Correlates of COVID-19 Vaccination Intentions: Attitudes, Institutional Trust, Fear, Conspiracy Beliefs, and Vaccine Skepticism

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Online Appendix

(Containing variable descriptions, R codes, and output)

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A1. Variables and descriptive statistics.

Construct	Indicator	Wording	Responses	n	Mean	Standard deviation	Skewness	Kurtosis
Intention (INT)	int1	How likely are you to get vaccinated against the coronavirus?	1 *very unlikely* to 7 *very likely*	3498	4.75	2.46	-0.48	-1.47
	int2	I intend to get vaccinated against the coronavirus.	1 *not true at all* to 7 *completely true*	3492	4.83	2.43	-0.55	-1.37
	int3*	I will try to get a vaccination against the coronavirus.	1 *definitely yes* to 7 *definitely not*	3461	5.08	2.27	-0.76	-0.98
Attitude (ATT)	att1*	For me, vaccination against the coronavirus is ...	1 *good* to 7 *bad*	3425	5.3	2.06	-0.92	-0.51
	att2*	If I get vaccinated against the coronavirus, it will be ...	1 *beneficial* to 7 *disadvantageous*	3419	5.48	1.96	-1.09	-0.06
	att3*	Getting vaccinated against the coronavirus is ...	1 *gratifying* to 7 *not gratifying*	3424	5.01	2.17	-0.72	-0.9
	att4	Getting a vaccination against the coronavirus is ...	1 *unpleasant* to 7 *pleasant*	3286	4.28	1.91	-0.27	-0.91
Subjective norm (SN)	sn1*	Most of people who means something to me would find it very good if I got the coronavirus vaccine.	1 *completely true* to 7 *not true at all*	3327	5.03	2.09	-0.69	-0.88
	sn2*	Most people whose opinion is important to me expect me to get the coronavirus vaccination.	1 *completely true* to 7 *not true at all*	3339	4.44	2.14	-0.38	-1.18
	sn3*	Most people like me will get the coronavirus vaccine.	1 *very likely* to 7 *very unlikely*	3373	5.06	1.94	-0.8	-0.5
	sn4*	Most of the people whose opinion I care about will get the coronavirus vaccine when it is their turn.	1 *completely true* to 7 *not true at all*	3360	5.14	1.86	-0.83	-0.34
Perceived behavioral control (PBC)	pbc1*	To what extent do you feel that - when it is your turn - a vaccination against the coronavirus is within your control?	1 *completely within my control* to 7 *completely out of my control*	3369	4.75	1.95	-0.55	-0.82
	pbc2*	If I wanted to and it was my turn, I could easily get vaccinated against the coronavirus.	1 *completely true* to 7 *not true at all*	3404	5.24	2.05	-0.88	-0.57
	pbc3*	How sure are you that you could get the coronavirus vaccine when it is your turn?	1 *very sure* to 7 *not sure at all*	3447	5.32	2.04	-1.01	-0.31
	pbc4*	When it is my turn, it is entirely up to me whether I can get vaccinated against the coronavirus.	1 *completely true* to 7 *not true at all*	3456	5.94	1.57	-1.53	1.48
COVID-19 conspiracy beliefs (CCB)	ccb1	The virus is a hoax.	1 *not true at all* to 7 *completely true*	3461	1.98	1.60	1.63	1.69
	ccb2	COVID-19 is a bio-weapon developed by China to destroy the West.	1 *not true at all* to 7 *completely true*	3321	2.22	1.69	1.28	0.63
	ccb3	The corona vaccine is a biological weapon made by the United States.	1 *not true at all* to 7 *completely true*	3303	1.76	1.31	1.90	3.16
	ccb4	Jews created the virus to benefit from the economic collapse.	1 *not true at all* to 7 *completely true*	3354	1.43	1.09	3.07	9.83
	ccb5	Bill Gates developed the corona vaccine to reduce the world's population.	1 *not true at all* to 7 *completely true*	3367	1.62	1.35	2.43	5.32
	ccb6	The pharmaceutical industry developed COVID-19 to benefit from the vaccines.	1 *not true at all* to 7 *completely true*	3369	2.04	1.64	1.57	1.53

	ccb7	COVID-19 is being used by the government to establish a police state.	1 *not true at all* to 7 *completely true*	3370	2.01	1.68	1.65	1.62
	ccb8	The vaccine is used for mass sterilization.	1 *not true at all* to 7 *completely true*	3321	1.70	1.41	2.21	4.26
General conspiracy mindedness (GCM)	gcm1	There are many very important things happening in the world that the public is never informed about.	1 *not true at all* to 7 *completely true*	3490	5.40	1.55	-0.77	-0.14
	gcm2	Politicians usually do not give us any information about the real motives for their decisions.	1 *not true at all* to 7 *completely true*	3479	5.16	1.53	-0.58	-0.29
	gcm3	Government agencies closely monitor all citizens.	1 *not true at all* to 7 *completely true*	3453	3.96	1.75	0.10	-0.84
	gcm4	Events that at first glance seem unrelated are often the result of secret activities.	1 *not true at all* to 7 *completely true*	3351	3.85	1.75	0.09	-0.80
	gcm5	There are secret organizations that have a great influence on political decisions.	1 *not true at all* to 7 *completely true*	3361	4.15	1.84	-0.09	-0.95
Skepticism toward vaccines (SKV)	skv1	Vaccination safety data is often faked.	1 *not true at all* to 7 *completely true*	3156	3.23	1.71	0.51	-0.55
	skv2	Pharmaceutical companies conceal the dangers of vaccines.	1 *not true at all* to 7 *completely true*	3360	3.93	1.81	0.09	-0.96
	skv3	People are being deceived about the effectiveness of the vaccine.	1 *not true at all* to 7 *completely true*	3329	3.60	1.81	0.32	-0.86
Skepticism toward doctors (SKD)	skd1	Most diseases heal on their own without consulting a doctor.	1 *not true at all* to 7 *completely true*	3473	3.62	1.56	0.02	-0.49
	sdkd2	People rely too heavily on their doctors instead of themselves to live healthy lives.	1 *not true at all* to 7 *completely true*	3465	4.21	1.59	-0.16	-0.47
	sdkd3*	It is best to follow the doctor's instructions.	1 *not true at all* to 7 *completely true*	3471	2.78	1.27	0.71	0.53
Fear of COVID-19 (FCV)	fcv1	When I think about the coronavirus, I feel threatened.	1 *not true at all* to 7 *completely true*	3497	4.49	1.85	-0.41	-0.85
	fcv2	I worry that I or people I love could get sick from the coronavirus.	1 *not true at all* to 7 *completely true*	3499	5.14	1.83	-0.84	-0.33
	fcv3	I am stressed around other people because I fear I might catch the coronavirus.	1 *not true at all* to 7 *completely true*	3498	3.54	1.87	0.19	-1.03
Trust in politics (TPO)		We name a number of institutions, public institutions or groups of people. Please tell us how much you personally trust each of them.						
	tpo1	Federal government	1 *no trust at all* to 7 *a lot of trust*	3484	3.37	1.88	0.12	-1.26
	tpo2	Parliament (Bundestag)	1 *no trust at all* to 7 *a lot of trust*	3478	3.36	1.84	0.13	-1.18
	tpo3	Government of your federal state	1 *no trust at all* to 7 *a lot of trust*	3477	3.54	1.88	0.05	-1.21
	tpo4	Local administration	1 *no trust at all* to 7 *a lot of trust*	3462	3.74	1.78	-0.14	-1.04
	tpo5	Politicians	1 *no trust at all* to 7 *a lot of trust*	3477	2.89	1.69	0.40	-0.97
	tpo6	European Union	1 *no trust at all* to 7 *a lot of trust*	3466	3.07	1.76	0.31	-1.07
Trust in science (TSC)	tsc1	Doctors/Medical professionals	1 *no trust at all* to 7 *a lot of trust*	3492	5.15	1.60	-0.86	0.18
	tsc2	Science	1 *no trust at all* to 7 *a lot of trust*	3488	4.90	1.77	-0.68	-0.43
	tsc3	Robert Koch Institute (RKI)	1 *no trust at all* to 7 *a lot of trust*	3488	4.51	2.02	-0.49	-1.03
	tsc4	Conventional medicine	1 *no trust at all* to 7 *a lot of trust*	3440	4.48	1.76	-0.48	-0.65

Self-rated health	health*	Overall, how do you rate your state of health? Would you say it is ...	1 *very bad* to 5 *very good*	3517	3.43	0.92	-0.42	-0.03
COVID-19 risk	risk	Are you exposed to a higher risk of a severe course of COVID-19 (e.g. over 70 years of age, previous illness, pregnancy)?	1 *low risk* (53.74 %) 2 *medium risk* (31.00 %) 3 *very high risk* (15.27 %)	3413				
Religiosity	rel	How important is religion in your life?	1 *not important at all* to 7 *very important*	3458	2.67	1.90	0.83	-0.56
Political orientation	pol	In politics, people sometimes talk about "left" and "right. Where on this scale would you classify yourself if 0 stands for left and 10 for right?	0 *left* to 10 *right*	3261	4.86	1.95	-0.12	0.62
Age	age		1 *< 30 age* (20.70 %) 2 *≥ 30 age < 60* (60.82 %) 3 *≥ 60 age* (19.17 %)	3532				
Gender	male		0 *female* (50.43 %) 1 *male* (49.57 %)	3532				
Education	edu		0 *below tertiary* (77.66 %) 1 *lower and higher tertiary* (22.34 %)	3532				
Income	inc		0 *≤ 4000€* (75.57 %) 1 *> 4000€* (24.43 %)	3532				
Immigration background	imm		0 *no immigration background* (81.91 %) 1 *immigration background* (18.09 %)	3532				
Partnership status	part		0 *single/divorced/widowed* (39.59 %) 1 *married/cohabitating* (60.41 %)	3511				
Living with kids	kids	Do you have a child who is going to kindergarten or school?	0 *no* (75.42 %) 1 *yes* (24.58 %)	3507				

* Indicator was reversely coded in the questionnaire.

A2. Exploratory factor analysis.

```
> ### EFA for the TPB indicators
> x1<-data.frame(int1,int2,int3,att1,att2,att3,att4,sn1,sn2,sn3,sn4,pbc1,pbc2,pbc3,pbc4)
> efa1<-fa(x1,nfactors=4,fm="pa",rotate="oblimin")
> efa1
Factor Analysis using method =  pa
Call: fa(r = x1, nfactors = 4, rotate = "oblimin", fm = "pa")
Standardized loadings (pattern matrix) based upon correlation matrix
       PA1   PA3   PA4   PA2   h2   u2 com
int1  0.12  0.07  0.14  0.60 0.65 0.35 1.2
int2  0.28  0.01  0.09  0.60 0.74 0.26 1.5
int3  0.71  0.13  0.04  0.14 0.90 0.10 1.1
att1  0.89  0.04 -0.02  0.05 0.89 0.11 1.0
att2  0.74  0.13  0.02  0.06 0.82 0.18 1.1
att3  0.91  0.03  0.01  0.01 0.90 0.10 1.0
att4  0.69 -0.03  0.02  0.08 0.53 0.47 1.0
sn1   0.19  0.69 -0.01 -0.04 0.67 0.33 1.2
sn2  -0.03  0.84 -0.01  0.02 0.66 0.34 1.0
sn3   0.11  0.61  0.13  0.09 0.73 0.27 1.2
sn4  -0.02  0.88  0.03 -0.03 0.74 0.26 1.0
pbc1  0.55 -0.06  0.25 -0.24 0.36 0.64 1.8
pbc2 -0.07  0.09  0.72  0.03 0.54 0.46 1.1
pbc3  0.11  0.06  0.64  0.13 0.67 0.33 1.2
pbc4  0.32 -0.09  0.33 -0.24 0.21 0.79 3.0

                        PA1  PA3  PA4  PA2
SS loadings            4.44 2.83 1.54 1.20
Proportion Var         0.30 0.19 0.10 0.08
Cumulative Var         0.30 0.48 0.59 0.67
Proportion Explained   0.44 0.28 0.15 0.12
Cumulative Proportion  0.44 0.73 0.88 1.00

 With factor correlations of
     PA1  PA3  PA4  PA2
PA1 1.00 0.84 0.71 0.65
PA3 0.84 1.00 0.60 0.48
PA4 0.71 0.60 1.00 0.29
PA2 0.65 0.48 0.29 1.00

Mean item complexity =  1.3
Test of the hypothesis that 4 factors are sufficient.

The degrees of freedom for the null model are  105  and the objective function was  12.89 with
Chi Square of  45438.4
The degrees of freedom for the model are 51  and the objective function was  0.24

The root mean square of the residuals (RMSR) is  0.02
The df corrected root mean square of the residuals is  0.02

The harmonic number of observations is  3330 with the empirical chi square  167.31  with prob
<  2.7e-14
The total number of observations was  3532  with Likelihood Chi Square =  851.19  with prob <
1.3e-145

Tucker Lewis Index of factoring reliability =  0.964
RMSEA index =  0.067  and the 90 % confidence intervals are  0.063 0.071
BIC =  434.54
Fit based upon off diagonal values = 1
Measures of factor score adequacy
                                                      PA1  PA3  PA4  PA2
Correlation of (regression) scores with factors    0.98 0.96 0.88 0.88
Multiple R square of scores with factors           0.97 0.91 0.78 0.78
Minimum correlation of possible factor scores      0.94 0.83 0.56 0.55
>
> ### EFA for the background factor indicators
> x2<-
data.frame(ccb1,ccb2,ccb3,ccb4,ccb5,ccb6,ccb7,ccb8,gcm1,gcm2,gcm3,gcm4,gcm5,skv1,skv2,skv3,skd
1,skd2,skd3,fcv1,fcv2,fcv3,tpo1,tpo2,tpo3,tpo4,tpo5,tpo6,tsc1,tsc2,tsc3,tsc4)
> efa2<-fa(x2,7,fm="pa",rotate="oblimin")
> efa2
Factor Analysis using method =  pa
Call: fa(r = x2, nfactors = 7, rotate = "oblimin", fm = "pa")
Standardized loadings (pattern matrix) based upon correlation matrix
       PA2   PA1   PA4   PA5   PA7   PA3   PA6   h2    u2 com
```

```
ccb1   0.58 -0.04  0.06 -0.13  0.02 -0.17  0.04 0.63 0.372 1.3
ccb2   0.61 -0.03  0.16 -0.02  0.06  0.11 -0.02 0.53 0.474 1.2
ccb3   0.82 -0.01  0.05 -0.01 -0.03  0.07  0.02 0.70 0.303 1.0
ccb4   0.84  0.02 -0.12  0.04  0.00  0.08  0.05 0.63 0.371 1.1
ccb5   0.86 -0.02 -0.04  0.00  0.00 -0.04  0.01 0.74 0.263 1.0
ccb6   0.73 -0.05  0.06  0.00  0.08 -0.04  0.02 0.70 0.295 1.1
ccb7   0.68 -0.10  0.08  0.03  0.07 -0.14 -0.01 0.68 0.324 1.2
ccb8   0.83  0.01  0.04 -0.04 -0.01 -0.04  0.00 0.74 0.263 1.0
gcm1  -0.12 -0.11  0.74  0.01 -0.02 -0.01  0.09 0.61 0.389 1.1
gcm2  -0.07 -0.24  0.69  0.08  0.02 -0.03  0.06 0.66 0.343 1.3
gcm3   0.14  0.01  0.63 -0.10  0.09  0.00  0.01 0.65 0.348 1.2
gcm4   0.15  0.09  0.73 -0.11  0.11  0.01 -0.01 0.76 0.238 1.2
gcm5   0.11  0.06  0.68 -0.05  0.08 -0.01  0.04 0.63 0.365 1.1
skv1   0.08  0.03  0.01 -0.07  0.74  0.04  0.04 0.70 0.300 1.1
skv2  -0.06 -0.02  0.01  0.04  0.95  0.00  0.01 0.85 0.155 1.0
skv3   0.01 -0.01  0.00 -0.01  0.91 -0.03  0.00 0.88 0.125 1.0
skd1   0.05  0.01 -0.03 -0.01 -0.01 -0.04  0.71 0.53 0.465 1.0
skd2  -0.02  0.00  0.04  0.00  0.03  0.02  0.75 0.60 0.403 1.0
skd3   0.05  0.02 -0.05 -0.33  0.06 -0.12  0.15 0.26 0.735 1.9
fcv1  -0.01 -0.02  0.00  0.00  0.01  0.84 -0.01 0.69 0.310 1.0
fcv2  -0.07  0.00  0.05  0.05 -0.05  0.80 -0.01 0.72 0.279 1.0
fcv3   0.09  0.04 -0.05 -0.01  0.04  0.73 -0.03 0.55 0.454 1.1
tpo1  -0.03  0.93 -0.01 -0.02 -0.01  0.03 -0.02 0.91 0.091 1.0
tpo2  -0.02  0.92 -0.01  0.01 -0.01  0.01 -0.01 0.91 0.090 1.0
tpo3  -0.05  0.86  0.05  0.05 -0.03 -0.01 -0.01 0.80 0.195 1.0
tpo4  -0.03  0.70  0.06  0.19 -0.04 -0.06  0.00 0.69 0.314 1.2
tpo5   0.02  0.92 -0.06 -0.05  0.01  0.02  0.00 0.84 0.156 1.0
tpo6   0.04  0.78 -0.06  0.06 -0.02 -0.01  0.00 0.72 0.283 1.0
tsc1  -0.01 -0.01  0.01  0.85  0.02  0.00 -0.05 0.73 0.267 1.0
tsc2  -0.02  0.00 -0.05  0.82 -0.04  0.02  0.01 0.77 0.226 1.0
tsc3  -0.02  0.22 -0.03  0.57 -0.06  0.15  0.00 0.75 0.247 1.5
tsc4   0.04  0.09 -0.03  0.72 -0.03 -0.02 -0.01 0.63 0.372 1.0


                         PA2  PA1  PA4  PA5  PA7  PA3  PA6
SS loadings             5.00 4.99 2.96 3.02 2.77 2.13 1.32
Proportion Var          0.16 0.16 0.09 0.09 0.09 0.07 0.04
Cumulative Var          0.16 0.31 0.40 0.50 0.59 0.65 0.69
Proportion Explained    0.23 0.23 0.13 0.14 0.12 0.10 0.06
Cumulative Proportion   0.23 0.45 0.58 0.72 0.84 0.94 1.00


 With factor correlations of
      PA2   PA1   PA4   PA5   PA7   PA3   PA6
PA2  1.00 -0.25  0.37 -0.45  0.51 -0.19  0.36
PA1 -0.25  1.00 -0.49  0.65 -0.52  0.34 -0.31
PA4  0.37 -0.49  1.00 -0.37  0.64 -0.14  0.39
PA5 -0.45  0.65 -0.37  1.00 -0.61  0.38 -0.41
PA7  0.51 -0.52  0.64 -0.61  1.00 -0.24  0.51
PA3 -0.19  0.34 -0.14  0.38 -0.24  1.00 -0.33
PA6  0.36 -0.31  0.39 -0.41  0.51 -0.33  1.00


Mean item complexity =  1.1
Test of the hypothesis that 7 factors are sufficient.

The degrees of freedom for the null model are  496  and the objective function was  27.17 with
Chi Square of  95619.98
The degrees of freedom for the model are 293  and the objective function was  0.98

The root mean square of the residuals (RMSR) is  0.01
The df corrected root mean square of the residuals is  0.02

The harmonic number of observations is  3352 with the empirical chi square  606.15  with prob
<  5.4e-24
The total number of observations was  3532  with Likelihood Chi Square =  3442.98  with prob <
0

Tucker Lewis Index of factoring reliability =  0.944
RMSEA index =  0.055  and the 90 % confidence intervals are  0.054 0.057
BIC =  1049.28
Fit based upon off diagonal values = 1
Measures of factor score adequacy
                                                  PA2  PA1  PA4  PA5  PA7  PA3  PA6
Correlation of (regression) scores with factors   0.97 0.98 0.95 0.95 0.97 0.93 0.87
Multiple R square of scores with factors          0.94 0.97 0.89 0.91 0.94 0.86 0.75
Minimum correlation of possible factor scores     0.88 0.94 0.79 0.82 0.88 0.73 0.51
```
Variable abbreviations are presented in A1.

The EFA for the TPB indicators showed that most indicators loaded on their respective factors and all factors had Eigenvalues > 1. Indicator int3 had a strong cross-loading on the attitude factor (PA1). Indicator int2—although loading on one factor with int1—had strong bivariate correlations with the attitude indicators, while indicator int1 was least strongly correlated with the attitude indicators. Therefore, we decided to use only indicator int1 as the dependent variable for our analyses and to exclude int2 and int3 from further considerations. For the remaining constructs we use only two indicators per construct, those with the highest factor loadings and the least overlap with other constructs: att1 (instrumental) & att3 (experiential), sn2 (injunctive) & sn4 (descriptive), pbc2 (capacity) & pbc3 (autonomy).

The EFA for the background factor indicators showed a simple structure with Eigenvalues > 1 for all factors with one exception: indicator skd3 had a negative cross-loading on the trust in science factor (PA5). Therefore, this indicator was not considered any further.

A3. Confirmatory factor analysis.

```
> ##### Measurement models (CFA)
> ### CFA
> cfa1 <-'
+ INT=~1*int1
+ int1~~0*int1
+ ATT=~att1+att3
+ SN =~sn2 + sn4
+ PBC=~pbc2+pbc3'
> fcfa1 <- cfa(cfa1,data=tpb_data,missing="FIML",estimator="MLR")
Warnmeldung:
In lav_data_full(data = data, group = group, cluster = cluster,  :
  lavaan WARNING: some cases are empty and will be ignored:
  173 262 470 1001 1141 1610 1811 2366 2375 2400 2650 2651 2657 2674 2688 2702 2710 2813 2833
2848 2865 3009 3153 3340 3511
> summary(fcfa1,fit.measures=TRUE,standardized=TRUE)
lavaan 0.6-9 ended normally after 61 iterations

  Estimator                                        ML
  Optimization method                          NLMINB
  Number of model parameters                       26

                                           Used       Total
  Number of observations                   3507        3532
  Number of missing patterns                 52

Model Test User Model:
                                        Standard      Robust
  Test Statistic                          32.268      27.274
  Degrees of freedom                           9           9
  P-value (Chi-square)                     0.000       0.001
  Scaling correction factor                            1.183
       Yuan-Bentler correction (Mplus variant)

Model Test Baseline Model:

  Test statistic                       15963.289    9323.875
  Degrees of freedom                          21          21
  P-value                                  0.000       0.000
  Scaling correction factor                            1.712

User Model versus Baseline Model:

  Comparative Fit Index (CFI)              0.999       0.998
  Tucker-Lewis Index (TLI)                 0.997       0.995

  Robust Comparative Fit Index (CFI)                   0.999
  Robust Tucker-Lewis Index (TLI)                      0.997

Loglikelihood and Information Criteria:

  Loglikelihood user model (H0)       -43723.806  -43723.806
  Scaling correction factor                            1.411
      for the MLR correction
  Loglikelihood unrestricted model (H1) -43707.672  -43707.672
  Scaling correction factor                            1.352
      for the MLR correction

  Akaike (AIC)                         87499.611   87499.611
  Bayesian (BIC)                       87659.837   87659.837
  Sample-size adjusted Bayesian (BIC)  87577.222   87577.222

Root Mean Square Error of Approximation:

  RMSEA                                    0.027       0.024
  90 Percent confidence interval - lower   0.017       0.015
  90 Percent confidence interval - upper   0.038       0.034
  P-value RMSEA <= 0.05                    1.000       1.000

  Robust RMSEA                                         0.026
  90 Percent confidence interval - lower               0.015
  90 Percent confidence interval - upper               0.038

Standardized Root Mean Square Residual:
```

```
   SRMR                                           0.006       0.006

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
  INT =~
    int1            1.000                                2.456    1.000
  ATT =~
    att1            1.000                                1.949    0.940
    att3            1.057    0.010  103.535    0.000     2.060    0.944
  SN =~
    sn2             1.000                                1.741    0.816
    sn4             0.911    0.020   46.338    0.000     1.586    0.850
  PBC =~
    pbc2            1.000                                1.425    0.691
    pbc3            1.291    0.041   31.459    0.000     1.840    0.895

Covariances:
                  Estimate  Std.Err  z-value  P(>|z|)   Std.lv   Std.all
  INT ~~
    ATT             3.307    0.090   36.786    0.000     0.691    0.691
    SN              2.391    0.084   28.373    0.000     0.559    0.559
    PBC             1.879    0.081   23.304    0.000     0.537    0.537
  ATT ~~
    SN              2.880    0.077   37.581    0.000     0.849    0.849
    PBC             2.210    0.084   26.326    0.000     0.796    0.796
  SN ~~
    PBC             1.710    0.074   23.090    0.000     0.690    0.690

Intercepts:
                  Estimate  Std.Err  z-value  P(>|z|)   Std.lv   Std.all
   .int1           4.752    0.041  114.514    0.000     4.752    1.935
   .att1           5.246    0.035  148.460    0.000     5.246    2.529
   .att3           4.975    0.037  134.254    0.000     4.975    2.278
   .sn2            4.436    0.036  121.570    0.000     4.436    2.078
   .sn4            5.104    0.032  159.395    0.000     5.104    2.736
   .pbc2           5.193    0.035  146.575    0.000     5.193    2.518
   .pbc3           5.282    0.035  150.184    0.000     5.282    2.569
    INT            0.000                                0.000    0.000
    ATT            0.000                                0.000    0.000
    SN             0.000                                0.000    0.000
    PBC            0.000                                0.000    0.000

Variances:
                  Estimate  Std.Err  z-value  P(>|z|)   Std.lv   Std.all
   .int1           0.000                                0.000    0.000
   .att1           0.504    0.035   14.540    0.000     0.504    0.117
   .att3           0.522    0.040   13.216    0.000     0.522    0.110
   .sn2            1.526    0.078   19.455    0.000     1.526    0.335
   .sn4            0.965    0.063   15.405    0.000     0.965    0.277
   .pbc2           2.225    0.097   22.950    0.000     2.225    0.523
   .pbc3           0.843    0.093    9.071    0.000     0.843    0.199
    INT            6.031    0.074   80.980    0.000     1.000    1.000
    ATT            3.800    0.093   40.656    0.000     1.000    1.000
    SN             3.029    0.095   32.003    0.000     1.000    1.000
    PBC            2.030    0.108   18.792    0.000     1.000    1.000

> reliability(fcfa1,return.total=TRUE)
            ATT        SN        PBC      total
alpha  0.9392933 0.8144894 0.7639231 0.9035970
omega  0.9399827 0.8163134 0.7764513 0.9530377
omega2 0.9399827 0.8163134 0.7764513 0.9530377
omega3 0.9398696 0.8164165 0.7764710 0.9529424
avevar 0.8868386 0.6900957 0.6383003 0.7917502
>
> cfa2 <-'
+ CCB=~ccb1+ccb2+ccb3+ccb4+ccb5+ccb6+ccb7+ccb8
+ GCM=~gcm1+gcm2+gcm3+gcm4+gcm5
+ SKV=~skv1+skv2+skv3
```

```
+ SKD=~skd1+skd2
+ FCV=~fcv1+fcv2+fcv3
+ TPO=~tpo1+tpo2+tpo3+tpo4+tpo5+tpo6
+ TSC=~tsc1+tsc2+tsc3+tsc4'
> fcfa2 <- cfa(cfa2,data=tpb_data,missing="FIML",estimator="MLR")
Warnmeldung:
In lav_data_full(data = data, group = group, cluster = cluster,  :
  lavaan WARNING: some cases are empty and will be ignored:
  173 2174 2216 2366 2375 2400 2650 2651 2657 2702 2710 2813 2833 3153 3511
> summary(fcfa2,fit.measures=TRUE,standardized=TRUE)
lavaan 0.6-9 ended normally after 116 iterations

  Estimator                                         ML
  Optimization method                           NLMINB
  Number of model parameters                       114

                                                 Used       Total
  Number of observations                         3517        3532
  Number of missing patterns                      335

Model Test User Model:
                                             Standard      Robust
  Test Statistic                             6272.432    4984.719
  Degrees of freedom                              413         413
  P-value (Chi-square)                          0.000       0.000
  Scaling correction factor                                 1.258
       Yuan-Bentler correction (Mplus variant)

Model Test Baseline Model:

  Test statistic                            90989.877   67559.172
  Degrees of freedom                              465         465
  P-value                                       0.000       0.000
  Scaling correction factor                                 1.347

User Model versus Baseline Model:

  Comparative Fit Index (CFI)                   0.935       0.932
  Tucker-Lewis Index (TLI)                      0.927       0.923

  Robust Comparative Fit Index (CFI)                        0.936
  Robust Tucker-Lewis Index (TLI)                           0.928

Loglikelihood and Information Criteria:

  Loglikelihood user model (H0)          -162638.089 -162638.089
  Scaling correction factor                                 1.526
      for the MLR correction
  Loglikelihood unrestricted model (H1)  -159501.872 -159501.872
  Scaling correction factor                                 1.316
      for the MLR correction

  Akaike (AIC)                            325504.177  325504.177
  Bayesian (BIC)                          326207.029  326207.029
  Sample-size adjusted Bayesian (BIC)     325844.795  325844.795

Root Mean Square Error of Approximation:

  RMSEA                                         0.064       0.056
  90 Percent confidence interval - lower        0.062       0.055
  90 Percent confidence interval - upper        0.065       0.057
  P-value RMSEA <= 0.05                          0.000       0.000

  Robust RMSEA                                              0.063
  90 Percent confidence interval - lower                   0.061
  90 Percent confidence interval - upper                   0.065

Standardized Root Mean Square Residual:

  SRMR                                          0.053       0.053

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
  CCB =~
    ccb1            1.000                                 1.230    0.767
    ccb2            0.977    0.027   35.999    0.000      1.201    0.706
    ccb3            0.890    0.027   33.412    0.000      1.094    0.822
    ccb4            0.678    0.031   21.978    0.000      0.834    0.750
    ccb5            0.949    0.028   33.521    0.000      1.167    0.852
    ccb6            1.143    0.027   41.713    0.000      1.405    0.852
    ccb7            1.130    0.028   39.827    0.000      1.390    0.821
    ccb8            1.011    0.026   39.201    0.000      1.244    0.866
  GCM =~
    gcm1            1.000                                 1.102    0.713
    gcm2            1.034    0.018   57.582    0.000      1.139    0.743
    gcm3            1.305    0.031   41.857    0.000      1.438    0.822
    gcm4            1.390    0.034   41.336    0.000      1.532    0.879
    gcm5            1.333    0.031   42.469    0.000      1.469    0.803
  SKV =~
    skv1            1.000                                 1.408    0.828
    skv2            1.166    0.019   62.387    0.000      1.641    0.908
    skv3            1.198    0.019   63.200    0.000      1.687    0.938
  SKD =~
    skd1            1.000                                 1.126    0.723
    skd2            1.093    0.042   25.939    0.000      1.231    0.776
  FCV =~
    fcv1            1.000                                 1.535    0.828
    fcv2            1.020    0.025   40.844    0.000      1.566    0.854
    fcv3            0.873    0.019   45.366    0.000      1.340    0.716
  TPO =~
    tpo1            1.000                                 1.815    0.964
    tpo2            0.975    0.005  211.036    0.000      1.769    0.965
    tpo3            0.919    0.008  109.235    0.000      1.668    0.887
    tpo4            0.784    0.011   71.906    0.000      1.422    0.802
    tpo5            0.841    0.007  120.067    0.000      1.526    0.902
    tpo6            0.808    0.010   83.576    0.000      1.466    0.836
  TSC =~
    tsc1            1.000                                 1.305    0.814
    tsc2            1.197    0.021   57.437    0.000      1.562    0.880
    tsc3            1.367    0.027   50.015    0.000      1.784    0.883
    tsc4            1.051    0.020   52.767    0.000      1.372    0.779

Covariances:
                  Estimate  Std.Err  z-value  P(>|z|)   Std.lv   Std.all
  CCB ~~
    GCM             0.772    0.034   22.596    0.000      0.570    0.570
    SKV             1.012    0.048   21.288    0.000      0.584    0.584
    SKD             0.616    0.041   15.138    0.000      0.445    0.445
    FCV            -0.571    0.048  -11.766    0.000     -0.302   -0.302
    TPO            -0.839    0.052  -16.177    0.000     -0.376   -0.376
    TSC            -0.885    0.047  -18.764    0.000     -0.551   -0.551
  GCM ~~
    SKV             1.142    0.040   28.477    0.000      0.736    0.736
    SKD             0.611    0.033   18.593    0.000      0.493    0.493
    FCV            -0.378    0.036  -10.588    0.000     -0.224   -0.224
    TPO            -1.133    0.045  -25.064    0.000     -0.566   -0.566
    TSC            -0.792    0.034  -23.500    0.000     -0.551   -0.551
  SKV ~~
    SKD             0.861    0.043   19.976    0.000      0.543    0.543
    FCV            -0.628    0.047  -13.348    0.000     -0.291   -0.291
    TPO            -1.412    0.050  -28.476    0.000     -0.552   -0.552
    TSC            -1.220    0.046  -26.345    0.000     -0.664   -0.664
  SKD ~~
    FCV            -0.638    0.047  -13.500    0.000     -0.369   -0.369
    TPO            -0.717    0.046  -15.712    0.000     -0.351   -0.351
    TSC            -0.691    0.039  -17.534    0.000     -0.470   -0.470
  FCV ~~
    TPO             1.030    0.053   19.408    0.000      0.370    0.370
    TSC             0.937    0.046   20.547    0.000      0.468    0.468
  TPO ~~
    TSC             1.735    0.048   35.816    0.000      0.732    0.732

Intercepts:
                  Estimate  Std.Err  z-value  P(>|z|)   Std.lv   Std.all
```

	Estimate	Std.Err	z-value	P(>|z|)	Std.lv	Std.all
.ccb1	1.992	0.027	72.919	0.000	1.992	1.242
.ccb2	2.256	0.029	76.710	0.000	2.256	1.327
.ccb3	1.813	0.023	77.457	0.000	1.813	1.362
.ccb4	1.476	0.020	72.843	0.000	1.476	1.327
.ccb5	1.666	0.024	69.075	0.000	1.666	1.216
.ccb6	2.077	0.028	72.987	0.000	2.077	1.259
.ccb7	2.040	0.029	69.942	0.000	2.040	1.205
.ccb8	1.763	0.025	69.618	0.000	1.763	1.228
.gcm1	5.396	0.026	206.307	0.000	5.396	3.491
.gcm2	5.158	0.026	198.703	0.000	5.158	3.364
.gcm3	3.969	0.030	133.877	0.000	3.969	2.270
.gcm4	3.858	0.030	129.748	0.000	3.858	2.213
.gcm5	4.154	0.031	133.011	0.000	4.154	2.270
.skv1	3.277	0.030	110.784	0.000	3.277	1.928
.skv2	3.936	0.031	127.679	0.000	3.936	2.178
.skv3	3.612	0.031	117.669	0.000	3.612	2.009
.skd1	3.619	0.026	137.113	0.000	3.619	2.324
.skd2	4.212	0.027	156.543	0.000	4.212	2.655
.fcv1	4.491	0.031	143.195	0.000	4.491	2.421
.fcv2	5.135	0.031	165.596	0.000	5.135	2.800
.fcv3	3.538	0.032	111.843	0.000	3.538	1.890
.tpo1	3.371	0.032	105.870	0.000	3.371	1.790
.tpo2	3.364	0.031	108.515	0.000	3.364	1.835
.tpo3	3.534	0.032	111.124	0.000	3.534	1.880
.tpo4	3.743	0.030	124.582	0.000	3.743	2.110
.tpo5	2.891	0.029	101.061	0.000	2.891	1.710
.tpo6	3.075	0.030	103.588	0.000	3.075	1.754
.tsc1	5.145	0.027	189.745	0.000	5.145	3.209
.tsc2	4.897	0.030	163.160	0.000	4.897	2.759
.tsc3	4.504	0.034	131.866	0.000	4.504	2.229
.tsc4	4.481	0.030	150.046	0.000	4.481	2.546
CCB	0.000				0.000	0.000
GCM	0.000				0.000	0.000
SKV	0.000				0.000	0.000
SKD	0.000				0.000	0.000
FCV	0.000				0.000	0.000
TPO	0.000				0.000	0.000
TSC	0.000				0.000	0.000

Variances:

	Estimate	Std.Err	z-value	P(>|z|)	Std.lv	Std.all
.ccb1	1.059	0.054	19.498	0.000	1.059	0.412
.ccb2	1.448	0.065	22.397	0.000	1.448	0.501
.ccb3	0.576	0.035	16.435	0.000	0.576	0.325
.ccb4	0.540	0.029	18.690	0.000	0.540	0.437
.ccb5	0.516	0.032	15.936	0.000	0.516	0.275
.ccb6	0.748	0.041	18.287	0.000	0.748	0.275
.ccb7	0.934	0.054	17.184	0.000	0.934	0.326
.ccb8	0.514	0.033	15.708	0.000	0.514	0.249
.gcm1	1.176	0.038	30.693	0.000	1.176	0.492
.gcm2	1.054	0.038	27.679	0.000	1.054	0.449
.gcm3	0.990	0.038	26.061	0.000	0.990	0.324
.gcm4	0.694	0.034	20.549	0.000	0.694	0.228
.gcm5	1.191	0.048	24.898	0.000	1.191	0.356
.skv1	0.907	0.041	21.990	0.000	0.907	0.314
.skv2	0.572	0.029	19.931	0.000	0.572	0.175
.skv3	0.387	0.027	14.303	0.000	0.387	0.120
.skd1	1.158	0.057	20.351	0.000	1.158	0.478
.skd2	1.002	0.061	16.439	0.000	1.002	0.398
.fcv1	1.084	0.075	14.395	0.000	1.084	0.315
.fcv2	0.910	0.051	17.994	0.000	0.910	0.271
.fcv3	1.706	0.053	32.380	0.000	1.706	0.487
.tpo1	0.251	0.017	15.043	0.000	0.251	0.071
.tpo2	0.230	0.016	14.669	0.000	0.230	0.069
.tpo3	0.754	0.036	20.799	0.000	0.754	0.213
.tpo4	1.124	0.039	28.640	0.000	1.124	0.357
.tpo5	0.531	0.020	26.656	0.000	0.531	0.186
.tpo6	0.925	0.039	23.867	0.000	0.925	0.301
.tsc1	0.868	0.036	24.407	0.000	0.868	0.338
.tsc2	0.710	0.034	21.181	0.000	0.710	0.225
.tsc3	0.901	0.044	20.338	0.000	0.901	0.221
.tsc4	1.216	0.047	25.809	0.000	1.216	0.393
CCB	1.512	0.078	19.486	0.000	1.000	1.000
GCM	1.214	0.053	22.769	0.000	1.000	1.000
SKV	1.983	0.067	29.489	0.000	1.000	1.000

```
    SKD                 1.267    0.069   18.301    0.000    1.000    1.000
    FCV                 2.356    0.091   25.964    0.000    1.000    1.000
    TPO                 3.295    0.053   61.765    0.000    1.000    1.000
    TSC                 1.703    0.068   25.173    0.000    1.000    1.000

> reliability(fcfa2,return.total=TRUE)
            CCB       GCM       SKV       SKD       FCV       TPO       TSC     total
alpha  0.9315852 0.8941570 0.9197330 0.7185974 0.8413552 0.9601136 0.9033503 0.6963075
omega  0.9352467 0.8973172 0.9231695 0.7198406 0.8420976 0.9607750 0.9075272 0.9030232
omega2 0.9352467 0.8973172 0.9231695 0.7198406 0.8420976 0.9607750 0.9075272 0.9030232
omega3 0.9431022 0.8953625 0.9251837 0.7196196 0.8407858 0.9573677 0.9069426 0.9087809
avevar 0.6480421 0.6401758 0.8011592 0.5627936 0.6410348 0.8045864 0.7135561 0.7010890
>
> cfa3 <-'
+ INT=~1*int1
+ int1~~0*int1
+ ATT=~att1+att3
+ SN =~sn2 + sn4
+ PBC=~pbc2+pbc3
+ CCB=~ccb1+ccb2+ccb3+ccb4+ccb5+ccb6+ccb7+ccb8
+ GCM=~gcm1+gcm2+gcm3+gcm4+gcm5
+ SKV=~skv1+skv2+skv3
+ SKD=~skd1+skd2
+ FCV=~fcv1+fcv2+fcv3
+ TPO=~tpo1+tpo2+tpo3+tpo4+tpo5+tpo6
+ TSC=~tsc1+tsc2+tsc3+tsc4'
> fcfa3 <- cfa(cfa3,data=tpb_data,missing="FIML",estimator="MLR")
Warnmeldung:
In lav_data_full(data = data, group = group, cluster = cluster,  :
  lavaan WARNING: some cases are empty and will be ignored:
  173 2366 2375 2400 2650 2651 2657 2702 2710 2813 2833 3153 3511
> summary(fcfa3,fit.measures=TRUE,standardized=TRUE)
lavaan 0.6-9 ended normally after 157 iterations

  Estimator                                         ML
  Optimization method                           NLMINB
  Number of model parameters                       168

                                                  Used       Total
  Number of observations                          3519        3532
  Number of missing patterns                       463

Model Test User Model:
                                              Standard      Robust
  Test Statistic                              6855.966    5584.900
  Degrees of freedom                               611         611
  P-value (Chi-square)                           0.000       0.000
  Scaling correction factor                                  1.228
      Yuan-Bentler correction (Mplus variant)

Model Test Baseline Model:

  Test statistic                           110469.375   84960.613
  Degrees of freedom                               703         703
  P-value                                        0.000       0.000
  Scaling correction factor                                  1.300

User Model versus Baseline Model:

  Comparative Fit Index (CFI)                    0.943       0.941
  Tucker-Lewis Index (TLI)                       0.935       0.932

  Robust Comparative Fit Index (CFI)                         0.944
  Robust Tucker-Lewis Index (TLI)                            0.936

Loglikelihood and Information Criteria:

  Loglikelihood user model (H0)          -204879.423 -204879.423
  Scaling correction factor                                  1.445
      for the MLR correction
  Loglikelihood unrestricted model (H1)  -201451.440 -201451.440
  Scaling correction factor                                  1.275
      for the MLR correction

  Akaike (AIC)                            410094.845  410094.845
```

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```
  Bayesian (BIC)                                      411130.722   411130.722
  Sample-size adjusted Bayesian (BIC)                 410596.904   410596.904


Root Mean Square Error of Approximation:

  RMSEA                                                   0.054        0.048
  90 Percent confidence interval - lower                  0.053        0.047
  90 Percent confidence interval - upper                  0.055        0.049
  P-value RMSEA <= 0.05                                    0.000        0.999

  Robust RMSEA                                                         0.053
  90 Percent confidence interval - lower                              0.052
  90 Percent confidence interval - upper                              0.055


Standardized Root Mean Square Residual:

  SRMR                                                    0.047        0.047

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
  INT =~
    int1              1.000                                2.456    1.000
  ATT =~
    att1              1.000                                1.957    0.942
    att3              1.051    0.010  110.478    0.000     2.056    0.941
  SN =~
    sn2               1.000                                1.736    0.813
    sn4               0.917    0.020   46.839    0.000     1.592    0.853
  PBC =~
    pbc2              1.000                                1.432    0.694
    pbc3              1.279    0.040   32.134    0.000     1.832    0.891
  CCB =~
    ccb1              1.000                                1.232    0.768
    ccb2              0.974    0.027   35.953    0.000     1.200    0.706
    ccb3              0.887    0.027   33.344    0.000     1.093    0.821
    ccb4              0.676    0.031   21.899    0.000     0.833    0.749
    ccb5              0.948    0.028   33.514    0.000     1.167    0.852
    ccb6              1.141    0.027   41.788    0.000     1.406    0.852
    ccb7              1.129    0.028   39.860    0.000     1.391    0.822
    ccb8              1.011    0.026   39.181    0.000     1.245    0.867
  GCM =~
    gcm1              1.000                                1.102    0.713
    gcm2              1.034    0.018   57.546    0.000     1.139    0.743
    gcm3              1.305    0.031   41.857    0.000     1.438    0.822
    gcm4              1.390    0.034   41.326    0.000     1.531    0.878
    gcm5              1.333    0.031   42.468    0.000     1.469    0.803
  SKV =~
    skv1              1.000                                1.405    0.827
    skv2              1.167    0.019   62.379    0.000     1.641    0.908
    skv3              1.201    0.019   63.104    0.000     1.688    0.939
  SKD =~
    skd1              1.000                                1.124    0.722
    skd2              1.096    0.042   26.101    0.000     1.232    0.777
  FCV =~
    fcv1              1.000                                1.520    0.819
    fcv2              1.041    0.025   42.192    0.000     1.582    0.863
    fcv3              0.879    0.019   46.558    0.000     1.336    0.714
  TPO =~
    tpo1              1.000                                1.815    0.964
    tpo2              0.975    0.005  211.036    0.000     1.769    0.965
    tpo3              0.919    0.008  109.309    0.000     1.668    0.887
    tpo4              0.784    0.011   71.921    0.000     1.423    0.802
    tpo5              0.841    0.007  120.076    0.000     1.526    0.902
    tpo6              0.808    0.010   83.547    0.000     1.466    0.836
  TSC =~
    tsc1              1.000                                1.309    0.817
    tsc2              1.189    0.020   58.047    0.000     1.557    0.877
    tsc3              1.364    0.027   50.863    0.000     1.786    0.884
    tsc4              1.048    0.020   53.306    0.000     1.372    0.779
```

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```
Covariances:
                   Estimate  Std.Err  z-value  P(>|z|)  Std.lv   Std.all
  INT ~~
    ATT              3.325    0.089   37.246    0.000    0.692    0.692
    SN               2.384    0.084   28.442    0.000    0.559    0.559
    PBC              1.897    0.080   23.692    0.000    0.539    0.539
    CCB             -1.110    0.065  -17.187    0.000   -0.367   -0.367
    GCM             -0.807    0.051  -15.737    0.000   -0.298   -0.298
    SKV             -1.427    0.064  -22.233    0.000   -0.413   -0.413
    SKD             -0.832    0.061  -13.685    0.000   -0.301   -0.301
    FCV              1.377    0.073   18.939    0.000    0.369    0.369
    TPO              1.617    0.075   21.526    0.000    0.363    0.363
    TSC              1.527    0.064   23.802    0.000    0.475    0.475
  ATT ~~
    SN               2.880    0.076   37.735    0.000    0.848    0.848
    PBC              2.235    0.083   26.973    0.000    0.797    0.797
    CCB             -1.339    0.065  -20.569    0.000   -0.556   -0.556
    GCM             -1.025    0.045  -22.632    0.000   -0.475   -0.475
    SKV             -1.683    0.059  -28.686    0.000   -0.612   -0.612
    SKD             -1.037    0.054  -19.123    0.000   -0.471   -0.471
    FCV              1.580    0.066   24.080    0.000    0.531    0.531
    TPO              1.891    0.063   30.088    0.000    0.533    0.533
    TSC              1.807    0.062   28.990    0.000    0.705    0.705
  SN ~~
    PBC              1.721    0.073   23.477    0.000    0.692    0.692
    CCB             -1.062    0.057  -18.747    0.000   -0.497   -0.497
    GCM             -0.833    0.043  -19.481    0.000   -0.435   -0.435
    SKV             -1.327    0.053  -25.078    0.000   -0.544   -0.544
    SKD             -0.811    0.050  -16.127    0.000   -0.416   -0.416
    FCV              1.419    0.061   23.110    0.000    0.538    0.538
    TPO              1.567    0.062   25.428    0.000    0.497    0.497
    TSC              1.414    0.054   25.990    0.000    0.622    0.622
  PBC ~~
    CCB             -0.818    0.051  -16.028    0.000   -0.464   -0.464
    GCM             -0.551    0.035  -15.740    0.000   -0.349   -0.349
    SKV             -0.977    0.050  -19.639    0.000   -0.485   -0.485
    SKD             -0.552    0.043  -12.970    0.000   -0.343   -0.343
    FCV              0.718    0.052   13.721    0.000    0.330    0.330
    TPO              1.040    0.054   19.262    0.000    0.400    0.400
    TSC              1.044    0.053   19.870    0.000    0.557    0.557
  CCB ~~
    GCM              0.775    0.034   22.650    0.000    0.571    0.571
    SKV              1.011    0.047   21.307    0.000    0.584    0.584
    SKD              0.616    0.041   15.171    0.000    0.445    0.445
    FCV             -0.572    0.048  -11.879    0.000   -0.306   -0.306
    TPO             -0.843    0.052  -16.232    0.000   -0.377   -0.377
    TSC             -0.890    0.047  -18.842    0.000   -0.552   -0.552
  GCM ~~
    SKV              1.139    0.040   28.398    0.000    0.735    0.735
    SKD              0.610    0.033   18.575    0.000    0.493    0.493
    FCV             -0.376    0.035  -10.635    0.000   -0.224   -0.224
    TPO             -1.133    0.045  -25.099    0.000   -0.567   -0.567
    TSC             -0.795    0.034  -23.588    0.000   -0.551   -0.551
  SKV ~~
    SKD              0.859    0.043   19.994    0.000    0.544    0.544
    FCV             -0.623    0.046  -13.416    0.000   -0.292   -0.292
    TPO             -1.410    0.049  -28.489    0.000   -0.553   -0.553
    TSC             -1.221    0.046  -26.436    0.000   -0.664   -0.664
  SKD ~~
    FCV             -0.632    0.047  -13.504    0.000   -0.370   -0.370
    TPO             -0.717    0.046  -15.715    0.000   -0.351   -0.351
    TSC             -0.693    0.039  -17.546    0.000   -0.471   -0.471
  FCV ~~
    TPO              1.023    0.053   19.442    0.000    0.371    0.371
    TSC              0.937    0.045   20.658    0.000    0.471    0.471
  TPO ~~
    TSC              1.742    0.048   36.062    0.000    0.733    0.733

Intercepts:
                   Estimate  Std.Err  z-value  P(>|z|)  Std.lv   Std.all
   .int1            4.749    0.041  114.463    0.000    4.749    1.933
   .att1            5.241    0.035  148.322    0.000    5.241    2.524
   .att3            4.969    0.037  134.195    0.000    4.969    2.275
   .sn2             4.430    0.036  121.430    0.000    4.430    2.075
```

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	Estimate	Std.Err	z-value	P(>|z|)	Std.lv	Std.all
.sn4	5.100	0.032	159.205	0.000	5.100	2.733
.pbc2	5.190	0.035	146.370	0.000	5.190	2.515
.pbc3	5.278	0.035	149.935	0.000	5.278	2.565
.ccb1	1.993	0.027	72.938	0.000	1.993	1.243
.ccb2	2.257	0.029	76.705	0.000	2.257	1.327
.ccb3	1.815	0.023	77.437	0.000	1.815	1.363
.ccb4	1.477	0.020	72.773	0.000	1.477	1.328
.ccb5	1.668	0.024	69.058	0.000	1.668	1.217
.ccb6	2.079	0.028	73.025	0.000	2.079	1.259
.ccb7	2.042	0.029	69.966	0.000	2.042	1.206
.ccb8	1.765	0.025	69.622	0.000	1.765	1.229
.gcm1	5.397	0.026	206.373	0.000	5.397	3.491
.gcm2	5.159	0.026	198.755	0.000	5.159	3.365
.gcm3	3.969	0.030	133.906	0.000	3.969	2.270
.gcm4	3.858	0.030	129.773	0.000	3.858	2.213
.gcm5	4.154	0.031	133.035	0.000	4.154	2.271
.skv1	3.279	0.030	110.841	0.000	3.279	1.928
.skv2	3.937	0.031	127.847	0.000	3.937	2.179
.skv3	3.614	0.031	117.826	0.000	3.614	2.010
.skd1	3.620	0.026	137.141	0.000	3.620	2.325
.skd2	4.212	0.027	156.600	0.000	4.212	2.655
.fcv1	4.490	0.031	143.146	0.000	4.490	2.420
.fcv2	5.134	0.031	165.537	0.000	5.134	2.799
.fcv3	3.537	0.032	111.817	0.000	3.537	1.890
.tpo1	3.369	0.032	105.872	0.000	3.369	1.789
.tpo2	3.362	0.031	108.518	0.000	3.362	1.834
.tpo3	3.533	0.032	111.124	0.000	3.533	1.879
.tpo4	3.742	0.030	124.574	0.000	3.742	2.109
.tpo5	2.890	0.029	101.072	0.000	2.890	1.709
.tpo6	3.074	0.030	103.586	0.000	3.074	1.753
.tsc1	5.144	0.027	189.670	0.000	5.144	3.208
.tsc2	4.896	0.030	163.092	0.000	4.896	2.758
.tsc3	4.501	0.034	131.821	0.000	4.501	2.227
.tsc4	4.479	0.030	150.010	0.000	4.479	2.545
INT	0.000				0.000	0.000
ATT	0.000				0.000	0.000
SN	0.000				0.000	0.000
PBC	0.000				0.000	0.000
CCB	0.000				0.000	0.000
GCM	0.000				0.000	0.000
SKV	0.000				0.000	0.000
SKD	0.000				0.000	0.000
FCV	0.000				0.000	0.000
TPO	0.000				0.000	0.000
TSC	0.000				0.000	0.000

Variances:

	Estimate	Std.Err	z-value	P(>|z|)	Std.lv	Std.all
.int1	0.000				0.000	0.000
.att1	0.484	0.033	14.728	0.000	0.484	0.112
.att3	0.545	0.038	14.192	0.000	0.545	0.114
.sn2	1.543	0.077	19.987	0.000	1.543	0.339
.sn4	0.949	0.062	15.232	0.000	0.949	0.272
.pbc2	2.206	0.097	22.815	0.000	2.206	0.518
.pbc3	0.876	0.091	9.638	0.000	0.876	0.207
.ccb1	1.055	0.054	19.471	0.000	1.055	0.410
.ccb2	1.453	0.065	22.448	0.000	1.453	0.502
.ccb3	0.579	0.035	16.475	0.000	0.579	0.326
.ccb4	0.542	0.029	18.699	0.000	0.542	0.439
.ccb5	0.515	0.032	15.997	0.000	0.515	0.274
.ccb6	0.747	0.041	18.314	0.000	0.747	0.274
.ccb7	0.932	0.054	17.166	0.000	0.932	0.325
.ccb8	0.512	0.033	15.746	0.000	0.512	0.248
.gcm1	1.176	0.038	30.701	0.000	1.176	0.492
.gcm2	1.054	0.038	27.623	0.000	1.054	0.448
.gcm3	0.990	0.038	26.083	0.000	0.990	0.324
.gcm4	0.695	0.034	20.524	0.000	0.695	0.229
.gcm5	1.190	0.048	24.903	0.000	1.190	0.356
.skv1	0.916	0.041	22.122	0.000	0.916	0.317
.skv2	0.572	0.029	19.883	0.000	0.572	0.175
.skv3	0.381	0.027	14.295	0.000	0.381	0.118
.skd1	1.161	0.056	20.606	0.000	1.161	0.479
.skd2	0.999	0.061	16.423	0.000	0.999	0.397
.fcv1	1.130	0.074	15.288	0.000	1.130	0.328
.fcv2	0.861	0.049	17.725	0.000	0.861	0.256

.fcv3	1.718	0.052	32.751	0.000	1.718	0.490
.tpo1	0.251	0.017	15.039	0.000	0.251	0.071
.tpo2	0.230	0.016	14.677	0.000	0.230	0.068
.tpo3	0.754	0.036	20.818	0.000	0.754	0.213
.tpo4	1.124	0.039	28.652	0.000	1.124	0.357
.tpo5	0.531	0.020	26.650	0.000	0.531	0.186
.tpo6	0.926	0.039	23.863	0.000	0.926	0.301
.tsc1	0.857	0.035	24.614	0.000	0.857	0.333
.tsc2	0.729	0.034	21.549	0.000	0.729	0.231
.tsc3	0.895	0.043	20.697	0.000	0.895	0.219
.tsc4	1.216	0.047	26.044	0.000	1.216	0.392
INT	6.032	0.074	81.046	0.000	1.000	1.000
ATT	3.828	0.093	41.313	0.000	1.000	1.000
SN	3.014	0.094	32.134	0.000	1.000	1.000
PBC	2.052	0.108	19.020	0.000	1.000	1.000
CCB	1.517	0.078	19.544	0.000	1.000	1.000
GCM	1.214	0.053	22.773	0.000	1.000	1.000
SKV	1.975	0.067	29.377	0.000	1.000	1.000
SKD	1.264	0.069	18.360	0.000	1.000	1.000
FCV	2.311	0.089	25.988	0.000	1.000	1.000
TPO	3.295	0.053	61.760	0.000	1.000	1.000
TSC	1.714	0.067	25.468	0.000	1.000	1.000

A4. SEM "Model 1".

```
> ##### SEM for the TPB
> m1 <-'
+ ATT=~att1+att3
+ SN =~sn2 + sn4
+ PBC=~pbc2+pbc3
+ # STRUCTURAL PART
+ int1 ~ ATT+SN+PBC'
> f1.1 <- sem(m1,data=tpb_data,missing="FIML",estimator="MLR")
Warnmeldung:
In lav_data_full(data = data, group = group, cluster = cluster,  :
  lavaan WARNING: some cases are empty and will be ignored:
  173 262 470 1001 1141 1610 1811 2366 2375 2400 2650 2651 2657 2674 2688 2702 2710 2813 2833
2848 2865 3009 3153 3340 3511
> summary(f1.1,standardized=TRUE,fit.measures=TRUE,rsquare=TRUE)
lavaan 0.6-9 ended normally after 63 iterations

  Estimator                                     ML
  Optimization method                       NLMINB
  Number of model parameters                    26

                                            Used       Total
  Number of observations                    3507        3532
  Number of missing patterns                  52

Model Test User Model:
                                        Standard      Robust
  Test Statistic                          32.268      27.274
  Degrees of freedom                           9           9
  P-value (Chi-square)                     0.000       0.001
  Scaling correction factor                            1.183
       Yuan-Bentler correction (Mplus variant)

Model Test Baseline Model:

  Test statistic                       15963.289    9323.875
  Degrees of freedom                          21          21
  P-value                                  0.000       0.000
  Scaling correction factor                            1.712

User Model versus Baseline Model:

  Comparative Fit Index (CFI)              0.999       0.998
  Tucker-Lewis Index (TLI)                 0.997       0.995

  Robust Comparative Fit Index (CFI)                   0.999
  Robust Tucker-Lewis Index (TLI)                      0.997

Loglikelihood and Information Criteria:

  Loglikelihood user model (H0)       -43723.806  -43723.806
  Scaling correction factor                            1.411
      for the MLR correction
  Loglikelihood unrestricted model (H1) -43707.672  -43707.672
  Scaling correction factor                            1.352
      for the MLR correction

  Akaike (AIC)                         87499.611   87499.611
  Bayesian (BIC)                       87659.837   87659.837
  Sample-size adjusted Bayesian (BIC)  87577.222   87577.222

Root Mean Square Error of Approximation:

  RMSEA                                    0.027       0.024
  90 Percent confidence interval - lower   0.017       0.015
  90 Percent confidence interval - upper   0.038       0.034
  P-value RMSEA <= 0.05                    1.000       1.000

  Robust RMSEA                                         0.026
  90 Percent confidence interval - lower               0.015
  90 Percent confidence interval - upper               0.038

Standardized Root Mean Square Residual:
```

```
   SRMR                                        0.006        0.006

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
  ATT =~
    att1            1.000                                1.949    0.940
    att3            1.057    0.010  103.535    0.000     2.060    0.944
  SN =~
    sn2             1.000                                1.741    0.816
    sn4             0.911    0.020   46.338    0.000     1.586    0.850
  PBC =~
    pbc2            1.000                                1.425    0.691
    pbc3            1.291    0.041   31.459    0.000     1.840    0.895

Regressions:
                 Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
  int1 ~
    ATT             1.002    0.050   20.022    0.000     1.953    0.795
    SN             -0.133    0.046   -2.880    0.004    -0.232   -0.094
    PBC            -0.053    0.043   -1.212    0.226    -0.075   -0.031

Covariances:
                 Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
  ATT ~~
    SN              2.880    0.077   37.581    0.000     0.849    0.849
    PBC             2.210    0.084   26.326    0.000     0.796    0.796
  SN ~~
    PBC             1.710    0.074   23.090    0.000     0.690    0.690

Intercepts:
                 Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
   .att1           5.246    0.035  148.460    0.000     5.246    2.529
   .att3           4.975    0.037  134.254    0.000     4.975    2.278
   .sn2            4.436    0.036  121.570    0.000     4.436    2.078
   .sn4            5.104    0.032  159.395    0.000     5.104    2.736
   .pbc2           5.193    0.035  146.575    0.000     5.193    2.518
   .pbc3           5.282    0.035  150.184    0.000     5.282    2.569
   .int1           4.752    0.041  114.514    0.000     4.752    1.935
    ATT            0.000                                0.000    0.000
    SN             0.000                                0.000    0.000
    PBC            0.000                                0.000    0.000

Variances:
                 Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
   .att1           0.504    0.035   14.540    0.000     0.504    0.117
   .att3           0.522    0.040   13.216    0.000     0.522    0.110
   .sn2            1.526    0.078   19.455    0.000     1.526    0.335
   .sn4            0.965    0.063   15.405    0.000     0.965    0.277
   .pbc2           2.225    0.097   22.950    0.000     2.225    0.523
   .pbc3           0.843    0.093    9.071    0.000     0.843    0.199
   .int1           3.136    0.120   26.069    0.000     3.136    0.520
    ATT            3.800    0.093   40.656    0.000     1.000    1.000
    SN             3.029    0.095   32.003    0.000     1.000    1.000
    PBC            2.030    0.108   18.792    0.000     1.000    1.000

R-Square:
                 Estimate
    att1           0.883
    att3           0.890
    sn2            0.665
    sn4            0.723
    pbc2           0.477
    pbc3           0.801
    int1           0.480
```

A5. Robustness analysis "Model 1", WLSMV estimator.

```
> # WLSMV (for robustness)
> f1.1 <- sem(m1,data=tpb_data,ordered = c("int1"),estimator="WLSMV")
> summary(f1.1,standardized=TRUE,fit.measures=TRUE,rsquare=TRUE)
lavaan 0.6-9 ended normally after 111 iterations

  Estimator                                         DWLS
  Optimization method                             NLMINB
  Number of model parameters                          30

                                              Used       Total
  Number of observations                      3107        3532

Model Test User Model:
                                           Standard      Robust
  Test Statistic                              1.105      28.383
  Degrees of freedom                              9           9
  P-value (Chi-square)                        0.999       0.001
  Scaling correction factor                               0.042
  Shift parameter                                         2.228
       simple second-order correction

Model Test Baseline Model:

  Test statistic                           7869.304    2555.197
  Degrees of freedom                             21          21
  P-value                                     0.000       0.000
  Scaling correction factor                               3.097

User Model versus Baseline Model:

  Comparative Fit Index (CFI)                 1.000       0.992
  Tucker-Lewis Index (TLI)                    1.002       0.982

  Robust Comparative Fit Index (CFI)                         NA
  Robust Tucker-Lewis Index (TLI)                            NA

Root Mean Square Error of Approximation:

  RMSEA                                       0.000       0.026
  90 Percent confidence interval - lower      0.000       0.016
  90 Percent confidence interval - upper      0.000       0.038
  P-value RMSEA <= 0.05                        1.000       1.000

  Robust RMSEA                                               NA
  90 Percent confidence interval - lower                    NA
  90 Percent confidence interval - upper                    NA

Standardized Root Mean Square Residual:

  SRMR                                        0.006       0.006

Parameter Estimates:

  Standard errors                            Robust.sem
  Information                                  Expected
  Information saturated (h1) model         Unstructured

Latent Variables:
                 Estimate  Std.Err  z-value  P(>|z|)   Std.lv   Std.all
  ATT =~
    att1            1.000                               1.888     0.937
    att3            1.061    0.029   37.217    0.000    2.003     0.941
  SN =~
    sn2             1.000                               1.689     0.808
    sn4             0.907    0.030   30.670    0.000    1.532     0.843
  PBC =~
    pbc2            1.000                               1.389     0.694
    pbc3            1.259    0.048   25.992    0.000    1.748     0.882

Regressions:
                 Estimate  Std.Err  z-value  P(>|z|)   Std.lv   Std.all
  int1 ~
    ATT             0.375    0.023   16.458    0.000    0.708     0.708
```

```
     SN              -0.009    0.024   -0.372    0.710   -0.015   -0.015
     PBC              0.003    0.021    0.168    0.867    0.005    0.005

Covariances:
                     Estimate  Std.Err  z-value  P(>|z|)  Std.lv   Std.all
  ATT ~~
    SN                2.700    0.140   19.275    0.000    0.847    0.847
    PBC               2.042    0.124   16.472    0.000    0.779    0.779
  SN ~~
    PBC               1.603    0.104   15.463    0.000    0.683    0.683

Intercepts:
                     Estimate  Std.Err  z-value  P(>|z|)  Std.lv   Std.all
   .att1              5.383    0.056   95.504    0.000    5.383    2.671
   .att3              5.124    0.055   93.797    0.000    5.124    2.408
   .sn2               4.571    0.043  107.513    0.000    4.571    2.188
   .sn4               5.222    0.044  120.025    0.000    5.222    2.874
   .pbc2              5.311    0.054   98.301    0.000    5.311    2.653
   .pbc3              5.421    0.058   92.886    0.000    5.421    2.734
   .int1              0.000                               0.000    0.000
    ATT               0.000                               0.000    0.000
    SN                0.000                               0.000    0.000
    PBC               0.000                               0.000    0.000

Thresholds:
                     Estimate  Std.Err  z-value  P(>|z|)  Std.lv   Std.all
    int1|t1          -0.908    0.026  -34.660    0.000   -0.908   -0.908
    int1|t2          -0.635    0.024  -26.231    0.000   -0.635   -0.635
    int1|t3          -0.469    0.023  -20.026    0.000   -0.469   -0.469
    int1|t4          -0.279    0.023  -12.236    0.000   -0.279   -0.279
    int1|t5          -0.149    0.023   -6.617    0.000   -0.149   -0.149
    int1|t6           0.059    0.023    2.637    0.008    0.059    0.059

Variances:
                     Estimate  Std.Err  z-value  P(>|z|)  Std.lv   Std.all
   .att1              0.497    0.026   19.237    0.000    0.497    0.122
   .att3              0.518    0.028   18.518    0.000    0.518    0.114
   .sn2               1.513    0.045   33.408    0.000    1.513    0.346
   .sn4               0.953    0.037   25.999    0.000    0.953    0.289
   .pbc2              2.079    0.061   33.882    0.000    2.079    0.519
   .pbc3              0.875    0.057   15.221    0.000    0.875    0.222
   .int1              0.512                               0.512    0.512
    ATT               3.565    0.186   19.200    0.000    1.000    1.000
    SN                2.854    0.177   16.144    0.000    1.000    1.000
    PBC               1.930    0.139   13.872    0.000    1.000    1.000

Scales y*:
                     Estimate  Std.Err  z-value  P(>|z|)  Std.lv   Std.all
    int1              1.000                               1.000    1.000

R-Square:
                     Estimate
    att1              0.878
    att3              0.886
    sn2               0.654
    sn4               0.711
    pbc2              0.481
    pbc3              0.778
    int1              0.488
```

A6. Robustness analysis "Model 1", omitting subjective norm.

```
> ### TPB without SN (for robustness)
> m1.2 <-'
+ ATT=~att1+att3
+ SN =~sn2 + sn4
+ int1 ~ ATT+SN'
> f1.2 <- sem(m1.2,data=tpb_data,missing="FIML",estimator="MLR")
Warnmeldung:
In lav_data_full(data = data, group = group, cluster = cluster,  :
  lavaan WARNING: some cases are empty and will be ignored:
  173 262 470 680 1001 1141 1610 1811 2366 2375 2400 2650 2651 2657 2674 2688 2702 2710 2813
2833 2848 2865 3009 3153 3331 3340 3511
> summary(f1.2,standardized=TRUE,rsquare=TRUE)
lavaan 0.6-9 ended normally after 46 iterations

  Estimator                                         ML
  Optimization method                           NLMINB
  Number of model parameters                        17

                                                Used      Total
  Number of observations                        3505       3532
  Number of missing patterns                      22

Model Test User Model:
                                             Standard      Robust
  Test Statistic                               15.658      13.739
  Degrees of freedom                                3           3
  P-value (Chi-square)                          0.001       0.003
  Scaling correction factor                                 1.140
       Yuan-Bentler correction (Mplus variant)

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
  ATT =~
    att1              1.000                                1.956    0.944
    att3              1.048    0.011   99.206    0.000     2.049    0.939
  SN =~
    sn2               1.000                                1.739    0.815
    sn4               0.912    0.020   46.396    0.000     1.586    0.850

Regressions:
                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
  int1 ~
    ATT               0.971    0.039   24.718    0.000     1.900    0.774
    SN               -0.137    0.046   -2.955    0.003    -0.238   -0.097

Covariances:
                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
  ATT ~~
    SN                2.884    0.076   37.773    0.000     0.848    0.848

Intercepts:
                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
   .att1             5.248    0.035  148.478    0.000     5.248    2.532
   .att3             4.976    0.037  134.272    0.000     4.976    2.281
   .sn2              4.436    0.036  121.581    0.000     4.436    2.079
   .sn4              5.105    0.032  159.454    0.000     5.105    2.738
   .int1             4.751    0.042  114.485    0.000     4.751    1.935
    ATT              0.000                                0.000    0.000
    SN               0.000                                0.000    0.000

Variances:
                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
   .att1             0.471    0.037   12.893    0.000     0.471    0.110
   .att3             0.559    0.042   13.315    0.000     0.559    0.118
   .sn2              1.530    0.079   19.417    0.000     1.530    0.336
   .sn4              0.962    0.062   15.399    0.000     0.962    0.277
   .int1             3.133    0.120   26.113    0.000     3.133    0.519
```

```
    ATT                3.825    0.094   40.587   0.000    1.000    1.000
    SN                 3.022    0.094   31.987   0.000    1.000    1.000

R-Square:
                    Estimate
    att1               0.890
    att3               0.882
    sn2                0.664
    sn4                0.723
    int1               0.481
```

A7. Robustness analysis "Model 1", omitting perceived behavioral control.

```
> ### TPB without PBC (for robustness)
> m1.3 <-'
+ ATT=~att1+att3
+ PBC=~pbc2+pbc3
+ int1 ~ ATT+PBC'
> f1.3 <- sem(m1.3,data=tpb_data,missing="FIML",estimator="MLR")
Warnmeldung:
In lav_data_full(data = data, group = group, cluster = cluster,  :
  lavaan WARNING: some cases are empty and will be ignored:
  173 262 470 1001 1141 1610 1811 2366 2375 2400 2650 2651 2657 2674 2688 2702 2710 2813 2833
2848 2865 3009 3153 3340 3511
> summary(f1.3,standardized=TRUE,rsquare=TRUE)
lavaan 0.6-9 ended normally after 47 iterations

  Estimator                                         ML
  Optimization method                           NLMINB
  Number of model parameters                        17

                                                Used       Total
  Number of observations                        3507        3532
  Number of missing patterns                      22

Model Test User Model:
                                            Standard      Robust
  Test Statistic                              24.495      21.807
  Degrees of freedom                               3           3
  P-value (Chi-square)                         0.000       0.000
  Scaling correction factor                                1.123
        Yuan-Bentler correction (Mplus variant)

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
  ATT =~
    att1             1.000                                1.954    0.943
    att3             1.050    0.011   92.988    0.000     2.053    0.941
  PBC =~
    pbc2             1.000                                1.422    0.689
    pbc3             1.296    0.042   31.216    0.000     1.842    0.896

Regressions:
                  Estimate  Std.Err  z-value  P(>|z|)   Std.lv   Std.all
  int1 ~
    ATT              0.900    0.030   29.725    0.000     1.759    0.716
    PBC             -0.057    0.043   -1.333    0.183    -0.081   -0.033

Covariances:
                  Estimate  Std.Err  z-value  P(>|z|)   Std.lv   Std.all
  ATT ~~
    PBC              2.208    0.085   26.048    0.000     0.794    0.794

Intercepts:
                  Estimate  Std.Err  z-value  P(>|z|)   Std.lv   Std.all
   .att1            5.249    0.035  148.534    0.000     5.249    2.531
   .att3            4.978    0.037  134.335    0.000     4.978    2.281
   .pbc2            5.194    0.035  146.642    0.000     5.194    2.518
   .pbc3            5.283    0.035  150.274    0.000     5.283    2.570
   .int1            4.753    0.041  114.527    0.000     4.753    1.935
    ATT             0.000                                0.000    0.000
    PBC             0.000                                0.000    0.000

Variances:
                  Estimate  Std.Err  z-value  P(>|z|)   Std.lv   Std.all
   .att1            0.480    0.036   13.472    0.000     0.480    0.112
   .att3            0.547    0.045   12.063    0.000     0.547    0.115
   .pbc2            2.232    0.097   22.922    0.000     2.232    0.525
   .pbc3            0.831    0.094    8.868    0.000     0.831    0.197
   .int1            3.155    0.120   26.285    0.000     3.155    0.523
```

```
    ATT              3.820    0.095    40.270    0.000    1.000    1.000
    PBC              2.022    0.108    18.696    0.000    1.000    1.000


R-Square:
                 Estimate
    att1            0.888
    att3            0.885
    pbc2            0.475
    pbc3            0.803
    int1            0.477
```

A8. SEM "Model 2" (latent interactions).

```
> ### Testing latent interactions: PBC*ATT + PBC*SN
> # Compute products of indicators
> tpb.indprod.df <-
indProd(data=tpb_data,var1=c("att1","att3"),var2=c("sn2","sn4"),var3=c("pbc2","pbc3"),
+                       match=FALSE, meanC=FALSE, residualC=TRUE, doubleMC=FALSE)
> # The model:
> m2 <- '
+ # MEASUREMENT PART
+ ATT=~att1+att3
+ SN =~sn2 + sn4
+ PBC=~pbc2+pbc3
+ # INTERACTION TERMS
+ ATT_PBC=~att1.pbc2+att1.pbc3+att3.pbc2+att3.pbc3
+ SN_PBC =~sn2.pbc2+sn2.pbc3+sn4.pbc2+sn4.pbc3
+ # STRUCTURAL PART
+ int1~ATT+SN+PBC+ATT_PBC+SN_PBC
+ # RESIDUAL COVARIANCES
+ att1.pbc2~~ att3.pbc2+sn2.pbc2+sn4.pbc2+att1.pbc3
+ att3.pbc2~~ sn2.pbc2 +sn4.pbc2+att3.pbc3
+ sn2.pbc2 ~~ sn4.pbc2 +sn2.pbc3
+ att1.pbc3~~ att3.pbc3+sn2.pbc3+sn4.pbc3
+ att3.pbc3~~ sn2.pbc3 +sn4.pbc3
+ sn2.pbc3 ~~ sn4.pbc3
+ # COVARIANCES
+ PBC~~0*ATT_PBC+0*SN_PBC
+ ATT~~0*ATT_PBC
+ SN ~~0*SN_PBC'
> f2 <- sem(m2,data=tpb.indprod.df,missing="fiml",estimator="mlr")
Warnmeldung:
In lav_data_full(data = data, group = group, cluster = cluster,  :
  lavaan WARNING: some cases are empty and will be ignored:
  173 262 470 1001 1141 1610 1811 2366 2375 2400 2650 2651 2657 2674 2688 2702 2710 2813 2833
2848 2865 3009 3153 3340 3511
> summary(f2,standardized=TRUE,fit.measures=TRUE,rsquare=TRUE)
lavaan 0.6-9 ended normally after 300 iterations

  Estimator                                         ML
  Optimization method                           NLMINB
  Number of model parameters                        70


                                          Used       Total
  Number of observations                    3507        3532
  Number of missing patterns                  52

Model Test User Model:
                                       Standard      Robust
  Test Statistic                        553.858     255.015
  Degrees of freedom                         65          65
  P-value (Chi-square)                    0.000       0.000
  Scaling correction factor                           2.172
      Yuan-Bentler correction (Mplus variant)

Model Test Baseline Model:

  Test statistic                      59161.185   17696.741
  Degrees of freedom                        105         105
  P-value                                 0.000       0.000
  Scaling correction factor                           3.343

User Model versus Baseline Model:

  Comparative Fit Index (CFI)             0.992       0.989
  Tucker-Lewis Index (TLI)                0.987       0.983

  Robust Comparative Fit Index (CFI)                  0.993
  Robust Tucker-Lewis Index (TLI)                     0.989

Loglikelihood and Information Criteria:

  Loglikelihood user model (H0)       -113967.356 -113967.356
  Scaling correction factor                           4.312
      for the MLR correction
  Loglikelihood unrestricted model (H1)  -113690.427 -113690.427
```

```
   Scaling correction factor                                    3.281
      for the MLR correction


  Akaike (AIC)                               228074.712  228074.712
  Bayesian (BIC)                             228506.088  228506.088
  Sample-size adjusted Bayesian (BIC)        228283.664  228283.664

Root Mean Square Error of Approximation:

  RMSEA                                          0.046       0.029
  90 Percent confidence interval - lower         0.043       0.026
  90 Percent confidence interval - upper         0.050       0.031
  P-value RMSEA <= 0.05                           0.954       1.000

  Robust RMSEA                                               0.043
  90 Percent confidence interval - lower                     0.037
  90 Percent confidence interval - upper                     0.048

Standardized Root Mean Square Residual:

  SRMR                                           0.032       0.032

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
  ATT =~
    att1            1.000                                 1.949    0.940
    att3            1.057    0.010  102.931    0.000      2.060    0.944
  SN =~
    sn2             1.000                                 1.746    0.817
    sn4             0.913    0.020   45.117    0.000      1.595    0.853
  PBC =~
    pbc2            1.000                                 1.425    0.691
    pbc3            1.291    0.041   31.600    0.000      1.840    0.895
  ATT_PBC =~
    att1.pbc2       1.000                                 8.378    0.908
    att1.pbc3       1.069    0.291    3.673    0.000      8.957    0.937
    att3.pbc2       0.953    0.013   71.968    0.000      7.984    0.893
    att3.pbc3       1.020    0.278    3.667    0.000      8.543    0.930
  SN_PBC =~
    sn2.pbc2        1.000                                 5.916    0.803
    sn2.pbc3        1.087    0.298    3.646    0.000      6.432    0.847
    sn4.pbc2        1.300    0.058   22.453    0.000      7.691    0.917
    sn4.pbc3        1.388    0.384    3.617    0.000      8.212    0.951

Regressions:
                  Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
  int1 ~
    ATT             1.009    0.052   19.216    0.000      1.966    0.801
    SN             -0.141    0.048   -2.920    0.004     -0.246   -0.100
    PBC            -0.054    0.044   -1.234    0.217     -0.077   -0.031
    ATT_PBC        -0.015    0.016   -0.929    0.353     -0.123   -0.050
    SN_PBC          0.023    0.023    1.009    0.313      0.136    0.055

Covariances:
                  Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
 .att1.pbc2 ~~
   .att3.pbc2      12.692   18.240    0.696    0.487     12.692    0.814
   .sn2.pbc2        8.952   12.602    0.710    0.477      8.952    0.526
   .sn4.pbc2        8.773   16.450    0.533    0.594      8.773    0.675
   .att1.pbc3       1.749    0.514    3.405    0.001      1.749    0.135
 .att3.pbc2 ~~
   .sn2.pbc2        9.034   12.018    0.752    0.452      9.034    0.510
   .sn4.pbc2        8.766   15.690    0.559    0.576      8.766    0.649
   .att3.pbc3       2.371    0.476    4.986    0.000      2.371    0.174
 .sn2.pbc2 ~~
   .sn4.pbc2        8.862   12.267    0.722    0.470      8.862    0.600
   .sn2.pbc3        8.195    0.743   11.028    0.000      8.195    0.462
 .att1.pbc3 ~~
   .att3.pbc3       7.939   20.804    0.382    0.703      7.939    0.703
```

```
      .sn2.pbc3        5.769    14.769    0.391    0.696    5.769    0.429
      .sn4.pbc3        5.302    18.918    0.280    0.779    5.302    0.598
   .att3.pbc3 ~~
      .sn2.pbc3        5.816    14.100    0.412    0.680    5.816    0.426
      .sn4.pbc3        4.814    18.054    0.267    0.790    4.814    0.535
   .sn2.pbc3 ~~
      .sn4.pbc3        5.088    14.404    0.353    0.724    5.088    0.475
    PBC ~~
      ATT_PBC          0.000                               0.000    0.000
      SN_PBC           0.000                               0.000    0.000
    ATT ~~
      ATT_PBC          0.000                               0.000    0.000
    SN ~~
      SN_PBC           0.000                               0.000    0.000
    ATT ~~
      SN               2.880    0.077    37.308   0.000    0.846    0.846
      PBC              2.208    0.084    26.147   0.000    0.795    0.795
      SN_PBC          -0.181    0.081    -2.229   0.026   -0.016   -0.016
    SN ~~
      PBC              1.715    0.074    23.069   0.000    0.689    0.689
      ATT_PBC         -0.504    0.160    -3.153   0.002   -0.034   -0.034
    ATT_PBC ~~
      SN_PBC          46.704   13.429    3.478    0.001    0.942    0.942

Intercepts:
                     Estimate  Std.Err  z-value  P(>|z|)  Std.lv   Std.all
   .att1              5.246    0.035   148.335   0.000    5.246    2.529
   .att3              4.974    0.037   134.161   0.000    4.974    2.279
   .sn2               4.433    0.036   121.605   0.000    4.433    2.073
   .sn4               5.100    0.032   158.749   0.000    5.100    2.727
   .pbc2              5.193    0.035   146.569   0.000    5.193    2.518
   .pbc3              5.282    0.035   150.186   0.000    5.282    2.569
   .att1.pbc2         2.119    0.161    13.187   0.000    2.119    0.230
   .att1.pbc3         2.298    0.164    14.011   0.000    2.298    0.240
   .att3.pbc2         1.991    0.156    12.786   0.000    1.991    0.223
   .att3.pbc3         2.153    0.158    13.627   0.000    2.153    0.234
   .sn2.pbc2          1.516    0.140    10.807   0.000    1.516    0.206
   .sn2.pbc3          1.655    0.142    11.617   0.000    1.655    0.218
   .sn4.pbc2          1.956    0.149    13.126   0.000    1.956    0.233
   .sn4.pbc3          2.068    0.151    13.683   0.000    2.068    0.240
   .int1              4.752    0.041   114.512   0.000    4.752    1.936
    ATT               0.000                               0.000    0.000
    SN                0.000                               0.000    0.000
    PBC               0.000                               0.000    0.000
    ATT_PBC           0.000                               0.000    0.000
    SN_PBC            0.000                               0.000    0.000

Variances:
                     Estimate  Std.Err  z-value  P(>|z|)  Std.lv   Std.all
   .att1              0.504    0.035    14.521   0.000    0.504    0.117
   .att3              0.521    0.039    13.194   0.000    0.521    0.109
   .sn2               1.521    0.080    19.132   0.000    1.521    0.333
   .sn4               0.955    0.063    15.269   0.000    0.955    0.273
   .pbc2              2.225    0.097    22.915   0.000    2.225    0.523
   .pbc3              0.843    0.093     9.070   0.000    0.843    0.199
   .att1.pbc2        14.998   19.136     0.784   0.433   14.998    0.176
   .att1.pbc3        11.133   21.762     0.512   0.609   11.133    0.122
   .att3.pbc2        16.212   17.411     0.931   0.352   16.212    0.203
   .att3.pbc3        11.453   19.903     0.575   0.565   11.453    0.136
   .sn2.pbc2         19.342    9.483     2.040   0.041   19.342    0.356
   .sn2.pbc3         16.272   11.335     1.436   0.151   16.272    0.282
   .sn4.pbc2         11.265   16.023     0.703   0.482   11.265    0.160
   .sn4.pbc3          7.058   18.408     0.383   0.701    7.058    0.095
   .int1              3.135    0.120    26.081   0.000    3.135    0.520
    ATT               3.798    0.094    40.250   0.000    1.000    1.000
    SN                3.050    0.097    31.507   0.000    1.000    1.000
    PBC               2.030    0.108    18.826   0.000    1.000    1.000
    ATT_PBC          70.196   19.795     3.546   0.000    1.000    1.000
    SN_PBC           35.004   10.444     3.352   0.001    1.000    1.000

R-Square:
                     Estimate
    att1              0.883
    att3              0.891
    sn2               0.667
```

```
sn4                0.727
pbc2               0.477
pbc3               0.801
att1.pbc2          0.824
att1.pbc3          0.878
att3.pbc2          0.797
att3.pbc3          0.864
sn2.pbc2           0.644
sn2.pbc3           0.718
sn4.pbc2           0.840
sn4.pbc3           0.905
int1               0.480
```

A9. SEM "Model 3".

```
> ##### TESTING THE TPB (ATTITUDE) AND BACKGROUND FACTORS (main model)
> m3 <-'
+ # MEASUREMENT PART
+ ATT=~att1+att3
+ CCB=~ccb1+ccb2+ccb3+ccb4+ccb5+ccb6+ccb7+ccb8
+ SKV=~skv1+skv2+skv3
+ SKD=~skd1+skd2
+ FCV=~fcv1+fcv2+fcv3
+ TPO=~tpo1+tpo2+tpo3+tpo4+tpo5+tpo6
+ TSC=~tsc1+tsc2+tsc3+tsc4
+ # STRUCTURAL PART
+ int1 ~ a*ATT
+ int1 ~
b1*CCB+c1*SKV+d1*SKD+e1*FCV+f1*TPO+g1*TSC+h1*health+i1*risk2+j1*risk3+k1*rel+l1*pol+m1*age2+n1
*age3+o1*male+p1*edu+q1*inc+r1*imm+s1*part+t1*kids
+ ATT  ~
b2*CCB+c2*SKV+d2*SKD+e2*FCV+f2*TPO+g2*TSC+h2*health+i2*risk2+j2*risk3+k2*rel+l2*pol+m2*age2+n2
*age3+o2*male+p2*edu+q2*inc+r2*imm+s2*part+t2*kids
+ # INDIRECT EFFECTS
+ i_ccb := a*b2
+ i_skv := a*c2
+ i_skd := a*d2
+ i_fcv := a*e2
+ i_tpo := a*f2
+ i_tsc := a*g2
+ i_hea := a*h2
+ i_ri2 := a*i2
+ i_ri3 := a*j2
+ i_rel := a*k2
+ i_pol := a*l2
+ i_ag2 := a*m2
+ i_ag3 := a*n2
+ i_mal := a*o2
+ i_edu := a*p2
+ i_inc := a*q2
+ i_imm := a*r2
+ i_par := a*s2
+ i_kid := a*t2
+ # TOTAL EFFECTS
+ t_ccb := (a*b2)+b1
+ t_skv := (a*c2)+c1
+ t_skd := (a*d2)+d1
+ t_fcv := (a*e2)+e1
+ t_tpo := (a*f2)+f1
+ t_tsc := (a*g2)+g1
+ t_hea := (a*h2)+h1
+ t_ri2 := (a*i2)+i1
+ t_ri3 := (a*j2)+j1
+ t_rel := (a*k2)+k1
+ t_pol := (a*l2)+l1
+ t_ag2 := (a*m2)+m1
+ t_ag3 := (a*n2)+n1
+ t_mal := (a*o2)+o1
+ t_edu := (a*p2)+p1
+ t_inc := (a*q2)+q1
+ t_imm := (a*r2)+r1
+ t_par := (a*s2)+s1
+ t_kid := (a*t2)+t1
+ '
> f3 <- sem(m3,data=tpb_data,missing="FIML",estimator="MLR")
Warnmeldung:
In lav_data_full(data = data, group = group, cluster = cluster,  :
  lavaan WARNING: 422 cases were deleted due to missing values in
                exogenous variable(s), while fixed.x = TRUE.
> summary(f3,standardized=TRUE,fit.measures=TRUE,rsquare=TRUE)
lavaan 0.6-9 ended normally after 121 iterations

  Estimator                                         ML
  Optimization method                           NLMINB
  Number of model parameters                       140

                                                  Used       Total
  Number of observations                          3110        3532
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   Number of missing patterns                        220

Model Test User Model:
                                              Standard      Robust
  Test Statistic                             6256.439    5357.172
  Degrees of freedom                              701         701
  P-value (Chi-square)                          0.000       0.000
  Scaling correction factor                                 1.168
       Yuan-Bentler correction (Mplus variant)

Model Test Baseline Model:

  Test statistic                            79212.762   64785.667
  Degrees of freedom                              783         783
  P-value                                       0.000       0.000
  Scaling correction factor                                 1.223

User Model versus Baseline Model:

  Comparative Fit Index (CFI)                   0.929       0.927
  Tucker-Lewis Index (TLI)                      0.921       0.919

  Robust Comparative Fit Index (CFI)                        0.931
  Robust Tucker-Lewis Index (TLI)                           0.922

Loglikelihood and Information Criteria:

  Loglikelihood user model (H0)           -136218.027 -136218.027
  Scaling correction factor                                 1.457
      for the MLR correction
  Loglikelihood unrestricted model (H1)   -133089.808 -133089.808
  Scaling correction factor                                 1.216
      for the MLR correction

  Akaike (AIC)                             272716.055  272716.055
  Bayesian (BIC)                           273561.988  273561.988
  Sample-size adjusted Bayesian (BIC)      273117.150  273117.150

Root Mean Square Error of Approximation:

  RMSEA                                         0.050       0.046
  90 Percent confidence interval - lower        0.049       0.045
  90 Percent confidence interval - upper        0.052       0.047
  P-value RMSEA <= 0.05                         0.244       1.000

  Robust RMSEA                                              0.050
  90 Percent confidence interval - lower                    0.049
  90 Percent confidence interval - upper                    0.051

Standardized Root Mean Square Residual:

  SRMR                                          0.061       0.061

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
  ATT =~
    att1            1.000                               1.931    0.950
    att3            1.028    0.011   94.045    0.000    1.985    0.929
  CCB =~
    ccb1            1.000                               1.191    0.759
    ccb2            0.972    0.030   32.515    0.000    1.158    0.690
    ccb3            0.889    0.029   30.226    0.000    1.059    0.816
    ccb4            0.678    0.034   20.063    0.000    0.807    0.749
    ccb5            0.932    0.032   29.528    0.000    1.110    0.845
    ccb6            1.158    0.030   38.078    0.000    1.379    0.849
    ccb7            1.144    0.032   36.249    0.000    1.362    0.820
    ccb8            0.995    0.029   34.735    0.000    1.185    0.858
  SKV =~
    skv1            1.000                               1.393    0.828
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  skv2                  1.176    0.020   57.564   0.000     1.638    0.907
  skv3                  1.206    0.021   58.159   0.000     1.680    0.939
 SKD =~
  skd1                  1.000                               1.130    0.726
  skd2                  1.067    0.044   24.405   0.000     1.206    0.764
 FCV =~
  fcv1                  1.000                               1.518    0.823
  fcv2                  1.017    0.026   38.631   0.000     1.544    0.858
  fcv3                  0.878    0.020   44.170   0.000     1.332    0.713
 TPO =~
  tpo1                  1.000                               1.815    0.963
  tpo2                  0.974    0.005  196.226   0.000     1.767    0.964
  tpo3                  0.919    0.009  103.931   0.000     1.667    0.887
  tpo4                  0.779    0.012   66.873   0.000     1.413    0.800
  tpo5                  0.845    0.007  114.059   0.000     1.534    0.904
  tpo6                  0.810    0.010   79.337   0.000     1.470    0.835
 TSC =~
  tsc1                  1.000                               1.293    0.819
  tsc2                  1.189    0.021   55.697   0.000     1.537    0.880
  tsc3                  1.364    0.029   47.408   0.000     1.763    0.881
  tsc4                  1.045    0.021   50.309   0.000     1.351    0.777

Regressions:
                     Estimate  Std.Err  z-value  P(>|z|)   Std.lv   Std.all
 int1 ~
  ATT         (a)     0.895    0.032   28.358   0.000     1.729    0.709
  CCB        (b1)     0.062    0.039    1.603   0.109     0.074    0.030
  SKV        (c1)    -0.015    0.042   -0.368   0.713    -0.021   -0.009
  SKD        (d1)     0.026    0.048    0.534   0.593     0.029    0.012
  FCV        (e1)     0.020    0.032    0.644   0.519     0.031    0.013
  TPO        (f1)     0.014    0.031    0.458   0.647     0.026    0.011
  TSC        (g1)    -0.065    0.056   -1.164   0.244    -0.085   -0.035
  health     (h1)     0.013    0.043    0.306   0.759     0.013    0.005
  risk2      (i1)    -0.003    0.080   -0.041   0.968    -0.003   -0.001
  risk3      (j1)    -0.142    0.115   -1.227   0.220    -0.142   -0.021
  rel        (k1)    -0.001    0.018   -0.080   0.936    -0.001   -0.001
  pol        (l1)     0.009    0.017    0.521   0.602     0.009    0.007
  age2       (m1)    -0.043    0.089   -0.477   0.633    -0.043   -0.009
  age3       (n1)     0.087    0.116    0.748   0.455     0.087    0.014
  male       (o1)    -0.105    0.069   -1.522   0.128    -0.105   -0.022
  edu        (p1)     0.024    0.087    0.270   0.787     0.024    0.004
  inc        (q1)     0.017    0.084    0.205   0.838     0.017    0.003
  imm        (r1)    -0.041    0.093   -0.442   0.658    -0.041   -0.006
  part       (s1)    -0.042    0.074   -0.577   0.564    -0.042   -0.008
  kids       (t1)     0.024    0.082    0.297   0.766     0.024    0.004
 ATT ~
  CCB        (b2)    -0.232    0.034   -6.802   0.000    -0.143   -0.143
  SKV        (c2)    -0.292    0.037   -7.861   0.000    -0.211   -0.211
  SKD        (d2)    -0.045    0.036   -1.227   0.220    -0.026   -0.026
  FCV        (e2)     0.334    0.027   12.199   0.000     0.262    0.262
  TPO        (f2)     0.016    0.022    0.747   0.455     0.015    0.015
  TSC        (g2)     0.503    0.047   10.667   0.000     0.337    0.337
  health     (h2)    -0.032    0.033   -0.968   0.333    -0.016   -0.015
  risk2      (i2)     0.020    0.058    0.337   0.736     0.010    0.005
  risk3      (j2)     0.122    0.086    1.427   0.153     0.063    0.023
  rel        (k2)    -0.013    0.014   -0.958   0.338    -0.007   -0.013
  pol        (l2)     0.017    0.014    1.200   0.230     0.009    0.017
  age2       (m2)     0.255    0.070    3.653   0.000     0.132    0.064
  age3       (n2)     0.425    0.088    4.834   0.000     0.220    0.087
  male       (o2)     0.278    0.051    5.483   0.000     0.144    0.072
  edu        (p2)     0.113    0.056    2.020   0.043     0.059    0.025
  inc        (q2)     0.071    0.058    1.235   0.217     0.037    0.016
  imm        (r2)    -0.171    0.067   -2.574   0.010    -0.089   -0.034
  part       (s2)    -0.013    0.056   -0.225   0.822    -0.007   -0.003
  kids       (t2)    -0.116    0.061   -1.908   0.056    -0.060   -0.026

Covariances:
                     Estimate  Std.Err  z-value  P(>|z|)   Std.lv   Std.all
 CCB ~~
  SKV                 0.953    0.049   19.585   0.000     0.575    0.575
  SKD                 0.581    0.041   14.113   0.000     0.432    0.432
  FCV                -0.516    0.049  -10.534   0.000    -0.285   -0.285
  TPO                -0.801    0.055  -14.653   0.000    -0.371   -0.371
  TSC                -0.821    0.048  -17.129   0.000    -0.533   -0.533
 SKV ~~
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   SKD         0.854     0.045    18.976    0.000     0.542     0.542
   FCV        -0.601     0.049   -12.376    0.000    -0.284    -0.284
   TPO        -1.407     0.052   -26.954    0.000    -0.557    -0.557
   TSC        -1.195     0.048   -24.661    0.000    -0.664    -0.664
 SKD ~~
   FCV        -0.645     0.050   -12.982    0.000    -0.376    -0.376
   TPO        -0.732     0.049   -15.080    0.000    -0.357    -0.357
   TSC        -0.684     0.040   -16.958    0.000    -0.468    -0.468
 FCV ~~
   TPO         1.016     0.056    18.127    0.000     0.369     0.369
   TSC         0.910     0.048    19.103    0.000     0.463     0.463
 TPO ~~
   TSC         1.722     0.051    33.732    0.000     0.734     0.734

Intercepts:
                Estimate  Std.Err  z-value  P(>|z|)   Std.lv   Std.all
   .att1         4.992     0.154    32.357    0.000     4.992     2.456
   .att3         4.728     0.159    29.791    0.000     4.728     2.213
   .ccb1         1.943     0.028    68.579    0.000     1.943     1.238
   .ccb2         2.212     0.031    72.323    0.000     2.212     1.319
   .ccb3         1.766     0.024    73.658    0.000     1.766     1.361
   .ccb4         1.447     0.020    70.613    0.000     1.447     1.343
   .ccb5         1.613     0.024    66.334    0.000     1.613     1.227
   .ccb6         2.029     0.030    68.701    0.000     2.029     1.250
   .ccb7         1.998     0.030    66.115    0.000     1.998     1.202
   .ccb8         1.709     0.026    66.615    0.000     1.709     1.237
   .skv1         3.216     0.031   103.834    0.000     3.216     1.911
   .skv2         3.882     0.033   118.820    0.000     3.882     2.150
   .skv3         3.545     0.032   109.391    0.000     3.545     1.981
   .skd1         3.586     0.028   127.981    0.000     3.586     2.303
   .skd2         4.173     0.028   146.760    0.000     4.173     2.642
   .fcv1         4.514     0.033   136.309    0.000     4.514     2.448
   .fcv2         5.179     0.032   160.180    0.000     5.179     2.877
   .fcv3         3.560     0.034   106.138    0.000     3.560     1.906
   .tpo1         3.438     0.034   101.604    0.000     3.438     1.824
   .tpo2         3.431     0.033   104.247    0.000     3.431     1.872
   .tpo3         3.601     0.034   106.715    0.000     3.601     1.916
   .tpo4         3.814     0.032   120.232    0.000     3.814     2.161
   .tpo5         2.951     0.030    96.853    0.000     2.951     1.740
   .tpo6         3.129     0.032    98.876    0.000     3.129     1.777
   .tsc1         5.200     0.028   183.511    0.000     5.200     3.294
   .tsc2         4.986     0.031   158.894    0.000     4.986     2.853
   .tsc3         4.587     0.036   127.748    0.000     4.587     2.293
   .tsc4         4.548     0.031   145.383    0.000     4.548     2.616
   .int1         4.551     0.236    19.290    0.000     4.551     1.866
   .ATT          0.000                                 0.000     0.000
    CCB          0.000                                 0.000     0.000
    SKV          0.000                                 0.000     0.000
    SKD          0.000                                 0.000     0.000
    FCV          0.000                                 0.000     0.000
    TPO          0.000                                 0.000     0.000
    TSC          0.000                                 0.000     0.000

Variances:
                Estimate  Std.Err  z-value  P(>|z|)   Std.lv   Std.all
   .att1         0.402     0.035    11.516    0.000     0.402     0.097
   .att3         0.621     0.048    13.064    0.000     0.621     0.136
   .ccb1         1.045     0.058    18.135    0.000     1.045     0.424
   .ccb2         1.471     0.068    21.493    0.000     1.471     0.523
   .ccb3         0.563     0.037    15.265    0.000     0.563     0.334
   .ccb4         0.509     0.030    17.208    0.000     0.509     0.439
   .ccb5         0.495     0.034    14.677    0.000     0.495     0.287
   .ccb6         0.734     0.043    17.129    0.000     0.734     0.279
   .ccb7         0.906     0.057    15.986    0.000     0.906     0.328
   .ccb8         0.506     0.035    14.598    0.000     0.506     0.265
   .skv1         0.892     0.044    20.463    0.000     0.892     0.315
   .skv2         0.577     0.031    18.849    0.000     0.577     0.177
   .skv3         0.379     0.028    13.302    0.000     0.379     0.118
   .skd1         1.146     0.060    19.027    0.000     1.146     0.473
   .skd2         1.040     0.064    16.165    0.000     1.040     0.417
   .fcv1         1.095     0.078    14.010    0.000     1.095     0.322
   .fcv2         0.854     0.052    16.512    0.000     0.854     0.264
   .fcv3         1.714     0.056    30.616    0.000     1.714     0.491
   .tpo1         0.259     0.018    14.539    0.000     0.259     0.073
   .tpo2         0.236     0.017    14.286    0.000     0.236     0.070
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         .tpo3          0.753    0.037   20.197    0.000     0.753    0.213
         .tpo4          1.120    0.041   27.142    0.000     1.120    0.359
         .tpo5          0.525    0.021   25.252    0.000     0.525    0.183
         .tpo6          0.941    0.041   23.159    0.000     0.941    0.303
         .tsc1          0.820    0.035   23.249    0.000     0.820    0.329
         .tsc2          0.692    0.035   19.775    0.000     0.692    0.226
         .tsc3          0.893    0.047   19.033    0.000     0.893    0.223
         .tsc4          1.196    0.048   24.710    0.000     1.196    0.396
         .int1          3.188    0.128   24.918    0.000     3.188    0.536
         .ATT           1.417    0.057   24.969    0.000     0.380    0.380
          CCB           1.418    0.080   17.801    0.000     1.000    1.000
          SKV           1.941    0.071   27.357    0.000     1.000    1.000
          SKD           1.278    0.073   17.444    0.000     1.000    1.000
          FCV           2.305    0.094   24.477    0.000     1.000    1.000
          TPO           3.293    0.057   57.809    0.000     1.000    1.000
          TSC           1.671    0.070   23.881    0.000     1.000    1.000

R-Square:
                     Estimate
          att1          0.903
          att3          0.864
          ccb1          0.576
          ccb2          0.477
          ccb3          0.666
          ccb4          0.561
          ccb5          0.713
          ccb6          0.721
          ccb7          0.672
          ccb8          0.735
          skv1          0.685
          skv2          0.823
          skv3          0.882
          skd1          0.527
          skd2          0.583
          fcv1          0.678
          fcv2          0.736
          fcv3          0.509
          tpo1          0.927
          tpo2          0.930
          tpo3          0.787
          tpo4          0.641
          tpo5          0.817
          tpo6          0.697
          tsc1          0.671
          tsc2          0.774
          tsc3          0.777
          tsc4          0.604
          int1          0.464
          ATT           0.620

Defined Parameters:
                     Estimate  Std.Err  z-value  P(>|z|)   Std.lv   Std.all
         i_ccb         -0.208    0.031   -6.601    0.000    -0.247   -0.101
         i_skv         -0.262    0.034   -7.649    0.000    -0.364   -0.149
         i_skd         -0.040    0.033   -1.221    0.222    -0.045   -0.018
         i_fcv          0.299    0.026   11.334    0.000     0.453    0.186
         i_tpo          0.015    0.020    0.746    0.456     0.027    0.011
         i_tsc          0.451    0.045   10.010    0.000     0.583    0.239
         i_hea         -0.029    0.029   -0.968    0.333    -0.029   -0.011
         i_ri2          0.018    0.052    0.337    0.736     0.018    0.003
         i_ri3          0.110    0.077    1.421    0.155     0.110    0.016
         i_rel         -0.012    0.012   -0.960    0.337    -0.012   -0.009
         i_pol          0.015    0.012    1.199    0.231     0.015    0.012
         i_ag2          0.228    0.063    3.619    0.000     0.228    0.046
         i_ag3          0.381    0.080    4.765    0.000     0.381    0.061
         i_mal          0.249    0.046    5.376    0.000     0.249    0.051
         i_edu          0.101    0.050    2.017    0.044     0.101    0.018
         i_inc          0.064    0.052    1.232    0.218     0.064    0.011
         i_imm         -0.153    0.060   -2.570    0.010    -0.153   -0.024
         i_par         -0.011    0.050   -0.225    0.822    -0.011   -0.002
         i_kid         -0.104    0.054   -1.905    0.057    -0.104   -0.018
         t_ccb         -0.146    0.045   -3.265    0.001    -0.173   -0.071
         t_skv         -0.277    0.050   -5.493    0.000    -0.386   -0.158
         t_skd         -0.014    0.056   -0.253    0.800    -0.016   -0.007
         t_fcv          0.319    0.037    8.538    0.000     0.484    0.199
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      t_tpo            0.029    0.035    0.826    0.409    0.053    0.022
      t_tsc            0.385    0.064    5.989    0.000    0.498    0.204
      t_hea           -0.015    0.050   -0.305    0.760   -0.015   -0.006
      t_ri2            0.014    0.092    0.157    0.875    0.014    0.003
      t_ri3           -0.032    0.136   -0.237    0.813   -0.032   -0.005
      t_rel           -0.013    0.021   -0.644    0.520   -0.013   -0.010
      t_pol            0.024    0.020    1.182    0.237    0.024    0.019
      t_ag2            0.186    0.103    1.800    0.072    0.186    0.037
      t_ag3            0.467    0.134    3.496    0.000    0.467    0.075
      t_mal            0.144    0.079    1.824    0.068    0.144    0.030
      t_edu            0.125    0.095    1.311    0.190    0.125    0.022
      t_inc            0.081    0.094    0.859    0.390    0.081    0.015
      t_imm           -0.195    0.104   -1.878    0.060   -0.195   -0.030
      t_par           -0.054    0.086   -0.626    0.531   -0.054   -0.011
      t_kid           -0.079    0.093   -0.853    0.394   -0.079   -0.014

> standardizedSolution(f3,type="std.nox")
      lhs op       rhs label est.std    se        z pvalue ci.lower ci.upper
1     ATT =~      att1        0.950 0.005 207.082  0.000    0.941    0.959
2     ATT =~      att3        0.929 0.006 164.819  0.000    0.918    0.940
3     CCB =~      ccb1        0.759 0.014  54.094  0.000    0.731    0.786
4     CCB =~      ccb2        0.690 0.014  47.741  0.000    0.662    0.719
5     CCB =~      ccb3        0.816 0.013  62.434  0.000    0.790    0.842
6     CCB =~      ccb4        0.749 0.017  43.389  0.000    0.715    0.783
7     CCB =~      ccb5        0.845 0.012  72.250  0.000    0.822    0.868
8     CCB =~      ccb6        0.849 0.009  96.303  0.000    0.832    0.867
9     CCB =~      ccb7        0.820 0.011  72.708  0.000    0.797    0.842
10    CCB =~      ccb8        0.858 0.010  85.114  0.000    0.838    0.877
11    SKV =~      skv1        0.828 0.010  86.596  0.000    0.809    0.847
12    SKV =~      skv2        0.907 0.005 166.573  0.000    0.897    0.918
13    SKV =~      skv3        0.939 0.005 191.153  0.000    0.929    0.949
14    SKD =~      skd1        0.726 0.017  41.762  0.000    0.692    0.760
15    SKD =~      skd2        0.764 0.017  44.564  0.000    0.730    0.797
16    FCV =~      fcv1        0.823 0.014  59.257  0.000    0.796    0.851
17    FCV =~      fcv2        0.858 0.010  87.457  0.000    0.839    0.877
18    FCV =~      fcv3        0.713 0.011  63.118  0.000    0.691    0.735
19    TPO =~      tpo1        0.963 0.003 364.722  0.000    0.958    0.968
20    TPO =~      tpo2        0.964 0.003 366.716  0.000    0.959    0.969
21    TPO =~      tpo3        0.887 0.006 145.014  0.000    0.875    0.899
22    TPO =~      tpo4        0.800 0.009  91.961  0.000    0.783    0.817
23    TPO =~      tpo5        0.904 0.004 212.786  0.000    0.896    0.912
24    TPO =~      tpo6        0.835 0.008 104.258  0.000    0.819    0.850
25    TSC =~      tsc1        0.819 0.009  87.998  0.000    0.801    0.837
26    TSC =~      tsc2        0.880 0.007 130.320  0.000    0.866    0.893
27    TSC =~      tsc3        0.881 0.007 131.131  0.000    0.868    0.895
28    TSC =~      tsc4        0.777 0.010  74.047  0.000    0.757    0.798
29    int1 ~       ATT     a  0.709 0.026  27.613  0.000    0.659    0.759
30    int1 ~       CCB    b1  0.030 0.019   1.605  0.109   -0.007    0.067
31    int1 ~       SKV    c1 -0.009 0.024  -0.368  0.713   -0.056    0.038
32    int1 ~       SKD    d1  0.012 0.022   0.534  0.593   -0.032    0.056
33    int1 ~       FCV    e1  0.013 0.020   0.645  0.519   -0.026    0.051
34    int1 ~       TPO    f1  0.011 0.023   0.458  0.647   -0.035    0.056
35    int1 ~       TSC    g1 -0.035 0.030  -1.165  0.244   -0.093    0.024
36    int1 ~    health    h1  0.005 0.018   0.306  0.759   -0.029    0.040
37    int1 ~     risk2    i1 -0.001 0.033  -0.041  0.968   -0.065    0.063
38    int1 ~     risk3    j1 -0.058 0.047  -1.228  0.219   -0.151    0.035
39    int1 ~       rel    k1 -0.001 0.007  -0.080  0.936   -0.015    0.014
40    int1 ~       pol    l1  0.004 0.007   0.522  0.602   -0.010    0.018
41    int1 ~      age2    m1 -0.017 0.037  -0.477  0.633   -0.089    0.054
42    int1 ~      age3    n1  0.036 0.048   0.748  0.455   -0.058    0.129
43    int1 ~      male    o1 -0.043 0.028  -1.522  0.128   -0.099    0.012
44    int1 ~       edu    p1  0.010 0.036   0.270  0.787   -0.060    0.080
45    int1 ~       inc    q1  0.007 0.034   0.205  0.838   -0.060    0.075
46    int1 ~       imm    r1 -0.017 0.038  -0.442  0.658   -0.092    0.058
47    int1 ~      part    s1 -0.017 0.030  -0.578  0.564   -0.077    0.042
48    int1 ~      kids    t1  0.010 0.033   0.297  0.766   -0.056    0.075
49    ATT  ~       CCB    b2 -0.143 0.021  -6.880  0.000   -0.184   -0.102
50    ATT  ~       SKV    c2 -0.211 0.026  -7.977  0.000   -0.263   -0.159
51    ATT  ~       SKD    d2 -0.026 0.021  -1.229  0.219   -0.068    0.016
52    ATT  ~       FCV    e2  0.262 0.020  12.929  0.000    0.222    0.302
53    ATT  ~       TPO    f2  0.015 0.021   0.747  0.455   -0.025    0.056
54    ATT  ~       TSC    g2  0.337 0.031  10.895  0.000    0.276    0.398
55    ATT  ~    health    h2 -0.016 0.017  -0.968  0.333   -0.050    0.017
56    ATT  ~     risk2    i2  0.010 0.030   0.337  0.736   -0.049    0.069
57    ATT  ~     risk3    j2  0.063 0.044   1.426  0.154   -0.024    0.151
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58	ATT	~	rel	k2	-0.007	0.007	-0.959	0.338	-0.021	0.007
59	ATT	~	pol	l2	0.009	0.007	1.204	0.229	-0.005	0.023
60	ATT	~	age2	m2	0.132	0.036	3.651	0.000	0.061	0.203
61	ATT	~	age3	n2	0.220	0.046	4.817	0.000	0.131	0.310
62	ATT	~	male	o2	0.144	0.026	5.470	0.000	0.092	0.196
63	ATT	~	edu	p2	0.059	0.029	2.014	0.044	0.002	0.116
64	ATT	~	inc	q2	0.037	0.030	1.234	0.217	-0.022	0.095
65	ATT	~	imm	r2	-0.089	0.035	-2.571	0.010	-0.156	-0.021
66	ATT	~	part	s2	-0.007	0.029	-0.225	0.822	-0.064	0.050
67	ATT	~	kids	t2	-0.060	0.031	-1.907	0.057	-0.121	0.002
68	att1	~~	att1		0.097	0.009	11.154	0.000	0.080	0.114
69	att3	~~	att3		0.136	0.010	12.995	0.000	0.116	0.157
70	ccb1	~~	ccb1		0.424	0.021	19.936	0.000	0.383	0.466
71	ccb2	~~	ccb2		0.523	0.020	26.211	0.000	0.484	0.563
72	ccb3	~~	ccb3		0.334	0.021	15.665	0.000	0.292	0.376
73	ccb4	~~	ccb4		0.439	0.026	16.944	0.000	0.388	0.489
74	ccb5	~~	ccb5		0.287	0.020	14.513	0.000	0.248	0.325
75	ccb6	~~	ccb6		0.279	0.015	18.607	0.000	0.249	0.308
76	ccb7	~~	ccb7		0.328	0.018	17.771	0.000	0.292	0.365
77	ccb8	~~	ccb8		0.265	0.017	15.318	0.000	0.231	0.299
78	skv1	~~	skv1		0.315	0.016	19.891	0.000	0.284	0.346
79	skv2	~~	skv2		0.177	0.010	17.915	0.000	0.158	0.196
80	skv3	~~	skv3		0.118	0.009	12.829	0.000	0.100	0.136
81	skd1	~~	skd1		0.473	0.025	18.723	0.000	0.423	0.522
82	skd2	~~	skd2		0.417	0.026	15.938	0.000	0.366	0.468
83	fcv1	~~	fcv1		0.322	0.023	14.082	0.000	0.277	0.367
84	fcv2	~~	fcv2		0.264	0.017	15.649	0.000	0.231	0.297
85	fcv3	~~	fcv3		0.491	0.016	30.480	0.000	0.460	0.523
86	tpo1	~~	tpo1		0.073	0.005	14.370	0.000	0.063	0.083
87	tpo2	~~	tpo2		0.070	0.005	13.871	0.000	0.060	0.080
88	tpo3	~~	tpo3		0.213	0.011	19.642	0.000	0.192	0.234
89	tpo4	~~	tpo4		0.359	0.014	25.792	0.000	0.332	0.387
90	tpo5	~~	tpo5		0.183	0.008	23.753	0.000	0.167	0.198
91	tpo6	~~	tpo6		0.303	0.013	22.696	0.000	0.277	0.330
92	tsc1	~~	tsc1		0.329	0.015	21.589	0.000	0.299	0.359
93	tsc2	~~	tsc2		0.226	0.012	19.071	0.000	0.203	0.250
94	tsc3	~~	tsc3		0.223	0.012	18.839	0.000	0.200	0.246
95	tsc4	~~	tsc4		0.396	0.016	24.246	0.000	0.364	0.428
96	int1	~~	int1		0.536	0.019	27.697	0.000	0.498	0.574
97	ATT	~~	ATT		0.380	0.014	26.309	0.000	0.352	0.408
98	CCB	~~	CCB		1.000	0.000	NA	NA	1.000	1.000
99	SKV	~~	SKV		1.000	0.000	NA	NA	1.000	1.000
100	SKD	~~	SKD		1.000	0.000	NA	NA	1.000	1.000
101	FCV	~~	FCV		1.000	0.000	NA	NA	1.000	1.000
102	TPO	~~	TPO		1.000	0.000	NA	NA	1.000	1.000
103	TSC	~~	TSC		1.000	0.000	NA	NA	1.000	1.000
104	CCB	~~	SKV		0.575	0.015	38.117	0.000	0.545	0.604
105	CCB	~~	SKD		0.432	0.019	22.281	0.000	0.394	0.470
106	CCB	~~	FCV		-0.285	0.023	-12.208	0.000	-0.331	-0.240
107	CCB	~~	TPO		-0.371	0.021	-17.494	0.000	-0.412	-0.329
108	CCB	~~	TSC		-0.533	0.019	-27.499	0.000	-0.571	-0.495
109	SKV	~~	SKD		0.542	0.020	26.963	0.000	0.503	0.582
110	SKV	~~	FCV		-0.284	0.022	-13.046	0.000	-0.327	-0.241
111	SKV	~~	TPO		-0.557	0.015	-37.110	0.000	-0.586	-0.527
112	SKV	~~	TSC		-0.664	0.014	-47.742	0.000	-0.691	-0.636
113	SKD	~~	FCV		-0.376	0.023	-15.999	0.000	-0.422	-0.330
114	SKD	~~	TPO		-0.357	0.021	-17.182	0.000	-0.397	-0.316
115	SKD	~~	TSC		-0.468	0.020	-23.298	0.000	-0.508	-0.429
116	FCV	~~	TPO		0.369	0.018	19.959	0.000	0.333	0.405
117	FCV	~~	TSC		0.463	0.020	23.460	0.000	0.425	0.502
118	TPO	~~	TSC		0.734	0.010	72.424	0.000	0.714	0.754
119	health	~~	health		0.856	0.000	NA	NA	0.856	0.856
120	health	~~	risk2		-0.070	0.000	NA	NA	-0.070	-0.070
121	health	~~	risk3		-0.130	0.000	NA	NA	-0.130	-0.130
122	health	~~	rel		0.012	0.000	NA	NA	0.012	0.012
123	health	~~	pol		-0.050	0.000	NA	NA	-0.050	-0.050
124	health	~~	age2		0.013	0.000	NA	NA	0.013	0.013
125	health	~~	age3		-0.070	0.000	NA	NA	-0.070	-0.070
126	health	~~	male		-0.022	0.000	NA	NA	-0.022	-0.022
127	health	~~	edu		0.067	0.000	NA	NA	0.067	0.067
128	health	~~	inc		0.066	0.000	NA	NA	0.066	0.066
129	health	~~	imm		0.023	0.000	NA	NA	0.023	0.023
130	health	~~	part		0.012	0.000	NA	NA	0.012	0.012
131	health	~~	kids		0.032	0.000	NA	NA	0.032	0.032
132	risk2	~~	risk2		0.214	0.000	NA	NA	0.214	0.214

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133	risk2 ~~	risk3	-0.048	0.000	NA	NA	-0.048	-0.048
134	risk2 ~~	rel	0.031	0.000	NA	NA	0.031	0.031
135	risk2 ~~	pol	0.009	0.000	NA	NA	0.009	0.009
136	risk2 ~~	age2	-0.002	0.000	NA	NA	-0.002	-0.002
137	risk2 ~~	age3	0.027	0.000	NA	NA	0.027	0.027
138	risk2 ~~	male	0.011	0.000	NA	NA	0.011	0.011
139	risk2 ~~	edu	-0.010	0.000	NA	NA	-0.010	-0.010
140	risk2 ~~	inc	-0.009	0.000	NA	NA	-0.009	-0.009
141	risk2 ~~	imm	-0.005	0.000	NA	NA	-0.005	-0.005
142	risk2 ~~	part	0.017	0.000	NA	NA	0.017	0.017
143	risk2 ~~	kids	-0.006	0.000	NA	NA	-0.006	-0.006
144	risk3 ~~	risk3	0.130	0.000	NA	NA	0.130	0.130
145	risk3 ~~	rel	0.027	0.000	NA	NA	0.027	0.027
146	risk3 ~~	pol	0.001	0.000	NA	NA	0.001	0.001
147	risk3 ~~	age2	-0.010	0.000	NA	NA	-0.010	-0.010
148	risk3 ~~	age3	0.026	0.000	NA	NA	0.026	0.026
149	risk3 ~~	male	0.003	0.000	NA	NA	0.003	0.003
150	risk3 ~~	edu	-0.011	0.000	NA	NA	-0.011	-0.011
151	risk3 ~~	inc	-0.013	0.000	NA	NA	-0.013	-0.013
152	risk3 ~~	imm	-0.001	0.000	NA	NA	-0.001	-0.001
153	risk3 ~~	part	-0.003	0.000	NA	NA	-0.003	-0.003
154	risk3 ~~	kids	-0.006	0.000	NA	NA	-0.006	-0.006
155	rel ~~	rel	3.487	0.000	NA	NA	3.487	3.487
156	rel ~~	pol	0.175	0.000	NA	NA	0.175	0.175
157	rel ~~	age2	0.004	0.000	NA	NA	0.004	0.004
158	rel ~~	age3	0.013	0.000	NA	NA	0.013	0.013
159	rel ~~	male	-0.033	0.000	NA	NA	-0.033	-0.033
160	rel ~~	edu	0.007	0.000	NA	NA	0.007	0.007
161	rel ~~	inc	-0.022	0.000	NA	NA	-0.022	-0.022
162	rel ~~	imm	0.084	0.000	NA	NA	0.084	0.084
163	rel ~~	part	0.037	0.000	NA	NA	0.037	0.037
164	rel ~~	kids	0.046	0.000	NA	NA	0.046	0.046
165	pol ~~	pol	3.741	0.000	NA	NA	3.741	3.741
166	pol ~~	age2	0.080	0.000	NA	NA	0.080	0.080
167	pol ~~	age3	-0.012	0.000	NA	NA	-0.012	-0.012
168	pol ~~	male	0.082	0.000	NA	NA	0.082	0.082
169	pol ~~	edu	-0.026	0.000	NA	NA	-0.026	-0.026
170	pol ~~	inc	0.013	0.000	NA	NA	0.013	0.013
171	pol ~~	imm	-0.048	0.000	NA	NA	-0.048	-0.048
172	pol ~~	part	0.063	0.000	NA	NA	0.063	0.063
173	pol ~~	kids	0.046	0.000	NA	NA	0.046	0.046
174	age2 ~~	age2	0.237	0.000	NA	NA	0.237	0.237
175	age2 ~~	age3	-0.117	0.000	NA	NA	-0.117	-0.117
176	age2 ~~	male	0.012	0.000	NA	NA	0.012	0.012
177	age2 ~~	edu	0.017	0.000	NA	NA	0.017	0.017
178	age2 ~~	inc	0.027	0.000	NA	NA	0.027	0.027
179	age2 ~~	imm	0.001	0.000	NA	NA	0.001	0.001
180	age2 ~~	part	0.048	0.000	NA	NA	0.048	0.048
181	age2 ~~	kids	0.063	0.000	NA	NA	0.063	0.063
182	age3 ~~	age3	0.155	0.000	NA	NA	0.155	0.155
183	age3 ~~	male	0.030	0.000	NA	NA	0.030	0.030
184	age3 ~~	edu	-0.017	0.000	NA	NA	-0.017	-0.017
185	age3 ~~	inc	-0.016	0.000	NA	NA	-0.016	-0.016
186	age3 ~~	imm	-0.010	0.000	NA	NA	-0.010	-0.010
187	age3 ~~	part	0.010	0.000	NA	NA	0.010	0.010
188	age3 ~~	kids	-0.043	0.000	NA	NA	-0.043	-0.043
189	male ~~	male	0.250	0.000	NA	NA	0.250	0.250
190	male ~~	edu	0.001	0.000	NA	NA	0.001	0.001
191	male ~~	inc	-0.003	0.000	NA	NA	-0.003	-0.003
192	male ~~	imm	-0.007	0.000	NA	NA	-0.007	-0.007
193	male ~~	part	0.004	0.000	NA	NA	0.004	0.004
194	male ~~	kids	-0.003	0.000	NA	NA	-0.003	-0.003
195	edu ~~	edu	0.179	0.000	NA	NA	0.179	0.179
196	edu ~~	inc	0.050	0.000	NA	NA	0.050	0.050
197	edu ~~	imm	0.021	0.000	NA	NA	0.021	0.021
198	edu ~~	part	0.016	0.000	NA	NA	0.016	0.016
199	edu ~~	kids	0.015	0.000	NA	NA	0.015	0.015
200	inc ~~	inc	0.191	0.000	NA	NA	0.191	0.191
201	inc ~~	imm	-0.003	0.000	NA	NA	-0.003	-0.003
202	inc ~~	part	0.057	0.000	NA	NA	0.057	0.057
203	inc ~~	kids	0.029	0.000	NA	NA	0.029	0.029
204	imm ~~	imm	0.146	0.000	NA	NA	0.146	0.146
205	imm ~~	part	-0.003	0.000	NA	NA	-0.003	-0.003
206	imm ~~	kids	0.000	0.000	NA	NA	0.000	0.000
207	part ~~	part	0.238	0.000	NA	NA	0.238	0.238

208	part ~~	kids	0.051	0.000	NA	NA	0.051	0.051
209	kids ~~	kids	0.189	0.000	NA	NA	0.189	0.189
210	att1 ~1		2.456	0.086	28.479	0.000	2.287	2.625
211	att3 ~1		2.213	0.082	26.910	0.000	2.052	2.375
212	ccb1 ~1		1.238	0.011	108.159	0.000	1.216	1.261
213	ccb2 ~1		1.319	0.012	108.460	0.000	1.296	1.343
214	ccb3 ~1		1.361	0.017	81.424	0.000	1.328	1.394
215	ccb4 ~1		1.343	0.027	49.019	0.000	1.289	1.396
216	ccb5 ~1		1.227	0.017	73.208	0.000	1.194	1.260
217	ccb6 ~1		1.250	0.012	107.102	0.000	1.227	1.273
218	ccb7 ~1		1.202	0.010	115.351	0.000	1.182	1.223
219	ccb8 ~1		1.237	0.015	83.025	0.000	1.207	1.266
220	skv1 ~1		1.911	0.021	89.085	0.000	1.869	1.953
221	skv2 ~1		2.150	0.025	84.716	0.000	2.100	2.200
222	skv3 ~1		1.981	0.022	90.339	0.000	1.938	2.024
223	skd1 ~1		2.303	0.031	75.485	0.000	2.243	2.363
224	skd2 ~1		2.642	0.036	72.836	0.000	2.571	2.713
225	fcv1 ~1		2.448	0.035	70.145	0.000	2.380	2.516
226	fcv2 ~1		2.877	0.048	59.839	0.000	2.783	2.972
227	fcv3 ~1		1.906	0.022	85.761	0.000	1.862	1.949
228	tpo1 ~1		1.824	0.022	83.445	0.000	1.781	1.867
229	tpo2 ~1		1.872	0.023	83.112	0.000	1.827	1.916
230	tpo3 ~1		1.916	0.024	81.323	0.000	1.870	1.962
231	tpo4 ~1		2.161	0.029	75.123	0.000	2.104	2.217
232	tpo5 ~1		1.740	0.019	90.637	0.000	1.702	1.777
233	tpo6 ~1		1.777	0.020	89.137	0.000	1.738	1.816
234	tsc1 ~1		3.294	0.057	57.736	0.000	3.183	3.406
235	tsc2 ~1		2.853	0.046	62.438	0.000	2.763	2.942
236	tsc3 ~1		2.293	0.034	66.987	0.000	2.226	2.360
237	tsc4 ~1		2.616	0.039	66.316	0.000	2.539	2.694
238	int1 ~1		1.866	0.100	18.656	0.000	1.670	2.062
239	health ~1		3.431	0.000	NA	NA	3.431	3.431
240	risk2 ~1		0.311	0.000	NA	NA	0.311	0.311
241	risk3 ~1		0.153	0.000	NA	NA	0.153	0.153
242	rel ~1		2.622	0.000	NA	NA	2.622	2.622
243	pol ~1		4.859	0.000	NA	NA	4.859	4.859
244	age2 ~1		0.612	0.000	NA	NA	0.612	0.612
245	age3 ~1		0.191	0.000	NA	NA	0.191	0.191
246	male ~1		0.512	0.000	NA	NA	0.512	0.512
247	edu ~1		0.234	0.000	NA	NA	0.234	0.234
248	inc ~1		0.258	0.000	NA	NA	0.258	0.258
249	imm ~1		0.177	0.000	NA	NA	0.177	0.177
250	part ~1		0.611	0.000	NA	NA	0.611	0.611
251	kids ~1		0.252	0.000	NA	NA	0.252	0.252
252	ATT ~1		0.000	0.000	NA	NA	0.000	0.000
253	CCB ~1		0.000	0.000	NA	NA	0.000	0.000
254	SKV ~1		0.000	0.000	NA	NA	0.000	0.000
255	SKD ~1		0.000	0.000	NA	NA	0.000	0.000
256	FCV ~1		0.000	0.000	NA	NA	0.000	0.000
257	TPO ~1		0.000	0.000	NA	NA	0.000	0.000
258	TSC ~1		0.000	0.000	NA	NA	0.000	0.000
259	i_ccb :=	a*b2 i_ccb	-0.101	0.015	-6.641	0.000	-0.131	-0.071
260	i_skv :=	a*c2 i_skv	-0.149	0.019	-7.702	0.000	-0.187	-0.111
261	i_skd :=	a*d2 i_skd	-0.018	0.015	-1.223	0.221	-0.048	0.011
262	i_fcv :=	a*e2 i_fcv	0.186	0.016	11.783	0.000	0.155	0.217
263	i_tpo :=	a*f2 i_tpo	0.011	0.015	0.747	0.455	-0.018	0.040
264	i_tsc :=	a*g2 i_tsc	0.239	0.024	10.083	0.000	0.192	0.285
265	i_hea :=	a*h2 i_hea	-0.012	0.012	-0.967	0.333	-0.035	0.012
266	i_ri2 :=	a*i2 i_ri2	0.007	0.021	0.337	0.736	-0.035	0.049
267	i_ri3 :=	a*j2 i_ri3	0.045	0.032	1.420	0.156	-0.017	0.107
268	i_rel :=	a*k2 i_rel	-0.005	0.005	-0.960	0.337	-0.015	0.005
269	i_pol :=	a*l2 i_pol	0.006	0.005	1.200	0.230	-0.004	0.016
270	i_ag2 :=	a*m2 i_ag2	0.094	0.026	3.615	0.000	0.043	0.144
271	i_ag3 :=	a*n2 i_ag3	0.156	0.033	4.754	0.000	0.092	0.220
272	i_mal :=	a*o2 i_mal	0.102	0.019	5.373	0.000	0.065	0.139
273	i_edu :=	a*p2 i_edu	0.042	0.021	2.015	0.044	0.001	0.082
274	i_inc :=	a*q2 i_inc	0.026	0.021	1.231	0.218	-0.015	0.068
275	i_imm :=	a*r2 i_imm	-0.063	0.024	-2.568	0.010	-0.111	-0.015
276	i_par :=	a*s2 i_par	-0.005	0.021	-0.225	0.822	-0.045	0.036
277	i_kid :=	a*t2 i_kid	-0.042	0.022	-1.904	0.057	-0.086	0.001
278	t_ccb :=	(a*b2)+b1 t_ccb	-0.071	0.022	-3.265	0.001	-0.114	-0.028
279	t_skv :=	(a*c2)+c1 t_skv	-0.158	0.029	-5.530	0.000	-0.214	-0.102
280	t_skd :=	(a*d2)+d1 t_skd	-0.007	0.026	-0.254	0.800	-0.057	0.044
281	t_fcv :=	(a*e2)+e1 t_fcv	0.199	0.023	8.758	0.000	0.154	0.243
282	t_tpo :=	(a*f2)+f1 t_tpo	0.022	0.026	0.826	0.409	-0.030	0.073

```
283  t_tsc := (a*g2)+g1 t_tsc    0.204 0.034   6.003  0.000    0.138  0.271
284  t_hea := (a*h2)+h1 t_hea   -0.006 0.020  -0.305  0.760   -0.046  0.034
285  t_ri2 := (a*i2)+i1 t_ri2    0.006 0.038   0.157  0.875   -0.068  0.080
286  t_ri3 := (a*j2)+j1 t_ri3   -0.013 0.056  -0.237  0.813   -0.122  0.096
287  t_rel := (a*k2)+k1 t_rel   -0.005 0.008  -0.644  0.520   -0.022  0.011
288  t_pol := (a*l2)+l1 t_pol    0.010 0.008   1.185  0.236   -0.006  0.026
289  t_ag2 := (a*m2)+m1 t_ag2    0.076 0.042   1.800  0.072   -0.007  0.159
290  t_ag3 := (a*n2)+n1 t_ag3    0.192 0.055   3.491  0.000    0.084  0.299
291  t_mal := (a*o2)+o1 t_mal    0.059 0.032   1.823  0.068   -0.004  0.123
292  t_edu := (a*p2)+p1 t_edu    0.051 0.039   1.309  0.190   -0.025  0.128
293  t_inc := (a*q2)+q1 t_inc    0.033 0.039   0.858  0.391   -0.043  0.109
294  t_imm := (a*r2)+r1 t_imm   -0.080 0.043  -1.878  0.060   -0.163  0.003
295  t_par := (a*s2)+s1 t_par   -0.022 0.035  -0.626  0.531   -0.091  0.047
296  t_kid := (a*t2)+t1 t_kid   -0.033 0.038  -0.852  0.394   -0.107  0.042
```

"Defined Parameters" (pp. 33-34) are the indirect and total effects of the background factors on vaccination intentions mediated via attitudes toward getting vaccinated. Prefixes "i_" and "t_" refer to indirect and total effects, respectively.

A10. Robustness analysis "Model 3", WLSMV estimator.

```
> # WLSMV (for robustness)
> f3.1 <- sem(m3,data=tpb_data,ordered = c("int1"),estimator="WLSMV")
> summary(f3.1,standardized=TRUE,fit.measures=TRUE,rsquare=TRUE)
lavaan 0.6-9 ended normally after 109 iterations

  Estimator                                         DWLS
  Optimization method                             NLMINB
  Number of model parameters                         144

                                                    Used        Total
  Number of observations                            2537         3532

Model Test User Model:
                                                Standard       Robust
  Test Statistic                               6558.081     4212.034
  Degrees of freedom                                701          701
  P-value (Chi-square)                            0.000        0.000
  Scaling correction factor                                    1.753
  Shift parameter                                            471.565
       simple second-order correction

Model Test Baseline Model:

  Test statistic                             104908.849    15452.338
  Degrees of freedom                                406          406
  P-value                                         0.000        0.000
  Scaling correction factor                                    6.945

User Model versus Baseline Model:

  Comparative Fit Index (CFI)                     0.944        0.767
  Tucker-Lewis Index (TLI)                        0.968        0.865

  Robust Comparative Fit Index (CFI)                             NA
  Robust Tucker-Lewis Index (TLI)                               NA

Root Mean Square Error of Approximation:

  RMSEA                                           0.057        0.044
  90 Percent confidence interval - lower          0.056        0.043
  90 Percent confidence interval - upper          0.059        0.046
  P-value RMSEA <= 0.05                           0.000        1.000

  Robust RMSEA                                                  NA
  90 Percent confidence interval - lower                       NA
  90 Percent confidence interval - upper                       NA

Standardized Root Mean Square Residual:

  SRMR                                            0.046        0.046

Parameter Estimates:

  Standard errors                             Robust.sem
  Information                                   Expected
  Information saturated (h1) model          Unstructured

Latent Variables:
                Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
  ATT =~
    att1           1.000                               1.862    0.946
    att3           1.031    0.027   37.538    0.000    1.920    0.930
  CCB =~
    ccb1           1.000                               1.263    0.876
    ccb2           0.799    0.029   27.226    0.000    1.009    0.649
    ccb3           0.730    0.023   31.554    0.000    0.922    0.754
    ccb4           0.478    0.016   29.142    0.000    0.604    0.584
    ccb5           0.738    0.021   34.559    0.000    0.932    0.769
    ccb6           1.015    0.032   32.195    0.000    1.282    0.865
    ccb7           1.081    0.032   33.427    0.000    1.366    0.897
    ccb8           0.813    0.022   36.793    0.000    1.027    0.810
  SKV =~
    skv1           1.000                               1.335    0.844
```

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```
     skv2              1.113    0.031   35.969   0.000      1.486    0.862
     skv3              1.191    0.031   38.907   0.000      1.590    0.939
  SKD =~
     skd1              1.000                                 1.122    0.729
     skd2              1.053    0.048   21.940   0.000      1.182    0.753
  FCV =~
     fcv1              1.000                                 1.283    0.741
     fcv2              1.274    0.054   23.787   0.000      1.634    0.979
     fcv3              0.841    0.044   18.935   0.000      1.079    0.611
  TPO =~
     tpo1              1.000                                 1.701    0.944
     tpo2              0.969    0.018   55.206   0.000      1.648    0.940
     tpo3              0.964    0.025   39.216   0.000      1.640    0.909
     tpo4              0.866    0.027   31.495   0.000      1.473    0.867
     tpo5              0.813    0.021   39.366   0.000      1.382    0.841
     tpo6              0.807    0.024   33.788   0.000      1.372    0.811
  TSC =~
     tsc1              1.000                                 1.185    0.810
     tsc2              1.168    0.030   38.634   0.000      1.385    0.863
     tsc3              1.423    0.044   32.686   0.000      1.686    0.900
     tsc4              1.038    0.030   34.180   0.000      1.231    0.747

Regressions:
                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
  int1 ~
     ATT      (a)    0.350    0.014   24.327   0.000      0.651    0.634
     CCB      (b1)   0.018    0.016    1.116   0.265      0.023    0.023
     SKV      (c1)  -0.040    0.018   -2.183   0.029     -0.054   -0.052
     SKD      (d1)   0.003    0.022    0.141   0.888      0.003    0.003
     FCV      (e1)   0.029    0.016    1.770   0.077      0.037    0.036
     TPO      (f1)   0.006    0.015    0.402   0.688      0.010    0.010
     TSC      (g1)   0.008    0.026    0.312   0.755      0.010    0.009
     health   (h1)   0.009    0.022    0.427   0.670      0.009    0.008
     risk2    (i1)   0.043    0.044    0.986   0.324      0.043    0.019
     risk3    (j1)  -0.033    0.061   -0.548   0.583     -0.033   -0.012
     rel      (k1)  -0.001    0.009   -0.118   0.906     -0.001   -0.002
     pol      (l1)  -0.002    0.009   -0.188   0.851     -0.002   -0.003
     age2     (m1)   0.047    0.053    0.886   0.376      0.047    0.022
     age3     (n1)   0.131    0.066    1.990   0.047      0.131    0.050
     male     (o1)  -0.054    0.037   -1.459   0.145     -0.054   -0.026
     edu      (p1)   0.020    0.048    0.418   0.676      0.020    0.008
     inc      (q1)   0.052    0.044    1.172   0.241      0.052    0.022
     imm      (r1)  -0.005    0.049   -0.093   0.926     -0.005   -0.002
     part     (s1)  -0.021    0.040   -0.537   0.591     -0.021   -0.010
     kids     (t1)  -0.021    0.045   -0.479   0.632     -0.021   -0.009
  ATT ~
     CCB      (b2)  -0.200    0.021   -9.662   0.000     -0.136   -0.136
     SKV      (c2)  -0.265    0.028   -9.388   0.000     -0.190   -0.190
     SKD      (d2)  -0.030    0.034   -0.895   0.371     -0.018   -0.018
     FCV      (e2)   0.358    0.026   13.905   0.000      0.247    0.247
     TPO      (f2)  -0.005    0.023   -0.197   0.844     -0.004   -0.004
     TSC      (g2)   0.547    0.038   14.568   0.000      0.348    0.348
     health   (h2)   0.010    0.044    0.216   0.829      0.005    0.005
     risk2    (i2)   0.081    0.090    0.896   0.370      0.044    0.020
     risk3    (j2)   0.355    0.125    2.853   0.004      0.191    0.069
     rel      (k2)  -0.008    0.019   -0.416   0.677     -0.004   -0.008
     pol      (l2)  -0.158    0.018   -8.650   0.000     -0.085   -0.165
     age2     (m2)   0.380    0.102    3.716   0.000      0.204    0.099
     age3     (n2)   0.694    0.133    5.198   0.000      0.373    0.147
     male     (o2)   0.296    0.075    3.929   0.000      0.159    0.079
     edu      (p2)   0.656    0.098    6.716   0.000      0.353    0.153
     inc      (q2)   0.303    0.092    3.306   0.001      0.163    0.073
     imm      (r2)  -0.283    0.098   -2.897   0.004     -0.152   -0.057
     part     (s2)   0.155    0.083    1.872   0.061      0.084    0.041
     kids     (t2)  -0.312    0.090   -3.488   0.000     -0.168   -0.073

Covariances:
                   Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
  CCB ~~
     SKV              0.910    0.049   18.580   0.000      0.539    0.539
     SKD              0.595    0.042   14.207   0.000      0.420    0.420
     FCV             -0.398    0.037  -10.632   0.000     -0.245   -0.245
     TPO             -0.656    0.048  -13.623   0.000     -0.306   -0.306
     TSC             -0.693    0.037  -18.624   0.000     -0.463   -0.463
  SKV ~~
```

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        SKD               0.793    0.049   16.198    0.000      0.529    0.529
        FCV              -0.429    0.041  -10.381    0.000     -0.251   -0.251
        TPO              -1.199    0.068  -17.549    0.000     -0.528   -0.528
        TSC              -1.007    0.049  -20.388    0.000     -0.636   -0.636
      SKD ~~
        FCV              -0.472    0.043  -11.089    0.000     -0.328   -0.328
        TPO              -0.634    0.053  -11.907    0.000     -0.332   -0.332
        TSC              -0.572    0.039  -14.610    0.000     -0.430   -0.430
      FCV ~~
        TPO               0.785    0.063   12.527    0.000      0.360    0.360
        TSC               0.649    0.045   14.550    0.000      0.427    0.427
      TPO ~~
        TSC               1.462    0.074   19.857    0.000      0.725    0.725

Intercepts:
                       Estimate  Std.Err  z-value  P(>|z|)   Std.lv   Std.all
       .att1             5.396    0.219   24.678    0.000      5.396    2.743
       .att3             5.211    0.231   22.573    0.000      5.211    2.523
       .ccb1             1.428    0.170    8.384    0.000      1.428    0.990
       .ccb2             1.429    0.187    7.639    0.000      1.429    0.918
       .ccb3             1.654    0.138   11.987    0.000      1.654    1.352
       .ccb4             1.107    0.116    9.547    0.000      1.107    1.069
       .ccb5             1.339    0.145    9.258    0.000      1.339    1.105
       .ccb6             1.645    0.170    9.655    0.000      1.645    1.110
       .ccb7             1.397    0.181    7.704    0.000      1.397    0.918
       .ccb8             1.327    0.147    9.014    0.000      1.327    1.047
       .skv1             2.640    0.182   14.502    0.000      2.640    1.668
       .skv2             3.386    0.202   16.742    0.000      3.386    1.965
       .skv3             2.915    0.197   14.769    0.000      2.915    1.722
       .skd1             3.472    0.175   19.892    0.000      3.472    2.257
       .skd2             3.722    0.179   20.790    0.000      3.722    2.372
       .fcv1             5.209    0.194   26.792    0.000      5.209    3.010
       .fcv2             6.224    0.194   32.127    0.000      6.224    3.728
       .fcv3             4.236    0.199   21.327    0.000      4.236    2.398
       .tpo1             3.111    0.210   14.844    0.000      3.111    1.726
       .tpo2             2.987    0.203   14.737    0.000      2.987    1.704
       .tpo3             3.197    0.211   15.183    0.000      3.197    1.772
       .tpo4             3.304    0.194   17.045    0.000      3.304    1.946
       .tpo5             2.497    0.192   13.028    0.000      2.497    1.520
       .tpo6             3.228    0.196   16.458    0.000      3.228    1.908
       .tsc1             5.067    0.163   31.005    0.000      5.067    3.462
       .tsc2             4.987    0.180   27.752    0.000      4.987    3.110
       .tsc3             4.877    0.215   22.716    0.000      4.877    2.602
       .tsc4             4.310    0.182   23.742    0.000      4.310    2.618
       .int1             0.000                                 0.000    0.000
       .ATT              0.000                                 0.000    0.000
        CCB              0.000                                 0.000    0.000
        SKV              0.000                                 0.000    0.000
        SKD              0.000                                 0.000    0.000
        FCV              0.000                                 0.000    0.000
        TPO              0.000                                 0.000    0.000
        TSC              0.000                                 0.000    0.000

Thresholds:
                       Estimate  Std.Err  z-value  P(>|z|)   Std.lv   Std.all
        int1|t1          -0.896    0.135   -6.626    0.000     -0.896   -0.873
        int1|t2          -0.619    0.134   -4.608    0.000     -0.619   -0.603
        int1|t3          -0.447    0.134   -3.331    0.001     -0.447   -0.435
        int1|t4          -0.262    0.134   -1.952    0.051     -0.262   -0.255
        int1|t5          -0.141    0.134   -1.051    0.293     -0.141   -0.137
        int1|t6           0.078    0.134    0.585    0.558      0.078    0.076

Variances:
                       Estimate  Std.Err  z-value  P(>|z|)   Std.lv   Std.all
       .att1             0.405    0.034   12.008    0.000      0.405    0.105
       .att3             0.580    0.035   16.551    0.000      0.580    0.136
       .ccb1             0.485    0.033   14.557    0.000      0.485    0.233
       .ccb2             1.400    0.045   31.087    0.000      1.400    0.579
       .ccb3             0.645    0.020   32.530    0.000      0.645    0.432
       .ccb4             0.707    0.015   45.927    0.000      0.707    0.659
       .ccb5             0.600    0.018   32.599    0.000      0.600    0.409
       .ccb6             0.551    0.030   18.069    0.000      0.551    0.251
       .ccb7             0.451    0.034   13.355    0.000      0.451    0.195
       .ccb8             0.551    0.020   26.964    0.000      0.551    0.343
       .skv1             0.722    0.034   21.414    0.000      0.722    0.288
```

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```
   .skv2           0.761    0.032   24.063   0.000    0.761    0.256
   .skv3           0.339    0.031   10.759   0.000    0.339    0.118
   .skd1           1.107    0.055   20.068   0.000    1.107    0.468
   .skd2           1.066    0.056   19.048   0.000    1.066    0.433
   .fcv1           1.350    0.078   17.356   0.000    1.350    0.451
   .fcv2           0.116    0.098    1.182   0.237    0.116    0.042
   .fcv3           1.955    0.082   23.762   0.000    1.955    0.627
   .tpo1           0.355    0.036    9.949   0.000    0.355    0.109
   .tpo2           0.355    0.033   10.910   0.000    0.355    0.116
   .tpo3           0.564    0.039   14.452   0.000    0.564    0.173
   .tpo4           0.715    0.046   15.520   0.000    0.715    0.248
   .tpo5           0.789    0.030   26.366   0.000    0.789    0.292
   .tpo6           0.980    0.040   24.782   0.000    0.980    0.342
   .tsc1           0.739    0.025   29.090   0.000    0.739    0.345
   .tsc2           0.655    0.028   23.727   0.000    0.655    0.255
   .tsc3           0.671    0.045   15.034   0.000    0.671    0.191
   .tsc4           1.197    0.038   31.533   0.000    1.197    0.441
   .int1           0.552                              0.552    0.524
   .ATT            1.341    0.053   25.229   0.000    0.387    0.387
    CCB            1.596    0.082   19.467   0.000    1.000    1.000
    SKV            1.784    0.087   20.561   0.000    1.000    1.000
    SKD            1.259    0.083   15.172   0.000    1.000    1.000
    FCV            1.645    0.119   13.806   0.000    1.000    1.000
    TPO            2.893    0.158   18.329   0.000    1.000    1.000
    TSC            1.404    0.067   21.017   0.000    1.000    1.000

Scales y*:
                 Estimate  Std.Err  z-value  P(>|z|)  Std.lv   Std.all
    int1           1.000                              1.000    1.000

R-Square:
                 Estimate
    att1           0.895
    att3           0.864
    ccb1           0.767
    ccb2           0.421
    ccb3           0.568
    ccb4           0.341
    ccb5           0.591
    ccb6           0.749
    ccb7           0.805
    ccb8           0.657
    skv1           0.712
    skv2           0.744
    skv3           0.882
    skd1           0.532
    skd2           0.567
    fcv1           0.549
    fcv2           0.958
    fcv3           0.373
    tpo1           0.891
    tpo2           0.884
    tpo3           0.827
    tpo4           0.752
    tpo5           0.708
    tpo6           0.658
    tsc1           0.655
    tsc2           0.745
    tsc3           0.809
    tsc4           0.559
    int1           0.476
    ATT            0.613

Defined Parameters:
                 Estimate  Std.Err  z-value  P(>|z|)  Std.lv   Std.all
    i_ccb         -0.070    0.008   -8.773   0.000   -0.088   -0.086
    i_skv         -0.093    0.011   -8.747   0.000   -0.124   -0.120
    i_skd         -0.011    0.012   -0.893   0.372   -0.012   -0.012
    i_fcv          0.125    0.011   11.553   0.000    0.160    0.156
    i_tpo         -0.002    0.008   -0.197   0.843   -0.003   -0.003
    i_tsc          0.191    0.015   12.372   0.000    0.227    0.221
    i_hea          0.003    0.015    0.216   0.829    0.003    0.003
    i_ri2          0.028    0.032    0.894   0.371    0.028    0.013
    i_ri3          0.124    0.044    2.795   0.005    0.124    0.044
    i_rel         -0.003    0.007   -0.416   0.678   -0.003   -0.005
```

i_pol	-0.055	0.007	-7.803	0.000	-0.055	-0.104
i_ag2	0.133	0.037	3.636	0.000	0.133	0.063
i_ag3	0.242	0.048	5.011	0.000	0.242	0.093
i_mal	0.103	0.027	3.820	0.000	0.103	0.050
i_edu	0.229	0.037	6.285	0.000	0.229	0.097
i_inc	0.106	0.033	3.258	0.001	0.106	0.046
i_imm	-0.099	0.035	-2.857	0.004	-0.099	-0.036
i_par	0.054	0.029	1.855	0.064	0.054	0.026
i_kid	-0.109	0.032	-3.412	0.001	-0.109	-0.046
t_ccb	-0.051	0.018	-2.880	0.004	-0.065	-0.063
t_skv	-0.133	0.021	-6.287	0.000	-0.177	-0.173
t_skd	-0.007	0.025	-0.294	0.769	-0.008	-0.008
t_fcv	0.154	0.017	9.020	0.000	0.197	0.192
t_tpo	0.004	0.016	0.265	0.791	0.007	0.007
t_tsc	0.199	0.028	7.160	0.000	0.236	0.230
t_hea	0.013	0.028	0.454	0.649	0.013	0.011
t_ri2	0.071	0.056	1.264	0.206	0.071	0.032
t_ri3	0.091	0.074	1.224	0.221	0.091	0.032
t_rel	-0.004	0.012	-0.314	0.753	-0.004	-0.007
t_pol	-0.057	0.011	-5.065	0.000	-0.057	-0.108
t_ag2	0.180	0.068	2.648	0.008	0.180	0.086
t_ag3	0.373	0.084	4.469	0.000	0.373	0.143
t_mal	0.050	0.047	1.060	0.289	0.050	0.024
t_edu	0.249	0.056	4.488	0.000	0.249	0.105
t_inc	0.158	0.056	2.825	0.005	0.158	0.068
t_imm	-0.103	0.061	-1.692	0.091	-0.103	-0.038
t_par	0.033	0.052	0.633	0.526	0.033	0.016
t_kid	-0.131	0.057	-2.291	0.022	-0.131	-0.055

A11. Power analysis "Model 3".

```
> # Power analysis
> p1 <- semPower(type='post-hoc',effect=.05,effect.measure='RMSEA',alpha=.05,N=3110,df=701)
> summary(p1)

 semPower: Post-hoc power analysis

 F0                       1.752500
 RMSEA                    0.050000
 Mc                       0.416341

 df                       701
 Num Observations         3110
 NCP                      5448.522

 Critical Chi-Square      763.7046
 Alpha                    0.050000
 Beta                     < 1.00e-320
 Power (1-beta)           > 0.9999
 Implied Alpha/Beta Ratio > 1.00e-320

> p2 <- semPower(type='compromise',effect=.1,effect.measure='RMSEA',abratio=1,N=3110,df=701)
> summary(p2)

 semPower: Compromise power analysis


 WARNING: Alpha and/or Beta are smaller than 1e-240. Cannot determine critical Chi-Square
exactly due to machine precision.
 F0                       7.010000
 RMSEA                    0.100000
 Mc                       0.030047

 df                       701
 Num Observations         3110
 Desired Alpha/Beta Ratio 1.000000

 Critical Chi-Square      3236.794 < Chi-Square <  13964.40
 Implied Alpha            < 1.00e-320
 Implied Beta             < 1.00e-240
 Implied Power (1-beta)   > 0.9999
 Actual Alpha/Beta Ratio
```

A12. Additional models predicting COVID-19 conspiracy beliefs, skepticism toward vaccines, fear of COVID-19, and trust in science.

```
> ### Predicting background factors
> m4.1 <-'
+ # COVID-19 conspiracy beliefs
+ CCB=~ccb1+ccb2+ccb3+ccb4+ccb5+ccb6+ccb7+ccb8
+ CCB ~ health+risk2+risk3+rel+pol+age2+age3+male+edu+inc+imm+part+kids'
> f4.1 <- sem(m4.1,data=tpb_data,missing="FIML",estimator="MLR")
Warnmeldung:
In lav_data_full(data = data, group = group, cluster = cluster,  :
  lavaan WARNING: 422 cases were deleted due to missing values in
                exogenous variable(s), while fixed.x = TRUE.
> summary(f4.1,standardized=TRUE)
lavaan 0.6-9 ended normally after 61 iterations

  Estimator                                         ML
  Optimization method                           NLMINB
  Number of model parameters                        37

                                                Used       Total
  Number of observations                        3110        3532
  Number of missing patterns                      72

Model Test User Model:
                                            Standard      Robust
  Test Statistic                            1241.839     873.941
  Degrees of freedom                             111         111
  P-value (Chi-square)                         0.000       0.000
  Scaling correction factor                                1.421
        Yuan-Bentler correction (Mplus variant)

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
  CCB =~
    ccb1            1.000                                1.172    0.748
    ccb2            0.985    0.030   32.440    0.000     1.155    0.689
    ccb3            0.907    0.030   30.616    0.000     1.063    0.820
    ccb4            0.700    0.034   20.625    0.000     0.820    0.761
    ccb5            0.951    0.032   29.887    0.000     1.115    0.849
    ccb6            1.166    0.031   37.659    0.000     1.367    0.843
    ccb7            1.148    0.032   35.704    0.000     1.346    0.811
    ccb8            1.012    0.029   34.971    0.000     1.187    0.860

Regressions:
                 Estimate  Std.Err  z-value  P(>|z|)   Std.lv   Std.all
  CCB ~
    health         -0.010    0.029   -0.354    0.724    -0.009   -0.008
    risk2           0.120    0.052    2.327    0.020     0.103    0.048
    risk3           0.104    0.080    1.312    0.190     0.089    0.032
    rel             0.051    0.013    4.067    0.000     0.044    0.082
    pol             0.119    0.013    9.218    0.000     0.102    0.197
    age2           -0.153    0.064   -2.390    0.017    -0.131   -0.064
    age3           -0.327    0.079   -4.130    0.000    -0.279   -0.110
    male           -0.047    0.045   -1.058    0.290    -0.040   -0.020
    edu            -0.356    0.047   -7.636    0.000    -0.304   -0.129
    inc            -0.348    0.048   -7.313    0.000    -0.297   -0.130
    imm             0.172    0.058    2.964    0.003     0.147    0.056
    part           -0.057    0.046   -1.238    0.216    -0.049   -0.024
    kids            0.203    0.054    3.757    0.000     0.174    0.075


Intercepts:
                 Estimate  Std.Err  z-value  P(>|z|)   Std.lv   Std.all
   .ccb1           1.513    0.137   11.064    0.000     1.513    0.965
   .ccb2           1.786    0.136   13.133    0.000     1.786    1.067
   .ccb3           1.374    0.124   11.093    0.000     1.374    1.061
   .ccb4           1.145    0.095   12.029    0.000     1.145    1.063
   .ccb5           1.203    0.129    9.298    0.000     1.203    0.916
```

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```
  .ccb6             1.525    0.159    9.595    0.000    1.525    0.941
  .ccb7             1.502    0.157    9.581    0.000    1.502    0.905
  .ccb8             1.271    0.138    9.235    0.000    1.271    0.921
  .CCB              0.000                               0.000    0.000

Variances:
                   Estimate  Std.Err  z-value  P(>|z|)  Std.lv   Std.all
  .ccb1             1.085    0.059   18.367    0.000    1.085    0.441
  .ccb2             1.472    0.069   21.262    0.000    1.472    0.525
  .ccb3             0.549    0.037   14.899    0.000    0.549    0.327
  .ccb4             0.487    0.029   16.830    0.000    0.487    0.420
  .ccb5             0.480    0.034   14.314    0.000    0.480    0.279
  .ccb6             0.760    0.045   16.849    0.000    0.760    0.289
  .ccb7             0.943    0.059   15.905    0.000    0.943    0.342
  .ccb8             0.496    0.035   14.325    0.000    0.496    0.261
  .CCB              1.227    0.070   17.509    0.000    0.893    0.893

>
> m4.2 <-'
+ # Skepticism toward vaccines
+ SKV=~skv1+skv2+skv3
+ SKV ~ health+risk2+risk3+rel+pol+age2+age3+male+edu+inc+imm+part+kids'
> f4.2 <- sem(m4.2,data=tpb_data,missing="FIML",estimator="MLR")
Warnmeldung:
In lav_data_full(data = data, group = group, cluster = cluster,  :
  lavaan WARNING: 422 cases were deleted due to missing values in
               exogenous variable(s), while fixed.x = TRUE.
> summary(f4.2,standardized=TRUE)
lavaan 0.6-9 ended normally after 53 iterations

  Estimator                                         ML
  Optimization method                           NLMINB
  Number of model parameters                        22

                                                  Used       Total
  Number of observations                          3110        3532
  Number of missing patterns                         8

Model Test User Model:
                                              Standard      Robust
  Test Statistic                                46.484      44.629
  Degrees of freedom                                26          26
  P-value (Chi-square)                           0.008       0.013
  Scaling correction factor                                  1.042
      Yuan-Bentler correction (Mplus variant)

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
  SKV =~
    skv1             1.000                               1.387    0.825
    skv2             1.188    0.021   55.341    0.000    1.648    0.913
    skv3             1.205    0.021   56.912    0.000    1.672    0.935

Regressions:
                   Estimate  Std.Err  z-value  P(>|z|)  Std.lv   Std.all
  SKV ~
    health          -0.055    0.034   -1.643    0.100   -0.040   -0.037
    risk2            0.038    0.060    0.629    0.529    0.027    0.013
    risk3            0.038    0.087    0.438    0.661    0.028    0.010
    rel              0.037    0.014    2.605    0.009    0.027    0.050
    pol              0.133    0.014    9.227    0.000    0.096    0.185
    age2             0.045    0.072    0.627    0.530    0.032    0.016
    age3            -0.028    0.092   -0.301    0.763   -0.020   -0.008
    male            -0.043    0.052   -0.837    0.403   -0.031   -0.016
    edu             -0.530    0.061   -8.673    0.000   -0.382   -0.162
    inc             -0.361    0.061   -5.911    0.000   -0.261   -0.114
    imm              0.208    0.067    3.123    0.002    0.150    0.057
    part            -0.101    0.057   -1.771    0.077   -0.073   -0.036
    kids             0.155    0.063    2.477    0.013    0.112    0.049
```

```
Intercepts:
               Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
   .skv1          2.844    0.156   18.253    0.000    2.844    1.691
   .skv2          3.442    0.185   18.613    0.000    3.442    1.908
   .skv3          3.098    0.187   16.546    0.000    3.098    1.732
   .SKV           0.000                               0.000    0.000

Variances:
               Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
   .skv1          0.904    0.044   20.406    0.000    0.904    0.320
   .skv2          0.539    0.035   15.589    0.000    0.539    0.166
   .skv3          0.405    0.035   11.671    0.000    0.405    0.127
   .SKV           1.736    0.065   26.533    0.000    0.902    0.902

>
> m4.3 <-'
+ # Fear of COVID-19
+ FCV=~fcv1+fcv2+fcv3
+ FCV ~ health+risk2+risk3+rel+pol+age2+age3+male+edu+inc+imm+part+kids'
> f4.3 <- sem(m4.3,data=tpb_data,missing="FIML",estimator="MLR")
Warnmeldung:
In lav_data_full(data = data, group = group, cluster = cluster,  :
  lavaan WARNING: 422 cases were deleted due to missing values in
               exogenous variable(s), while fixed.x = TRUE.
> summary(f4.3,standardized=TRUE)
lavaan 0.6-9 ended normally after 56 iterations

  Estimator                                         ML
  Optimization method                           NLMINB
  Number of model parameters                        22

                                                  Used       Total
  Number of observations                          3110        3532
  Number of missing patterns                         6

Model Test User Model:
                                              Standard      Robust
  Test Statistic                                73.235      71.557
  Degrees of freedom                                26          26
  P-value (Chi-square)                           0.000       0.000
  Scaling correction factor                                  1.023
      Yuan-Bentler correction (Mplus variant)

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
  FCV =~
    fcv1          1.000                               1.577    0.856
    fcv2          0.936    0.022   41.861    0.000    1.476    0.820
    fcv3          0.859    0.022   39.693    0.000    1.354    0.725

Regressions:
               Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
  FCV ~
    health       -0.258    0.039   -6.561    0.000   -0.163   -0.151
    risk2         0.482    0.070    6.864    0.000    0.306    0.141
    risk3         0.857    0.100    8.530    0.000    0.543    0.196
    rel           0.078    0.017    4.669    0.000    0.049    0.092
    pol          -0.115    0.016   -7.210    0.000   -0.073   -0.141
    age2          0.013    0.081    0.155    0.877    0.008    0.004
    age3         -0.072    0.105   -0.690    0.490   -0.046   -0.018
    male         -0.144    0.060   -2.386    0.017   -0.091   -0.046
    edu           0.324    0.071    4.584    0.000    0.205    0.087
    inc           0.073    0.072    1.005    0.315    0.046    0.020
    imm          -0.013    0.078   -0.164    0.870   -0.008   -0.003
    part          0.239    0.066    3.624    0.000    0.152    0.074
    kids         -0.162    0.072   -2.245    0.025   -0.103   -0.045

Intercepts:
```

```
                Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
   .fcv1           5.355    0.185   28.961    0.000    5.355    2.905
   .fcv2           5.966    0.174   34.254    0.000    5.966    3.315
   .fcv3           4.282    0.161   26.631    0.000    4.282    2.293
   .FCV            0.000                               0.000    0.000

Variances:
                Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
   .fcv1           0.911    0.076   11.924    0.000    0.911    0.268
   .fcv2           1.061    0.050   21.382    0.000    1.061    0.328
   .fcv3           1.654    0.056   29.466    0.000    1.654    0.474
   .FCV            2.164    0.089   24.389    0.000    0.870    0.870

>
> m4.4 <-'
+ # Trust in science
+ TSC=~tsc1+tsc2+tsc3+tsc4
+ TSC ~ health+risk2+risk3+rel+pol+age2+age3+male+edu+inc+imm+part+kids'
> f4.4 <- sem(m4.4,data=tpb_data,missing="FIML",estimator="MLR")
Warnmeldung:
In lav_data_full(data = data, group = group, cluster = cluster,  :
  lavaan WARNING: 422 cases were deleted due to missing values in
              exogenous variable(s), while fixed.x = TRUE.
> summary(f4.4,standardized=TRUE)
lavaan 0.6-9 ended normally after 53 iterations

  Estimator                                         ML
  Optimization method                           NLMINB
  Number of model parameters                        25

                                                  Used       Total
  Number of observations                          3110        3532
  Number of missing patterns                         9

Model Test User Model:
                                             Standard      Robust
  Test Statistic                              223.115     208.705
  Degrees of freedom                               41          41
  P-value (Chi-square)                          0.000       0.000
  Scaling correction factor                                 1.069
      Yuan-Bentler correction (Mplus variant)

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
  TSC =~
    tsc1           1.000                               1.306    0.827
    tsc2           1.210    0.024   51.269    0.000    1.581    0.904
    tsc3           1.298    0.027   47.992    0.000    1.696    0.848
    tsc4           1.042    0.021   49.106    0.000    1.362    0.783

Regressions:
                Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
  TSC ~
    health         0.101    0.032    3.118    0.002    0.077    0.071
    risk2          0.119    0.056    2.139    0.032    0.091    0.042
    risk3          0.097    0.080    1.217    0.224    0.075    0.027
    rel            0.007    0.014    0.487    0.626    0.005    0.009
    pol           -0.132    0.013   -9.871    0.000   -0.101   -0.196
    age2           0.002    0.066    0.036    0.971    0.002    0.001
    age3           0.275    0.086    3.180    0.001    0.210    0.083
    male           0.258    0.049    5.294    0.000    0.198    0.099
    edu            0.514    0.055    9.281    0.000    0.394    0.167
    inc            0.269    0.055    4.845    0.000    0.206    0.090
    imm           -0.011    0.060   -0.174    0.862   -0.008   -0.003
    part           0.026    0.054    0.475    0.635    0.020    0.010
    kids          -0.199    0.059   -3.375    0.001   -0.152   -0.066

Intercepts:
                Estimate  Std.Err  z-value  P(>|z|)   Std.lv  Std.all
```

```
  .tsc1              5.089    0.151   33.727   0.000    5.089    3.224
  .tsc2              4.851    0.182   26.594   0.000    4.851    2.775
  .tsc3              4.443    0.195   22.813   0.000    4.443    2.221
  .tsc4              4.433    0.158   28.118   0.000    4.433    2.549
  .TSC               0.000                              0.000    0.000

Variances:
                  Estimate  Std.Err  z-value  P(>|z|)   Std.lv   Std.all
  .tsc1              0.786    0.037   20.959   0.000    0.786    0.315
  .tsc2              0.557    0.035   15.751   0.000    0.557    0.182
  .tsc3              1.127    0.057   19.876   0.000    1.127    0.282
  .tsc4              1.170    0.050   23.232   0.000    1.170    0.387
  .TSC               1.520    0.066   23.120   0.000    0.891    0.891
```