

. use "C:\Users\Lotte\Documents\Symptome - Krankheitsdauer, Krankheitsgruppen\Zusammengeführte Daten\training.dta", clear
. logit Muskelprobleme GrippehnlicheSymptome Atemprobleme HerzKreislaufProbleme Temperregulierungsstrungen Sehstrungen
Iteration 0: log likelihood = -215.03446
Iteration 1: log likelihood = -179.84265
Iteration 2: log likelihood = -173.30795
Iteration 3: log likelihood = -173.24504
Iteration 4: log likelihood = -173.24498
Iteration 5: log likelihood = -173.24498
Logistic regression Number of obs = 512
LR chi2(5) = 83.58
Prob > chi2 = 0.0000
Log likelihood = -173.24498 Pseudo R2 = 0.1943
Muskelprobleme Coef. Std. Err. z P>z [95% Conf. Interval]
GrippehnlicheSymptome .9919999 .2898862 3.42 0.001 .4238333 1.560166
Atemprobleme 1.245409 .322207 3.87 0.000 .6138947 1.876923
HerzKreislaufProbleme .5423693 .3165021 1.71 0.087 -.0779635 1.162702
Temperregulierungsstrungen .8236596 .3034337 2.71 0.007 .2289405 1.418379
Sehstrungen .2510061 .3041925 0.83 0.409 -.3452003 .8472124
_cons -.6233797 .3009746 -2.07 0.038 -1.213279 -.0334803
. pwcorr Muskelprobleme GrippehnlicheSymptome Atemprobleme HerzKreislaufProbleme Temperregulierungsstrungen Sehstrungen
Muskel~e Gripp~me Atempr~e HerzKr~e Temper~n Sehstr~n
Muskelprob~e 1.0000
Grippehnli~e 0.2515 1.0000
Atemprobleme 0.3149 0.1540 1.0000
HerzKreisl~e 0.2731 0.2118 0.3883 1.0000
Temperregu~n 0.2824 0.2142 0.2987 0.3174 1.0000
Sehstrungen 0.2007 0.1590 0.3794 0.2555 0.2366 1.0000
. tetrachoric Muskelprobleme GrippehnlicheSymptome Atemprobleme HerzKreislaufProbleme Temperregulierungsstrungen Sehstrungen
(obs=512)
Muskel~e Gripp~me Atempr~e HerzKr~e Temper~n Sehstr~n
Muskelprob~e 1.0000
Grippehnli~e 0.4506 1.0000
Atemprobleme 0.5583 0.2626 1.0000

HerzKreisl~e 0.4859 0.3720 0.6284 1.0000
Temperregu~n 0.4979 0.3730 0.4945 0.5293 1.0000
Sehstrungen 0.3719 0.2703 0.5693 0.4367 0.4018 1.0000
. factor Muskelprobleme GrippehnlicheSymptome Atemprobleme HerzKreislaufProbleme Temperregulierungsstrungen Sehstrungen, factors(6)
(obs=512)
Factor analysis/correlation Number of obs = 512
Method: principal factors Retained factors = 2
Rotation: (unrotated) Number of params = 11

Factor Eigenvalue Difference Proportion Cumulative
-----+-----
Factor1 1.53617 1.44913 1.3461 1.3461
Factor2 0.08704 0.14702 0.0763 1.4224
Factor3 -0.05998 0.03215 -0.0526 1.3699
Factor4 -0.09213 0.02024 -0.0807 1.2891
Factor5 -0.11237 0.10521 -0.0985 1.1907
Factor6 -0.21758 . -0.1907 1.0000

LR test: independent vs. saturated: chi2(15) = 393.53 Prob>chi2 = 0.0000
Factor loadings (pattern matrix) and unique variances

Variable Factor1 Factor2 Uniqueness
-----+-----+-----
Muskelprob~e 0.4955 0.1151 0.7412
Grippehnli~e 0.3627 0.1793 0.8363
Atemprobleme 0.6041 -0.1357 0.6167
HerzKreisl~e 0.5561 -0.0119 0.6906
Temperregu~n 0.5078 0.0635 0.7382
Sehstrungen 0.4764 -0.1381 0.7539

. rotate, varimax
Factor analysis/correlation Number of obs = 512
Method: principal factors Retained factors = 2
Rotation: orthogonal varimax (Kaiser off) Number of params = 11

Factor Variance Difference Proportion Cumulative
-----+-----

Factor1	1.16027	0.69733	1.0167	1.0167
Factor2	0.46294	0.4057	1.4224	

LR test: independent vs. saturated: $\chi^2(15) = 393.53$ Prob> $\chi^2 = 0.0000$				
Rotated factor loadings (pattern matrix) and unique variances				

Variable	Factor1	Factor2	Uniqueness	
-----+-----+-----				
Muskelprob~e	0.3679	0.3514	0.7412	
Grippehnli~e	0.2208	0.3391	0.8363	
Atemprobleme	0.5890	0.1909	0.6167	
HerzKreisl~e	0.4846	0.2730	0.6906	
Temperregu~n	0.4046	0.3133	0.7382	
Sehstrungen	0.4803	0.1238	0.7539	

Factor rotation matrix				

Factor1	Factor2			
-----+-----				
Factor1	0.8606	0.5093		
Factor2	-0.5093	0.8606		

. sem (Muskelprobleme GrippehnlicheSymptome Atemprobleme HerzKreislaufProbleme Temperregulierungsstrungen Sehstrungen <- Muskel), method(ml)				latent (Muskel)
Endogenous variables				
Measurement: Muskelprobleme GrippehnlicheSymptome Atemprobleme HerzKreislaufProbleme Temperregulierungsstrungen Sehstrungen				
Exogenous variables				
Latent: Muskel				
Fitting target model:				
Iteration 0: log likelihood = -1531.1226				
Iteration 1: log likelihood = -1530.3607				
Iteration 2: log likelihood = -1530.3475				
Iteration 3: log likelihood = -1530.3475				
Structural equation model Number of obs = 512				
Estimation method = ml				
Log likelihood = -1530.3475				
(1) [Muskelprobleme]Muskel = 1				

OIM
Coef. Std. Err. z P>z [95% Conf. Interval]
Measurement
Muskelprobleme <-
Muskel 1 (constrained)
_cons .8515625 .0157125 54.20 0.000 .8207666 .8823584
-----+-----

GrippehnlicheSymptome <-
Muskel .8304327 .1413677 5.87 0.000 .5533572 1.107508
_cons .7675781 .0186666 41.12 0.000 .7309923 .804164
-----+-----

Atemprobleme <-
Muskel 1.742606 .2170817 8.03 0.000 1.317133 2.168078
_cons .6386719 .0212302 30.08 0.000 .5970614 .6802824
-----+-----

HerzKreislaufProbleme <-
Muskel 1.313893 .1683017 7.81 0.000 .984028 1.643758
_cons .8007813 .0176517 45.37 0.000 .7661845 .835378
-----+-----

Temperregulierungsstrungen <-
Muskel 1.187156 .1578812 7.52 0.000 .8777141 1.496597
_cons .7890625 .0180301 43.76 0.000 .7537242 .8244008
-----+-----

Sehstrungen <-
Muskel 1.352514 .1928315 7.01 0.000 .9745712 1.730457
_cons .6035156 .0216183 27.92 0.000 .5611445 .6458868
Variance
e.Muskelprobleme .0950256 .006964 .0823113 .1097037
e.GrippehnlicheSymptome .1567629 .0104589 .1375476 .1786626
e.Atemprobleme .1354844 .0124074 .1132238 .1621216
e.HerzKreislaufProbleme .1053618 .008495 .0899609 .1233993
e.Temperregulierungsstrungen .1222202 .0091191 .1055926 .1414662
e.Sehstrungen .1818844 .0132193 .1577357 .20973
Muskel .0313783 .0063534 .0210999 .0466635
LR test of model vs. saturated: chi2(9) = 20.78, Prob > chi2 = 0.0137

. estat gof, stats(all)
Fit statistic Value Description
Likelihood ratio
chi2_ms(9) 20.780 model vs. saturated
p > chi2 0.014
chi2_bs(15) 395.715 baseline vs. saturated
p > chi2 0.000
Population error
RMSEA 0.051 Root mean squared error of approximation
90% CI, lower bound 0.022
upper bound 0.079
pclose 0.442 Probability RMSEA <= 0.05
Information criteria
AIC 3096.695 Akaike's information criterion
BIC 3172.985 Bayesian information criterion
Baseline comparison
CFI 0.969 Comparative fit index
TLI 0.948 Tucker-Lewis index
Size of residuals
SRMR 0.029 Standardized root mean squared residual
CD 0.703 Coefficient of determination
. estat mindices
Modification indices
Standard
MI df P>MI EPC EPC
Covariance
e.Muskelprobleme
e.GrippehnlicheSymptome 6.045 1 0.01 .0150231 .1230882
-----+-----
e.GrippehnlicheSymptome
e.Atemprobleme 8.052 1 0.00 -.0235995 -.1619332
-----+-----
e.Atemprobleme
e.Sehstrungen 10.135 1 0.00 .0320796 .2043559
EPC = expected parameter change

Factor analysis/correlation	Number of obs	=	512
Method: principal factors	Retained factors	=	2
Rotation: (unrotated)	Number of params	=	11

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	1.53617	1.44913	1.3461	1.3461
Factor2	0.08704	0.14702	0.0763	1.4224
Factor3	-0.05998	0.03215	-0.0526	1.3699
Factor4	-0.09213	0.02024	-0.0807	1.2891
Factor5	-0.11237	0.10521	-0.0985	1.1907
Factor6	-0.21758	.	-0.1907	1.0000

Factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Uniqueness
Muskelprob- e	0.4955	0.1151	0.7412
Grippehli- e	0.3627	0.1793	0.8363
Atemprobleme	0.6041	-0.1357	0.6167
Herzkreisli- e	0.5561	-0.0119	0.6906
Temperregu- n	0.5078	0.0635	0.7382
Sehstrungen	0.4764	-0.1381	0.7539

Factor analysis/correlation	Number of obs	=	512
Method: principal factors	Retained factors	=	2
Rotation: orthogonal varimax (Kaiser off)	Number of params	=	11

Factor	Variance	Difference	Proportion	Cumulative
Factor1	1.16027	0.69733	1.0167	1.0167
Factor2	0.46294	.	0.4057	1.4224

Rotated factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Uniqueness
Muskelproble	0.3679	0.3514	0.7412
Grippehnl	0.2208	0.3391	0.8363
Atemprobleme	0.5890	0.1909	0.6167
Herzkreisl	0.4846	0.2730	0.6906
Temperregu	0.4046	0.3133	0.7382
Sehstörungen	0.4803	0.1238	0.7539

	Factor1	Factor2
Factor1	0.8606	0.5093
Factor2	-0.5093	0.8606

```
. logit Muskelprobleme GrippehnlicheSymptome Atemprobleme HerzKreislaufProbleme Temperregulierungsstrungen Sehstrungen
```

```
Iteration 0: log likelihood = -215.03446
Iteration 1: log likelihood = -179.84265
Iteration 2: log likelihood = -173.30795
Iteration 3: log likelihood = -173.24504
Iteration 4: log likelihood = -173.24498
Iteration 5: log likelihood = -173.24498
```

```
Logistic regression      Number of obs   =      512
                        LR chi2(5)         =      83.58
                        Prob > chi2        =      0.0000
Log likelihood = -173.24498      Pseudo R2      =      0.1943
```

Muskelprobleme	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
GrippehnlicheSymptome	.9919999	.2898862	3.42	0.001	.4238333	1.560166
Atemprobleme	1.245409	.322207	3.87	0.000	.6138947	1.876923
HerzKreislaufProbleme	.5423693	.3165021	1.71	0.087	-.0779635	1.162702
Temperregulierungsstrungen	.8236596	.3034337	2.71	0.007	.2289405	1.418379
Sehstrungen	.2510061	.3041925	0.83	0.409	-.3452003	.8472124
_cons	-.6233797	.3009746	-2.07	0.038	-1.213279	-.0334803

```
. pwcorr Muskelprobleme GrippehnlicheSymptome Atemprobleme HerzKreislaufProbleme Temperregulierungsstrungen Sehstrungen
```

	Muskel~e	Gripp~me	Atempr~e	HerzKr~e	Temper~n	Sehstr~n
Muskelprob~e	1.0000					
Grippehnli~e	0.2515	1.0000				
Atemprobleme	0.3149	0.1540	1.0000			
HerzKreisl~e	0.2731	0.2118	0.3883	1.0000		
Temperregu~n	0.2824	0.2142	0.2987	0.3174	1.0000	
Sehstrungen	0.2007	0.1590	0.3794	0.2555	0.2366	1.0000

```
. tetrachoric Muskelprobleme GrippehnlicheSymptome Atemprobleme HerzKreislaufProbleme Temperregulierungsstrungen Sehstrungen
(obs=512)
```

	Muskel~e	Gripp~me	Atempr~e	HerzKr~e	Temper~n	Sehstr~n
Muskelprob~e	1.0000					
Grippehnli~e	0.4506	1.0000				
Atemprobleme	0.5583	0.2626	1.0000			
HerzKreisl~e	0.4859	0.3720	0.6284	1.0000		
Temperregu~n	0.4979	0.3730	0.4945	0.5293	1.0000	
Sehstrungen	0.3719	0.2703	0.5693	0.4367	0.4018	1.0000

LR test of model vs. saturated: $\chi^2(9) = 20.78$, Prob > $\chi^2 = 0.0137$

.

. bysort Geschlecht: logit Muskelprobleme GrippehnlicheSymptome Atemprobleme HerzKreislaufProbleme Temperregulierungsstrungen Sehstrungen

-> Geschlecht = 1

Iteration 0: log likelihood = -172.40281
Iteration 1: log likelihood = -144.829
Iteration 2: log likelihood = -139.00725
Iteration 3: log likelihood = -138.95654
Iteration 4: log likelihood = -138.9565
Iteration 5: log likelihood = -138.9565

Logistic regression Number of obs = 421
 LR chi2(5) = 66.89
 Prob > chi2 = 0.0000
Log likelihood = -138.9565 Pseudo R2 = 0.1940

Muskelprobleme	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
GrippehnlicheSymptome	1.122562	.3212354	3.49	0.000	.4929523	1.752172
Atemprobleme	.8927922	.3466668	2.58	0.010	.2133378	1.572247
HerzKreislaufProbleme	.7040595	.3592616	1.96	0.050	-.0000802	1.408199
Temperregulierungsstrungen	.7804381	.353906	2.21	0.027	.086795	1.474081
Sehstrungen	.5363867	.3434961	1.56	0.118	-.1368533	1.209627
_cons	-.8121742	.3549337	-2.29	0.022	-1.507831	-.1165169

-> Geschlecht = 2

note: Atemprobleme != 0 predicts success perfectly
Atemprobleme dropped and 43 obs not used

Iteration 0: log likelihood = -30.55268
Iteration 1: log likelihood = -26.8957
Iteration 2: log likelihood = -26.822809
Iteration 3: log likelihood = -26.822756
Iteration 4: log likelihood = -26.822756

Logistic regression Number of obs = 48
 LR chi2(4) = 7.46
 Prob > chi2 = 0.1135
Log likelihood = -26.822756 Pseudo R2 = 0.1221

Muskelprobleme	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
GrippehnlicheSymptome	.8867199	.8071127	1.10	0.272	-.695192	2.468632
Atemprobleme	0	(omitted)				
HerzKreislaufProbleme	-.3166816	.7808798	-0.41	0.685	-1.847178	1.213815
Temperregulierungsstrungen	1.348786	.7141643	1.89	0.059	-.0509508	2.748522
Sehstrungen	-1.192766	.715947	-1.67	0.096	-2.595996	.2104643
_cons	.0508938	.6232912	0.08	0.935	-1.170734	1.272522

.

. bysort Geschlecht: pwcorr Muskelprobleme GrippehnlicheSymptome Atemprobleme HerzKreislaufProbleme Temperregulierungsstrungen Sehstrungen

-> Geschlecht = 1

	Muskel-e Gripp-me Atempr-e HerzKr-e Temper-n Sehstr-n					
Muskelprob-e	1.0000					
Grippehnli-e	0.2676	1.0000				
Atemprobleme	0.2824	0.1587	1.0000			
HerzKreisl-e	0.2719	0.1645	0.3391	1.0000		
Temperregu-n	0.2817	0.2003	0.3009	0.3418	1.0000	
Sehstrungen	0.2294	0.1602	0.3667	0.2620	0.2495	1.0000

-> Geschlecht = 2

	Muskel-e Gripp-me Atempr-e HerzKr-e Temper-n Sehstr-n					
Muskelprob-e	1.0000					
Grippehnli-e	0.1821	1.0000				
Atemprobleme	0.4372	0.1169	1.0000			
HerzKreisl-e	0.2687	0.3755	0.5184	1.0000		
Temperregu-n	0.2771	0.2538	0.2159	0.1930	1.0000	
Sehstrungen	0.0772	0.1506	0.4444	0.2305	0.1907	1.0000

. bysort Geschlecht: factor Muskelprobleme GrippehnlicheSymptome Atemprobleme HerzKreislaufProbleme Temperregulierungsstrungen Sehstrungen, factors(6)

-> Geschlecht = 1
(obs=421)

Factor analysis/correlation Number of obs = 421
Method: principal factors Retained factors = 2
Rotation: (unrotated) Number of params = 11

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	1.50298	1.42598	1.3707	1.3707
Factor2	0.07699	0.10113	0.0702	1.4409
Factor3	-0.02414	0.10260	-0.0220	1.4189
Factor4	-0.12674	0.02608	-0.1156	1.3033
Factor5	-0.15282	0.02694	-0.1394	1.1639
Factor6	-0.17976	.	-0.1639	1.0000

LR test: independent vs. saturated: chi2(15) = 309.08 Prob>chi2 = 0.0000

Factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Uniqueness
Muskelprob-e	0.5003	0.1284	0.7332
Grippehnli-e	0.3531	0.1843	0.8413
Atemprobleme	0.5668	-0.1145	0.6656
HerzKreisli-e	0.5362	-0.0430	0.7107
Temperregu-n	0.5268	0.0200	0.7221
Sehstrungen	0.4917	-0.1056	0.7471

-> Geschlecht = 2
(obs=91)

Factor analysis/correlation Number of obs = 91
Method: principal factors Retained factors = 4
Rotation: (unrotated) Number of params = 15

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	1.68616	1.40549	0.9847	0.9847
Factor2	0.28067	0.11386	0.1639	1.1486
Factor3	0.16680	0.08736	0.0974	1.2460
Factor4	0.07944	0.26839	0.0464	1.2924
Factor5	-0.18895	0.12284	-0.1103	1.1821
Factor6	-0.31179	.	-0.1821	1.0000

LR test: independent vs. saturated: chi2(15) = 98.98 Prob>chi2 = 0.0000

Factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Factor4	Uniqueness
Muskelprob-e	0.4938	0.0630	-0.2969	0.0171	0.6637
Grippehnli-e	0.3924	0.3472	0.1381	0.0025	0.7064
Atemprobleme	0.7309	-0.2685	-0.0592	-0.0399	0.3887
HerzKreisli-e	0.6360	0.0901	0.0964	-0.1696	0.5493
Temperregu-n	0.3896	0.1725	-0.0495	0.1781	0.7843
Sehstrungen	0.4449	-0.2150	0.2106	0.1307	0.6944

. rotate, varimax

Factor analysis/correlation Number of obs = 91
Method: principal factors Retained factors = 4
Rotation: orthogonal varimax (Kaiser off) Number of params = 15

Factor	Variance	Difference	Proportion	Cumulative
Factor1	1.25973	0.70990	0.7357	0.7357
Factor2	0.54983	0.27034	0.3211	1.0568
Factor3	0.27949	0.15546	0.1632	1.2200
Factor4	0.12403	.	0.0724	1.2924

LR test: independent vs. saturated: chi2(15) = 98.98 Prob>chi2 = 0.0000

Rotated factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Factor4	Uniqueness
Muskelprob-e	0.3870	0.1501	0.4010	-0.0561	0.6637
Grippehnli-e	0.1417	0.5016	0.1227	0.0828	0.7064
Atemprobleme	0.7603	0.1132	0.1316	0.0560	0.3887
HerzKreisli-e	0.5085	0.4327	0.0612	-0.0345	0.5493
Temperregu-n	0.2093	0.2562	0.2771	0.1715	0.7843
Sehstrungen	0.4576	0.1004	-0.0759	0.2834	0.6944

Factor rotation matrix

	Factor1	Factor2	Factor3	Factor4
Factor1	0.8368	0.4586	0.2701	0.1285
Factor2	-0.5237	0.7653	0.3641	-0.0864
Factor3	-0.0320	0.4086	-0.8015	0.4354
Factor4	-0.1565	-0.1924	0.3899	0.8868

```
. bysort Geschlecht: sem Muskelprobleme GrippehnlicheSymptome Atemprobleme HerzKreislaufProbleme Temperregulierungsstrungen Sehstrungen <- Muskel, method(ml) latent (Muskel)
```

```
-> Geschlecht = 1
```

Endogenous variables

Measurement: Muskelprobleme GrippehnlicheSymptome Atemprobleme HerzKreislaufProbleme Temperregulierungsstrungen Sehstrungen

Exogenous variables

Latent: Muskel

Fitting target model:

```
Iteration 0: log likelihood = -1201.2876
Iteration 1: log likelihood = -1200.8048
Iteration 2: log likelihood = -1200.7903
Iteration 3: log likelihood = -1200.7903
```

Structural equation model
Estimation method = ml
Log likelihood = -1200.7903
Number of obs = 421

(1) [Muskelprobleme]Muskel = 1

		OIM				
		Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
Measurement						
Muskelprobleme <-		1 (constrained)				
	Muskel	.8574822	.0170375	50.33	0.000	.8240893 .8908751
GrippehnlicheSymptome <-						
	Muskel	.8144617	.154104	5.29	0.000	.5124234 1.1165
	_cons	.7743468	.0203726	38.01	0.000	.7344171 .8142764
Atemprobleme <-						
	Muskel	1.585579	.2266173	7.00	0.000	1.141417 2.02974
	_cons	.6745843	.0228347	29.54	0.000	.629829 .7193396
HerzKreislaufProbleme <-						
	Muskel	1.218125	.1763142	6.91	0.000	.8725557 1.563695
	_cons	.8218527	.0186486	44.07	0.000	.7853022 .8584033
Temperregulierungsstrungen <-						
	Muskel	1.195774	.1732766	6.90	0.000	.8561583 1.53539
	_cons	.8171021	.0188409	43.37	0.000	.7801747 .8540296
Sehstrungen <-						
	Muskel	1.402172	.2165989	6.47	0.000	.9776456 1.826698
	_cons	.608076	.0237924	25.56	0.000	.5614437 .6547083
Variance						
	e.Muskelprobleme	.0911884	.0074755			.0776532 .1070828
	e.GrippehnlicheSymptome	.154158	.0113343			.1334696 .1780532
	e.Atemprobleme	.1415388	.0131667			.1179485 .1698474
	e.HerzKreislaufProbleme	.1003852	.0087617			.0846011 .1191141
	e.Temperregulierungsstrungen	.1050941	.00901			.0888388 .1243238
	e.Sehstrungen	.1773352	.0145573			.1509804 .2062906
	Muskel	.0310181	.0069155			.0200373 .0480167

LR test of model vs. saturated: chi2(9) = 14.94, Prob > chi2 = 0.0927

```
-> Geschlecht = 2
```

Endogenous variables

Measurement: Muskelprobleme GrippehnlicheSymptome Atemprobleme HerzKreislaufProbleme Temperregulierungsstrungen Sehstrungen

Exogenous variables

Latent: Muskel

Fitting target model:

```
Iteration 0: log likelihood = -310.31308
Iteration 1: log likelihood = -307.69621
Iteration 2: log likelihood = -307.30639
Iteration 3: log likelihood = -307.29287
Iteration 4: log likelihood = -307.29282
Iteration 5: log likelihood = -307.29282
```

Structural equation model
Estimation method = ml
Log likelihood = -307.29282
Number of obs = 91

(1) [Muskelprobleme]Muskel = 1

		OIM				
		Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
Measurement						
Muskelprobleme <-		1 (constrained)				
	Muskel	.8241758	.0399051	20.65	0.000	.7459632 .9023884
GrippehnlicheSymptome <-						
	Muskel	.6589518	.3450473	1.91	0.056	-.0173285 1.335232
	_cons	.7362637	.0461935	15.94	0.000	.6457261 .8268013
Atemprobleme <-						
	Muskel	2.203502	.570001	3.87	0.000	1.086321 3.320684
	_cons	.4725275	.0523351	9.03	0.000	.3699526 .5751023
HerzKreislaufProbleme <-						
	Muskel	1.518708	.4160507	3.65	0.000	.7032638 2.334153
	_cons	.7032967	.0478861	14.69	0.000	.6094416 .7971518
Temperregulierungsstrungen <-						
	Muskel	.8200374	.3404734	2.41	0.016	.1527218 1.487353
	_cons	.6593407	.0496815	13.27	0.000	.5619668 .7567145
Sehstrungen <-						
	Muskel	1.236001	.4049116	3.05	0.002	.4423891 2.029613
	_cons	.5824176	.0516973	11.27	0.000	.4810928 .6837424
Variance						
	e.Muskelprobleme	.1097202	.0179968			.0795552 .1513228
	e.GrippehnlicheSymptome	.1788994	.0284175			.1310384 .2442414
	e.Atemprobleme	.0783838	.0378163			.0304484 .2017848
	e.HerzKreislaufProbleme	.127506	.0257263			.0858594 .1893536
	e.Temperregulierungsstrungen	.2009468	.0314169			.147911 .2729992
	e.Sehstrungen	.1894479	.0307062			.1378875 .2602883
	Muskel	.0351898	.0160073			.0144284 .0858253

LR test of model vs. saturated: chi2(9) = 25.77, Prob > chi2 = 0.0022

. estat gof, stats(all)

Fit statistic	Value	Description
Likelihood ratio		
chi2_ms(9)	25.772	model vs. saturated
p > chi2	0.002	
chi2_bs(15)	102.159	baseline vs. saturated
p > chi2	0.000	
Population error		
RMSEA	0.143	Root mean squared error of approximation
90% CI, lower bound	0.080	
upper bound	0.209	
pclose	0.011	Probability RMSEA <= 0.05
Information criteria		
AIC	650.586	Akaike's information criterion
BIC	695.781	Bayesian information criterion
Baseline comparison		
CFI	0.808	Comparative fit index
TLI	0.679	Tucker-Lewis index
Size of residuals		
SRMR	0.070	Standardized root mean squared residual
CD	0.784	Coefficient of determination

. estat mindices

Modification indices

	MI	df	P>MI	EPC	Standard EPC
Covariance					
e.Muskelprobleme					
e.Sehstrungen	4.770	1	0.03	-.0375671	-.2605672
e.GrippehnlicheSymptome					
e.Atemprobleme	12.430	1	0.00	-.0754893	-.6374816
e.HerzKreislaufProbleme	8.559	1	0.00	.053134	.3518053
e.Atemprobleme					
e.Sehstrungen	5.307	1	0.02	.0638322	.5238197

EPC = expected parameter change

.

```
. bysort dauer_kati: logit Muskelprobleme GrippehnlicheSymptome Atemprobleme HerzKreislaufProbleme Temperregulierungsstrungen Sehstrungen if dauer_kati<4
```

```
-> dauer_kati = =2 J
```

```
Iteration 0: log likelihood = -25.900577
Iteration 1: log likelihood = -20.657638
Iteration 2: log likelihood = -18.07722
Iteration 3: log likelihood = -17.97205
Iteration 4: log likelihood = -17.971617
Iteration 5: log likelihood = -17.971617
```

```
Logistic regression      Number of obs =      79
                        LR chi2(5)    =     15.86
                        Prob > chi2    =     0.0073
Log likelihood = -17.971617      Pseudo R2    =     0.3061
```

Muskelprobleme	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
GrippehnlicheSymptome	1.148334	.9442616	1.22	0.224	-.7023844	2.999053
Atemprobleme	2.616261	1.371659	1.91	0.056	-.0721416	5.304664
HerzKreislaufProbleme	-.4698647	.9585453	-0.49	0.624	-2.348579	1.40885
Temperregulierungsstrungen	1.66969	.9674087	1.73	0.084	-.2263961	3.565776
Sehstrungen	-.1392217	1.022899	-0.14	0.892	-2.144067	1.865624
_cons	.0309093	.8965201	0.03	0.972	-1.726238	1.788056

```
-> dauer_kati = 3-8 J
```

```
Iteration 0: log likelihood = -41.435421
Iteration 1: log likelihood = -33.511246
Iteration 2: log likelihood = -32.238728
Iteration 3: log likelihood = -32.223534
Iteration 4: log likelihood = -32.223517
Iteration 5: log likelihood = -32.223517
```

```
Logistic regression      Number of obs =      95
                        LR chi2(5)    =     18.42
                        Prob > chi2    =     0.0025
Log likelihood = -32.223517      Pseudo R2    =     0.2223
```

Muskelprobleme	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
GrippehnlicheSymptome	1.572862	.6741782	2.33	0.020	.251497	2.894227
Atemprobleme	1.025212	.7269141	1.41	0.158	-.3995136	2.449937
HerzKreislaufProbleme	1.543663	.7313256	2.11	0.035	.1102908	2.977034
Temperregulierungsstrungen	.3621285	.7391048	0.49	0.624	-1.08649	1.810747
Sehstrungen	.0392362	.6910426	0.06	0.955	-1.315182	1.393655
_cons	-1.204722	.8371439	-1.44	0.150	-2.845494	.4360501

```
-> dauer_kati = >8 J
```

```
Iteration 0: log likelihood = -53.51274
Iteration 1: log likelihood = -40.700389
Iteration 2: log likelihood = -38.623573
Iteration 3: log likelihood = -38.57543
Iteration 4: log likelihood = -38.575354
Iteration 5: log likelihood = -38.575354
```

```
Logistic regression      Number of obs =     117
                        LR chi2(5)    =     29.87
                        Prob > chi2    =     0.0000
Log likelihood = -38.575354      Pseudo R2    =     0.2791
```

Muskelprobleme	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
GrippehnlicheSymptome	1.046572	.6673712	1.57	0.117	-.2614513	2.354596
Atemprobleme	2.360005	.7645352	3.09	0.002	.8615439	3.858467
HerzKreislaufProbleme	-.0491934	.6858494	-0.07	0.943	-1.393434	1.295047
Temperregulierungsstrungen	1.392539	.6503373	2.14	0.032	.1179014	2.667177
Sehstrungen	-.6200636	.687485	-0.90	0.367	-1.967509	.7273822
_cons	-.7617156	.6568932	-1.16	0.246	-2.049203	.5257714

```
-> dauer_kati = 4
no observations
```

```
.
```

Total | 506 100.00

. bysort dauer_kati: pwcorr Muskelprobleme GrippehnlicheSymptome Atemprobleme HerzKreislaufProbleme Temperregulierungsstrungen Sehstrungen if dauer_kati<4

-> dauer_kati = ~2 J

	Muskel-e	Gripp-me	Atempr-e	HerzKr-e	Temper-n	Sehstr-n
Muskelprob-e	1.0000					
Grippehnli-e	0.1779	1.0000				
Atemprobleme	0.3537	0.0173	1.0000			
HerzKreisl-e	0.1305	0.1730	0.3041	1.0000		
Temperregu-n	0.3679	0.2865	0.3740	0.3124	1.0000	
Sehstrungen	0.1411	0.1294	0.4199	0.0561	0.0132	1.0000

-> dauer_kati = 3-8 J

	Muskel-e	Gripp-me	Atempr-e	HerzKr-e	Temper-n	Sehstr-n
Muskelprob-e	1.0000					
Grippehnli-e	0.2522	1.0000				
Atemprobleme	0.2677	-0.0283	1.0000			
HerzKreisl-e	0.3608	0.0472	0.3819	1.0000		
Temperregu-n	0.1596	-0.0162	0.2306	0.2089	1.0000	
Sehstrungen	0.1668	0.1116	0.2942	0.2782	0.2277	1.0000

-> dauer_kati = >8 J

	Muskel-e	Gripp-me	Atempr-e	HerzKr-e	Temper-n	Sehstr-n
Muskelprob-e	1.0000					
Grippehnli-e	0.2896	1.0000				
Atemprobleme	0.3974	0.1488	1.0000			
HerzKreisl-e	0.2463	0.1472	0.4392	1.0000		
Temperregu-n	0.3703	0.3636	0.2490	0.3823	1.0000	
Sehstrungen	0.1585	0.0944	0.4707	0.2918	0.2244	1.0000

```
. bysort dauer_kati: factor Muskelprobleme GrippehnlicheSymptome Atemprobleme HerzKreislaufProbleme Temperregulierungsstrungen Sehstrungen if dauer_kati<4, factors(6)
```

```
-> dauer_kati = ~2 J  
(obs=79)
```

```
Factor analysis/correlation      Number of obs   =   79  
Method: principal factors        Retained factors =    4  
Rotation: (unrotated)           Number of params =   15
```

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	1.42313	1.02668	0.9705	0.9705
Factor2	0.39645	0.27657	0.2704	1.2408
Factor3	0.11988	0.07602	0.0817	1.3226
Factor4	0.04386	0.23097	0.0299	1.3525
Factor5	-0.18711	0.14268	-0.1276	1.2249
Factor6	-0.32980	.	-0.2249	1.0000

LR test: independent vs. saturated: $\chi^2(15) = 68.82$ Prob> $\chi^2 = 0.0000$

Factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Factor4	Uniqueness
Muskelprob-e	0.4988	0.0566	-0.0004	-0.1409	0.7282
Grippehnl-e	0.3039	0.2371	0.2627	0.0272	0.7817
Atemprobleme	0.6628	-0.2733	-0.1161	0.0096	0.4725
HerzKreisl-e	0.4131	0.1329	-0.0746	0.1488	0.7840
Temperregu-n	0.5895	0.2857	-0.0540	-0.0232	0.5674
Sehstrungen	0.3529	-0.4038	0.1700	0.0222	0.6830

```
-> dauer_kati = 3-8 J  
(obs=95)
```

```
Factor analysis/correlation      Number of obs   =   95  
Method: principal factors        Retained factors =    3  
Rotation: (unrotated)           Number of params =   15
```

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	1.26969	1.01842	1.2487	1.2487
Factor2	0.25127	0.23956	0.2471	1.4958
Factor3	0.01171	0.09441	0.0115	1.5073
Factor4	-0.08271	0.08494	-0.0813	1.4259
Factor5	-0.16765	0.09783	-0.1649	1.2611
Factor6	-0.26548	.	-0.2611	1.0000

LR test: independent vs. saturated: $\chi^2(15) = 58.96$ Prob> $\chi^2 = 0.0000$

Factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Uniqueness
Muskelprob-e	0.5050	0.2453	-0.0342	0.6837
Grippehnl-e	0.1561	0.3751	0.0366	0.8336
Atemprobleme	0.5479	-0.1608	-0.0218	0.6735
HerzKreisl-e	0.5887	-0.0287	-0.0424	0.6509
Temperregu-n	0.3680	-0.1443	0.0434	0.8419
Sehstrungen	0.4563	-0.0534	0.0711	0.7839

```
-> dauer_kati = >8 J  
(obs=117)
```

```
Factor analysis/correlation      Number of obs   =  117  
Method: principal factors        Retained factors =    3  
Rotation: (unrotated)           Number of params =   15
```

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	1.74333	1.38007	1.0692	1.0692
Factor2	0.36326	0.33279	0.2228	1.2920
Factor3	0.03046	0.07461	0.0187	1.3107
Factor4	-0.04415	0.13068	-0.0271	1.2837
Factor5	-0.17483	0.11282	-0.1072	1.1764
Factor6	-0.28765	.	-0.1764	1.0000

LR test: independent vs. saturated: $\chi^2(15) = 126.03$ Prob> $\chi^2 = 0.0000$

Factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Uniqueness
Muskelprob-e	0.5382	0.1752	-0.1078	0.6680
Grippehnl-e	0.3728	0.3243	-0.0108	0.7557
Atemprobleme	0.6582	-0.2637	-0.0623	0.4934
HerzKreisl-e	0.5693	-0.0933	0.0970	0.6578
Temperregu-n	0.5697	0.2611	0.0724	0.6020
Sehstrungen	0.4825	-0.2845	0.0137	0.6861


```
. bysort dauer_kati: oem Muskelprobleme GrippehlicheSymptome Atemprobleme HerzKreislaufProbleme Temperregulierungsstrungen Sehatrungen <- Muskel if dauer_kati<4, method(ml
> ) latent (Muskel)
```

```
=> dauer_kati = -2 2
```

Endogenous variables

Measurement: Muskelprobleme GrippehlicheSymptome Atemprobleme HerzKreislaufProbleme Temperregulierungsstrungen Sehatrungen

Exogenous variables

Latent: Muskel

Fitting target model:

```
Iteration 0: log likelihood = -241.50119
Iteration 1: log likelihood = -241.21255
Iteration 2: log likelihood = -241.20219
Iteration 3: log likelihood = -241.20205
Iteration 4: log likelihood = -241.20205
```

Structural equation model
Estimation method = ml
Log likelihood = -241.20205

(1) (Muskelprobleme)Muskel = 1		OIM				
		Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
Measurement						
Muskelprobleme <-						
	Muskel	1 (constrained)				
	_cons	.6987342	.0339417	26.48	0.000	.8322097 .9652587
GrippehlicheSymptome <-						
	Muskel	.6916682	.4570544	1.51	0.131	-.2047402 1.588078
	_cons	.7341772	.049703	14.77	0.000	.636761 .8315934
Atemprobleme <-						
	Muskel	2.181712	.8809572	2.48	0.013	.4550681 3.908357
	_cons	.6329114	.0542305	11.67	0.000	.5266216 .7392022
HerzKreislaufProbleme <-						
	Muskel	1.096773	.4446797	2.47	0.014	-.2521771 1.968329
	_cons	.7848101	.0462359	16.97	0.000	.6941894 .8754309
Temperregulierungsstrungen <-						
	Muskel	1.633825	.5245397	3.11	0.002	.6057456 2.661903
	_cons	.7341772	.049703	14.77	0.000	.636761 .8315934
Sehatrungen <-						
	Muskel	1.137201	.6597304	1.72	0.085	-.3558471 2.430249
	_cons	.5822785	.0554875	10.49	0.000	.473525 .691032
Variance						
	e.Muskelprobleme	.0667677	.0135481			.0448586 .0937772
	e.GrippehlicheSymptome	.181583	.0344508			.1312223 .2588488
	e.Atemprobleme	.1169393	.051485			.0493402 .2771534
	e.HerzKreislaufProbleme	.1397206	.049703			.0984205 .1983513
	e.Temperregulierungsstrungen	.1304462	.0355449			.0764698 .2225221
	e.Sehatrungen	.2118781	.0402983			.1459457 .3075961
	Muskel	.0245434	.0123433			.0082342 .0608506

LR test of model vs. saturated: chi2(9) = 23.63, Prob > chi2 = 0.0049

```
=> dauer_kati = 3-6 2
```

Endogenous variables

Measurement: Muskelprobleme GrippehlicheSymptome Atemprobleme HerzKreislaufProbleme Temperregulierungsstrungen Sehatrungen

Exogenous variables

Latent: Muskel

Fitting target model:

```
Iteration 0: log likelihood = -309.01844
Iteration 1: log likelihood = -307.00749
Iteration 2: log likelihood = -306.36042
Iteration 3: log likelihood = -306.35539
Iteration 4: log likelihood = -306.35539
```

Structural equation model
Estimation method = ml
Log likelihood = -306.35539

(1) (Muskelprobleme)Muskel = 1		OIM				
		Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
Measurement						
Muskelprobleme <-						
	Muskel	1 (constrained)				
	_cons	.8421053	.0374115	22.51	0.000	.7687801 .9154305
GrippehlicheSymptome <-						
	Muskel	.3112509	.310784	1.00	0.317	-.2978746 .9203764
	_cons	.7263158	.0457431	15.88	0.000	.6366609 .8159707
Atemprobleme <-						
	Muskel	1.538361	.5018222	3.07	0.002	.5548074 2.521914
	_cons	.6310789	.0484908	12.76	0.000	.5345788 .7285781
HerzKreislaufProbleme <-						
	Muskel	1.42829	.4207893	3.39	0.001	.603558 2.253022
	_cons	.8	.0410391	19.49	0.000	.7195648 .8804352
Temperregulierungsstrungen <-						
	Muskel	.8312737	.387	2.18	0.031	.0315666 1.580981
	_cons	.7578947	.0434886	17.23	0.000	.6717971 .8460034
Sehatrungen <-						
	Muskel	1.223747	.4515579	2.71	0.007	.3387009 2.108784
	_cons	.5894737	.0564709	11.68	0.000	.4905526 .6883948
Variance						
	e.Muskelprobleme	.0996881	.017732			.0703455 .1412704
	e.GrippehlicheSymptome	.195575	.0286511			.1467456 .2606556
	e.Atemprobleme	.1535719	.0309551			.1037856 .2283032
	e.HerzKreislaufProbleme	.0921169	.0218388			.0573804 .1466018
	e.Temperregulierungsstrungen	.1593764	.0251366			.1169968 .2171071
	e.Sehatrungen	.1292162	.0240265			.1065482 .1574888
	Muskel	.0332758	.0163766			.0126827 .0873062

LR test of model vs. saturated: chi2(9) = 9.54, Prob > chi2 = 0.3894

```
=> dauer_kati = -8 2
```

Endogenous variables

Measurement: Muskelprobleme GrippehlicheSymptome Atemprobleme HerzKreislaufProbleme Temperregulierungsstrungen Sehatrungen

Exogenous variables

Latent: Muskel

Fitting target model:

```
Iteration 0: log likelihood = -350.19005
Iteration 1: log likelihood = -348.13928
Iteration 2: log likelihood = -347.95177
Iteration 3: log likelihood = -347.95072
Iteration 4: log likelihood = -347.95072
```

Structural equation model
Estimation method = ml
Log likelihood = -347.95072

(1) (Muskelprobleme)Muskel = 1		OIM				
		Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
Measurement						
Muskelprobleme <-						
	Muskel	1 (constrained)				
	_cons	.8290598	.0348034	23.82	0.000	.7608464 .8972753
GrippehlicheSymptome <-						
	Muskel	.6684488	.235351	2.84	0.005	.2071694 1.129728
	_cons	.8034189	.0367408	21.87	0.000	.7314081 .8754295
Atemprobleme <-						
	Muskel	1.620295	.4055429	4.15	0.000	.8090291 2.47616
	_cons	.6239316	.0447826	13.93	0.000	.5361594 .7117038
HerzKreislaufProbleme <-						
	Muskel	1.162409	.2893051	3.96	0.000	.5875418 1.737277
	_cons	.8119638	.0361239	22.48	0.000	.7421643 .8827673
Temperregulierungsstrungen <-						
	Muskel	1.145678	.2893614	3.92	0.000	.5726604 1.718896
	_cons	.7521368	.0399173	18.84	0.000	.6739002 .8303753
Sehatrungen <-						
	Muskel	1.255322	.3625258	3.46	0.001	.5447848 1.96586
	_cons	.5726496	.0457345	12.52	0.000	.4830117 .6622875
Variance						
	e.Muskelprobleme	.1015521	.0159368			.0746634 .1381242
	e.GrippehlicheSymptome	.1399892	.0199782			.1042465 .1841362
	e.Atemprobleme	.1209392	.0273264			.0774619 .1889752
	e.HerzKreislaufProbleme	.0984031	.0163292			.0710819 .1362256
	e.Temperregulierungsstrungen	.1334854	.0221697			.0963058 .1855739
	e.Sehatrungen	.1814247	.0281593			.1339104 .2457938
	Muskel	.0401675	.0156439			.0187224 .0861764

LR test of model vs. saturated: chi2(9) = 28.13, Prob > chi2 = 0.0009

. estat gof, stats(all)

Fit statistic	Value	Description
Likelihood ratio		
chi2_ms(9)	28.134	model vs. saturated
p > chi2	0.001	
chi2_bs(15)	129.158	baseline vs. saturated
p > chi2	0.000	
Population error		
RMSEA	0.135	Root mean squared error of approximation
90% CI, lower bound	0.080	
upper bound	0.193	
pclose	0.008	Probability RMSEA <= 0.05
Information criteria		
AIC	731.901	Akaike's information criterion
BIC	781.621	Bayesian information criterion
Baseline comparison		
CFI	0.832	Comparative fit index
TLI	0.721	Tucker-Lewis index
Size of residuals		
SRMR	0.068	Standardized root mean squared residual
CD	0.734	Coefficient of determination

.

. estat mindices

Modification indices

	MI	df	P>MI	EPC	Standard EPC
Covariance					
e.Muskelp Probleme					
e.Sehstrungen	4.109	1	0.04	-.0309455	-.2279845
e.Grippehnliche Symptome					
e.Temperregulierungsstrungen	7.902	1	0.00	.0399754	.2922155
e.Atemprobleme					
e.Temperregulierungsstrungen	11.437	1	0.00	-.0624067	-.4906995
e.Sehstrungen	9.641	1	0.00	.064655	.4363959

EPC = expected parameter change

.