 0.4091703 0.0105194 =~ mood_anxious.1 anx.f 0 0.1866864 0.0076222 =~ mood_suspic.1 sus.f 0 0.380713 0.0138919 =~ mood_guilty.1 gui.f 0 0.3576612 0.0105261 =~ mood_doubt.1 dou.f 0 0.4979041 0.0216721 -~ mood_relaxed.1 0<	=~ mood_relaxed.1 0 0.5044226 0.0175241 28.78454 =~ mood_satisfi.1 sat.f 0 0.8701933 0.0205300 42.38635 =~ mood_enthus.1 ent.f 0 0.7326649 0.0183471 39.93349 =~ mood_cheerf.1 che.f 0 0.7326649 0.0183471 39.93349 =~ mood_cheerf.1 che.f 0 0.7326649 0.0183471 39.93349 =~ mood_strong.1 str.f 0 0.7269635 0.0185909 39.10312 =~ mood_down.1 dow.f 0 0.6407339 0.0158261 40.48591 =~ mood_irritat.1 irr.f 0 0.3265554 0.0313377 10.42054 =~ mood_lonely.1 lon.f 0 0.4091703 0.0105194 38.89691 =~ mood_suspic.1 sus.f 0 0.3808713 0.0138919 22.17627 =~ mood_guilty.1 gui.f 0 0.3576612 0.010	=~ mood_relaxed.1 0 0.5044226 0.0175241 28.78454 0 =~ mood_satisfi.1 sat.f 0 0.8701933 0.0205300 42.38635 0 =~ mood_enthus.1 ent.f 0 0.7326649 0.0183471 39.93349 0 =~ mood_cheerf.1 che.f 0 0.7302201 0.0177878 41.05182 0 =~ mood_strong.1 str.f 0 0.7269635 0.0185909 39.10312 0 =~ mood_down.1 dow.f 0 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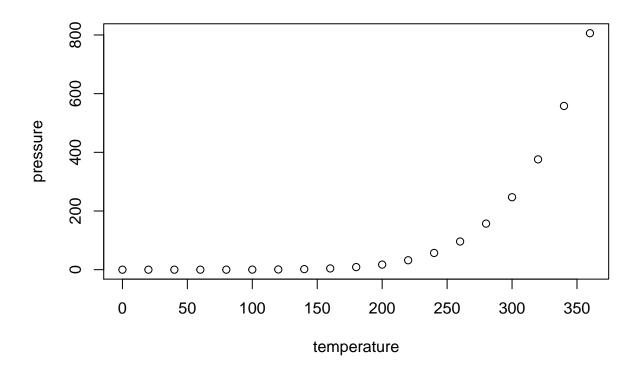
	x
npar	2.500000e+01
fmin	6.814580e-01
chisq	2.007575e + 03
df	5.300000e+01
pvalue	0.000000e+00
baseline.chisq	1.176004e+04
baseline.df	6.600000e+01
baseline.pvalue	0.000000e+00
cfi	8.328571e-01
tli	7.918598e-01
nnfi	7.918598e-01
rfi	7.874157e-01
nfi	8.292883e-01
pnfi	6.659437e-01
ifi	8.330427e-01
rni	8.328571e-01
logl	-1.385744e+04
unrestricted.logl	-1.285366e+04
aic	2.776489e + 04
bic	2.789726e + 04
ntotal	1.473000e+03
bic2	2.781784e + 04
rmsea	1.582293e-01
rmsea.ci.lower	1.523426e-01
rmsea.ci.upper	1.641946e-01
rmsea.pvalue	0.0000000e+00
rmr	8.533906e-02
rmr_nomean	8.533906e-02
srmr	1.071187e-01
srmr_bentler	1.071187e-01
srmr_bentler_nomean	1.071187e-01
crmr	1.164502e-01
crmr_nomean	1.164502e-01
srmr_mplus	1.071186e-01
srmr_mplus_nomean	1.071186e-01
cn_05	5.308938e+01
cn_01	5.958273e+01
gfi	8.158106e-01
agfi	7.289288e-01
pgfi	5.543328e-01
mfi	5.150623e-01
ecvi	1.396860e+00

f_pa.na.simp %>% modificationindices() %>% kable(format = "latex")

Bis									
28 pa.1	-	lhs	op	rhs	mi	epc	sepc.lv	sepc.all	sepc.nox
29 ps.1	28				31.5420842		_		
32 pa.1	29	pa.1	=~	mood_irritat.1	321.5896574	-0.9193428	-0.9193428	-0.7863377	-0.7863377
23 pa.1	30	pa.1	=~	mood_lonely.1	118.3580436	0.1632110	0.1632110	0.3367746	0.3367746
34 pa.1	31	pa.1	=~	mood_anxious.1	57.8494515	0.0893182	0.0893182	0.2883325	0.2883325
35	32	pa.1	=~	mood_suspic.1	8.5932763	-0.0635797	-0.0635797	-0.1146081	-0.1146081
36	33	pa.1	=~	mood_guilty.1	25.2674730	0.0766152	0.0766152	0.1651928	0.1651928
36 ma.1	34	pa.1	=~	mood_doubt.1	223.2521193	-0.5033271	-0.5033271	-0.5781426	-0.5781426
38	35	na.1	=~	mood_relaxed.1	35.9595805	0.1576754	0.1576754	0.2117409	0.2117409
38 ma.1	36	na.1	=~	mood_satisfi.1	1.2059120		-0.0288465	-0.0292534	-0.0292534
39 ma.1		na.1	=~	1			-0.0547279		-0.0635355
		na.1	=~	mood_cheerf.1					-0.0354424
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48 mood_relaxed.1 — mood_guilty.1 3.6690193 -0.0376983 -0.0376985 -0.1491657 -0.1491657 50 mood_relaxed.1 — mood_doubt.1 1.0111015 0.0088732 -0.008732 -0.0554771 -0.0554771 -0.0554771 -0.0554771 -0.0576590 0.0276590 0.0276590 0.0276590 0.0276590 0.0276590 0.0276590 0.0276590 0.0276590 0.0276590 0.0276590 0.0276590 0.0276590 0.0276590 0.0276590 0.0276590 0.0276590 0.0276590 0.0276590 0.0276590 0.0276590 0.0276590 0.0276590 0.0276590 0.0276590 0.0276590 0.0276590 0.0276590 0.0276590 0.0276590 0.0287659 0.0287659 0.0287659 0.0287659 0.0287659 0.0287659 0.0287659 0.0287659 0.0287659 0.0287659 0.0287659 0.0287659 0.0287659 0.036815 0.036815 0.036815 0.036815 0.036815 0.036815 0.036815 0.036815 0.036815 0.036815 0.036815 0.036815 0.036815 0.0				· ·					
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52 mood_satisfi.1 — mood_cheerf.1 5.5328015 -0.0193952 -0.0193952 -0.0988771 -0.0988771 53 mood_satisfi.1 — mood_down.1 3.5472197 -0.0408917 -0.0408917 -0.0408917 -0.040030 55 mood_satisfi.1 — mood_down.1 3.5472197 -0.0115552 -0.0674003 -0.0674003 56 mood_satisfi.1 — mood_lovely.1 12.4603236 -0.01046909 0.0146909 0.1219593 0.1219593 57 mood_satisfi.1 — mood_axious.1 8.6824972 0.0104347 0.01046999 0.1219593 0.1219593 58 mood_satisfi.1 — mood_axious.1 7.5665752 -0.0180622 -0.084069 -0.084069 59 mood_satisfi.1 — mood_doubt.1 9.6780679 -0.0316871 -0.0956598 -0.0956598 60 mood_satisfi.1 — mood_doubt.1 9.6780679 -0.0316871 -0.0316871 -0.0356598 -0.0956598 61 mood_enthus.1 — mood_down.1 0.3349124 -0.0033212 -0.01935531 -0.0193531			1						
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57 mood_satisfi.1 ~ mood_anxious.1 8.6824972 0.0104347 0.0104347 0.0910063 0.0910063 58 mood_satisfi.1 ~ mood_suspic.1 7.5665752 -0.0180622 -0.0180622 -0.0844069 -0.0844069 59 mood_satisfi.1 ~ mood_doubt.1 9.6780679 -0.007397 -0.007397 -0.0956598 -0.0956598 60 mood_enthus.1 ~ mood_cheerf.1 25.9567101 -0.0370762 -0.0370762 -0.1935531 -0.1935531 61 mood_enthus.1 ~ mood_dwn.1 0.3349424 -0.003212 -0.033212 -0.0198371 0.0198371 63 mood_enthus.1 ~ mood_dwn.1 0.3349424 -0.003212 -0.003212 -0.0198371 -0.0198371 64 mood_enthus.1 ~ mood_lonely.1 1.1200340 -0.0130967 -0.0130967 -0.0257558 -0.0257558 65 mood_enthus.1 ~ mood_anxious.1 7.6954203 -0.0092119 -0.009219 -0.0350423 -0.0257558<									
58 mood_satisfi.1 — mood_suspic.1 7.5665752 -0.0180622 -0.0180622 -0.0844069 -0.0844009 59 mood_satisfi.1 — mood_guilty.1 0.0276961 -0.0007397 -0.007397 -0.0054009 -0.0054009 -0.0054009 -0.0054009 -0.0054009 -0.0054009 -0.0054009 -0.0054009 -0.0054009 -0.0054009 -0.0054009 -0.0054009 -0.0054009 -0.0054009 -0.0054009 -0.0054009 -0.0054009 -0.0054009 -0.0054009 -0.0054009 -0.0056598 -0.0056598 -0.0056598 -0.0056598 -0.0056598 -0.0056598 -0.005765 -0.0370762 -0.1935531 -0.1935531 -0.1935531 -0.1935531 -0.1935531 -0.1935531 -0.1935531 -0.1935531 -0.1935531 -0.1935531 -0.01935531 -0.01935531 -0.01935531 -0.01935531 -0.01935531 -0.01935531 -0.01935531 -0.01935531 -0.01935531 -0.01935531 -0.01935531 -0.01935531 -0.01935531 -0.01935531 -0.01935531 -0.01935531 -0.01935531 -0.01935531 -0.0257558				<u> </u>					
59 mood_satisfi.1 ~ mood_guity.1 0.0276961 -0.0007397 -0.0054009 -0.0054009 -0.0054009 -0.0054009 -0.0054009 -0.0054009 -0.0054009 -0.0056098 -0.0956598 -0.0956598 -0.0956598 -0.0956598 -0.0956598 -0.0056598 -0.0056598 -0.0056598 -0.0056598 -0.0056598 -0.0056598 -0.0056598 -0.0056598 -0.0056598 -0.0056598 -0.0056598 -0.0056598 -0.0056598 -0.0056598 -0.0056598 -0.0056598 -0.0056598 -0.0056598 -0.0056598 -0.0056598 -0.0056598 -0.0056598 -0.0056598 -0.0056598 -0.0056598 -0.0056598 -0.0056598 -0.0056598 -0.0056553 -0.0056755 -0.0057555 -0.0057555 -0.0057555 -0.0067285 0.0067285 0.0067285 0.0018937 -0.0198371 -0.0198371 -0.0198371 -0.0198371 -0.0198371 -0.0198371 -0.0198371 -0.0198371 -0.0198371 -0.0198371 -0.0198371 -0.0257558 -0.0257558 -0.0257558 -0.0257558 -0.0257558 -0.0257558									
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Including Plots

You can also embed plots, for example:



Note that the echo = FALSE parameter was added to the code chunk to prevent printing of the R code that generated the plot.

Load cache from a latter code chunk

Sometimes we may want to insert an object value early in the document, when the object has not been created. For example, you may want to mention a result in your abstract using an inline R expression, but the result is calculated later in the report.

One solution is to save() the workspace in a .RData file in the end of the document, and load() it in the beginning, e.g.

In the end of the document, you save the workspace:

Then you can use NOT YET AVAILABLE after everything.RData is loaded. When it is not available, you will see x as NOT YET AVAILABLE.

The function load_cache() is an alternative solution, which allows you to load the value of an object from a specific code chunk, when the chunk has been cached.

For example, there is no object called y that has been created in this document yet, but we can still insert it here: 6.2831853, as long as it will be created in the code chunk with the label test-a later.

The first time you compile the document, you will see y is NOT AVAILABLE, but when you compile it for the second time, you will see its value 6.2831853.

You do not have to specify the object name in <code>load_cache()</code>, in which case the database will just be loaded, and you can use any objects available in the database as if they had been computed by the code chunk later.