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name: <unnamed>
log: C:\Users\smmor\Desktop\Análisis factorial adicional COMQ-12 03 jul 2020.log
log type: text
opened on: 3 Jul 2020, 18:12:32

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.
. *****FACTOR ANALISIS SAMPLE SIZE COMPLETE
.
. *bartlett test
.
. factortest prellassecrecionesoeldrena - prellconquéfrecuenciaioque

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Determinant of the correlation matrix
Det = 0.021

```

Bartlett test of sphericity

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Chi-square = 749.170
Degrees of freedom = 55
p-value = 0.000
H0: variables are not intercorrelated

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Kaiser-Meyer-Olkin Measure of Sampling Adequacy
KMO = 0.849

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.
. *policóric Matrix
.
. polychoric prellassecrecionesoeldrena - prellconquéfrecuenciaioque

```

Polychoric correlation matrix

	prellassecrecionesoeldrena	pre2elmalolordeloido	pre3losproblemasparaoiren
prellassecrecionesoeldrena	1		
pre2elmalolordeloido	.66275044	1	
pre3losproblemasparaoiren	.50400075	.33879378	1
pre4losproblemasparaoirca	.43312827	.3735871	.79870284
pre5molestiasdentroyalreded	.43810102	.35581485	.52326945
pre6losmareososensaciónde	.37977622	.33432019	.52977376
pre7tinnitusoruidoseneloi	.4054954	.3414366	.6800446
pre8conquéfrecuenciaioque	.43819377	.27042993	.3792038
pre9realizarsusactividades	.32722622	.28191422	.47825503
pre10debidoadsuproblemaene	.255308	.13884614	.21281281
prellconquéfrecuenciaioque	.30961306	.24355824	.35700507

	pre4losproblemasparaoirca	pre5molestiasdentroyalreded	pre6losmareososensaciónde
pre4losproblemasparaoirca	1		
pre5molestiasdentroyalreded	.51645089	1	
pre6losmareososensaciónde	.49653723	.41998747	1
pre7tinnitusoruidoseneloi	.66035203	.51180435	.55420548
pre8conquéfrecuenciaioque	.35319519	.23301642	.37952411
pre9realizarsusactividades	.55065807	.23804182	.45616676
pre10debidoadsuproblemaene	.11660919	.14539798	.36627558
prellconquéfrecuenciaioque	.34804371	.20232351	.27865644

	pre7tinnitusoruidoseneloi	pre8conquéfrecuenciaioque	pre9realizarsusactividades
pre7tinnitusoruidoseneloi	1		
pre8conquéfrecuenciaioque	.34800812	1	
pre9realizarsusactividades	.43167115	.4750009	1
pre10debidoadsuproblemaene	.1840132	.47389529	.31376183
prellconquéfrecuenciaioque	.3169296	.48236896	.44417918

	pre10debidoadsuproblemaene	prellconquéfrecuenciaioque
pre10debidoadsuproblemaene	1	
prellconquéfrecuenciaioque	.3520045	1

```

.
. matrix poly=r(R)
.
. *EFA without q12
.
. factormat poly, n(200) factor(3)
(obs=200)

```

```

Factor analysis/correlation
Method: principal factors      Number of obs = 200
Rotation: (unrotated)         Retained factors = 3
                               Number of params = 30

```

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	4.53265	3.72416	0.8357	0.8357
Factor2	0.80849	0.22228	0.1491	0.9848
Factor3	0.58620	0.39120	0.1081	1.0928
Factor4	0.19500	0.14025	0.0360	1.1288
Factor5	0.05476	0.08367	0.0101	1.1389
Factor6	-0.02892	0.04257	-0.0053	1.1335

Factor7	-0.07149	0.03531	-0.0132	1.1204
Factor8	-0.10680	0.04203	-0.0197	1.1007
Factor9	-0.14883	0.03955	-0.0274	1.0732
Factor10	-0.18837	0.02047	-0.0347	1.0385
Factor11	-0.20884	.	-0.0385	1.0000

LR test: independent vs. saturated: chi2(55) = 1012.53 Prob>chi2 = 0.0000

Factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Uniqueness
prellasseca	0.6693	0.0333	0.4610	0.3384
pre2elmalo	0.5458	-0.0347	0.4841	0.4665
pre3lospro	0.8147	-0.2511	-0.1568	0.2486
pre4lospro	0.7975	-0.3001	-0.1858	0.2394
pre5molest	0.5859	-0.2444	0.0914	0.5886
pre6losmar	0.6650	0.0286	-0.0834	0.5500
pre7tinnit	0.7347	-0.2167	-0.1321	0.3959
pre8conque	0.5890	0.4258	-0.0233	0.4712
pre9realiz	0.6350	0.1981	-0.1949	0.5196
pre10debid	0.3884	0.4698	-0.0481	0.6261
pre11conqu	0.5105	0.3230	-0.0817	0.6284

. rotate, factor(3) blank(0.25) varimax

Factor analysis/correlation Number of obs = 200
Method: principal factors Retained factors = 3
Rotation: orthogonal varimax (Kaiser off) Number of params = 30

Factor	Variance	Difference	Proportion	Cumulative
Factor1	3.01875	1.47811	0.5566	0.5566
Factor2	1.54063	0.17267	0.2840	0.8406
Factor3	1.36796	.	0.2522	1.0928

LR test: independent vs. saturated: chi2(55) = 1012.53 Prob>chi2 = 0.0000

Rotated factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Uniqueness
prellasseca	0.3265		0.7109	0.3384
pre2elmalo	0.2559		0.6762	0.4665
pre3lospro	0.8181			0.2486
pre4lospro	0.8404			0.2394
pre5molest	0.5424		0.3412	0.5886
pre6losmar	0.5336	0.3409		0.5500
pre7tinnit	0.7293			0.3959
pre8conque	0.2525	0.6369		0.4712
pre9realiz	0.4680	0.4995		0.5196
pre10debid		0.5910		0.6261
pre11conqu	0.2654	0.5262		0.6284

(blanks represent abs(loading)<.25)

Factor rotation matrix

	Factor1	Factor2	Factor3
Factor1	0.7760	0.4469	0.4451
Factor2	-0.5016	0.8651	0.0059
Factor3	-0.3824	-0.2278	0.8955

. rotate, promax horst blanks(.3)

Factor analysis/correlation Number of obs = 200
Method: principal factors Retained factors = 3
Rotation: oblique promax (Kaiser on) Number of params = 30

Factor	Variance	Proportion	Rotated factors are correlated
Factor1	4.01959	0.7411	
Factor2	2.91809	0.5380	
Factor3	2.65472	0.4895	

LR test: independent vs. saturated: chi2(55) = 1012.53 Prob>chi2 = 0.0000

Rotated factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Uniqueness
----------	---------	---------	---------	------------

```

-----+-----
prellassec~a |                0.7102 |      0.3384
pre2elmalo~o |                0.7121 |      0.4665
pre3lospro~n |      0.8467          |      0.2486
pre4lospro~a |      0.8984          |      0.2394
pre5molest~d |      0.5243          |      0.5886
pre6losmar~e |      0.4567          |      0.5500
pre7tinnit~i |      0.7486          |      0.3959
pre8conqué~e |                0.6704 |      0.4712
pre9realiz~s |      0.3665      0.4803 |      0.5196
pre10debid~e |                0.6650 |      0.6261
pre11conqu~e |                0.5478 |      0.6284
-----+-----

```

(blanks represent abs(loading)<.3)

Factor rotation matrix

```

-----+-----
| Factor1  Factor2  Factor3
-----+-----
Factor1 |  0.9298   0.7532   0.7240
Factor2 | -0.3104   0.6465  -0.0139
Factor3 | -0.1977  -0.1211   0.6897
-----+-----

```

```
. matrix factor=e(r_L)
```

```
. **Annexes
```

```
. *Comunality
```

```
. estat smc
```

Squared multiple correlations of variables with all other variables

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-----+-----
Variable |      smc
-----+-----
prellassec~a |  0.5764
pre2elmalo~o |  0.4732
pre3lospro~n |  0.7156
pre4lospro~a |  0.7167
pre5molest~d |  0.3871
pre6losmar~e |  0.4496
pre7tinnit~i |  0.5591
pre8conqué~e |  0.4445
pre9realiz~s |  0.4539
pre10debid~e |  0.3233
pre11conqu~e |  0.3245
-----+-----

```

```
. *Goodness of fit
```

```
. estat factors, factors(3)
```

Factor analysis with different numbers of factors (maximum likelihood)

```

-----+-----
#factors |      loglik  df_m  df_r      AIC      BIC
-----+-----
1 | -125.829    11    44  273.6579  309.9394
2 |  -68.22127   21    34  178.4425  247.7072
3 |  -25.50172   30    25  111.0034  209.953
-----+-----

```

the model with 3 factors is a Heywood case

```
. *Correltaion Matrrix domains
```

```
. estat common
```

Correlation matrix of the promax(3) rotated common factors

```

-----+-----
Factors | Factor1  Factor2  Factor3
-----+-----
Factor1 |          1
Factor2 |   .5236          1
Factor3 |   .5411   .4528          1
-----+-----

```

```
. **CFA
```

```
. sem (Secrecionymalolor -> prellassecrecionesoeldrena, ) (Secrecionymalolor -> pre2elmalolordeloido, ) (Problemasauditivos ->
> pre3losproblemasparaoiren, ) (Problemasauditivos -> pre4losproblemasparaoircu, ) (Problemasauditivos -> pre5molestiasdentroy
> alredek, ) (Problemasauditivos -> pre6losmareososensaciónde, ) (Problemasauditivos -> pre7tinnitusoruidoseneloi, ) (Impactosa
> ludestilovida -> pre8conquéfrecuenciaoque, ) (Impactosaludestilovida -> pre9realizarsusactividades, ) (Impactosaludestilovida
> -> pre10debiduasuproblemaene, ) (Impactosaludestilovida -> pre11conquéfrecuenciaoque, ), covstruct(lexogenous, diagonal) la
> tent(Secrecionymalolor Problemasauditivos Impactosaludestilovida ) cov( Secrecionymalolor*Problemasauditivos Problemasauditiv
> os*Impactosaludestilovida Impactosaludestilovida*Secrecionymalolor) nocapslatent
```

Endogenous variables

Measurement: prellassecrecionesoeldrena pre2elmalolordeloido pre3losproblemasparaoiren pre4losproblemasparaoircua
pre5molestiasdentroyalreded pre6losmareososensaciónde pre7tinnitusoruidoseneloi pre8conquéfrecuenciaioque
pre9realizarsusactividades pre10debidoadsuproblemaene pre11conquéfrecuenciaioque

Exogenous variables

Latent: Secrecionymalolor Problemasauditivos Impactosaludestilovida

Fitting target model:

Iteration 0: log likelihood = -3791.8767
Iteration 1: log likelihood = -3789.573
Iteration 2: log likelihood = -3789.5228
Iteration 3: log likelihood = -3789.5227

Structural equation model Number of obs = 200
Estimation method = ml
Log likelihood = -3789.5227

- (1) [prellassecrecionesoeldrena]Secrecionymalolor = 1
- (2) [pre3losproblemasparaoiren]Problemasauditivos = 1
- (3) [pre8conquéfrecuenciaioque]Impactosaludestilovida = 1

		Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
Measurement							
prellassecrecionesoeldrena	Secrecionymalolor	1	(constrained)				
	_cons	3.505	.1034401	33.88	0.000	3.302261	3.707739
pre2elmalolordeloido	Secrecionymalolor	.9226591	.1484445	6.22	0.000	.6317133	1.213605
	_cons	3.23	.1316641	24.53	0.000	2.971943	3.488057
pre3losproblemasparaoiren	Problemasauditivos	1	(constrained)				
	_cons	3.82	.0971493	39.32	0.000	3.629591	4.010409
pre4losproblemasparaoircua	Problemasauditivos	.9104383	.0690864	13.18	0.000	.7750314	1.045845
	_cons	3.91	.0933247	41.90	0.000	3.727087	4.092913
pre5molestiasdentroyalreded	Problemasauditivos	.7976832	.098145	8.13	0.000	.6053226	.9900439
	_cons	3.2	.1159741	27.59	0.000	2.972695	3.427305
pre6losmareososensaciónde	Problemasauditivos	.9636699	.1183889	8.14	0.000	.7316319	1.195708
	_cons	2.525	.1381914	18.27	0.000	2.25415	2.79585
pre7tinnitusoruidoseneloi	Problemasauditivos	1.073937	.0969934	11.07	0.000	.8838334	1.264041
	_cons	3.415	.1208878	28.25	0.000	3.178064	3.651936
pre8conquéfrecuenciaioque	Impactosaludestilovida	1	(constrained)				
	_cons	2.27	.1287847	17.63	0.000	2.017587	2.522413
pre9realizarsusactividades	Impactosaludestilovida	.9373332	.1411192	6.64	0.000	.6607446	1.213922
	_cons	2.635	.1279018	20.60	0.000	2.384317	2.885683
pre10debidoadsuproblemaene	Impactosaludestilovida	.5520066	.1092097	5.05	0.000	.3379596	.7660536
	_cons	4.16	.1179915	35.26	0.000	3.928741	4.391259
pre11conquéfrecuenciaioque	Impactosaludestilovida	.539203	.0786025	6.86	0.000	.3851449	.6932611
	_cons	3.03	.0780737	38.81	0.000	2.876978	3.183022
var(e.prellassecrecionesoeldrena) .4071099 .2456579 .1247615 1.328443							
var(e.pre2elmalolordeloido) 1.991902 .2867224 1.502252 2.641152							
var(e.pre3losproblemasparaoiren) .5201279 .0841954 .3787236 .7143284							
var(e.pre4losproblemasparaoircua) .6084056 .0829949 .4656693 .7948932							
var(e.pre5molestiasdentroyalreded) 1.81988 .1956379 1.474138 2.246711							
var(e.pre6losmareososensaciónde) 2.549459 .2767624 2.060838 3.153931							
var(e.pre7tinnitusoruidoseneloi) 1.345614 .1636353 1.060252 1.707781							
var(e.pre8conquéfrecuenciaioque) 1.715977 .2560137 1.280905 2.298824							
var(e.pre9realizarsusactividades) 1.865038 .2554206 1.425982 2.439279							
var(e.pre10debidoadsuproblemaene) 2.29652 .2473396 1.859491 2.836261							
var(e.pre11conquéfrecuenciaioque) .7535895 .0943918 .5895444 .9632813							
var(Secrecionymalolor) 1.732862 .3206658 1.205728 2.490455							
var(Problemasauditivos) 1.367471 .1931539 1.03678 1.803638							
var(Impactosaludestilovida) 1.601123 .3415889 1.053966 2.432332							
cov(Secrecionymalolor,Problemasauditivos) .8469176 .146986 5.76 0.000 .5588303 1.135005							

```
cov(Secrecionymalolor,Impactosaludestilovida) | .8709498 .1832529 4.75 0.000 .5117807 1.230119
cov(Problemasauditivos,Impactosaludestilovida) | .9404762 .164866 5.70 0.000 .6173447 1.263608
```

```
LR test of model vs. saturated: chi2(41) = 65.45, Prob > chi2 = 0.0090
```

```
. estimate store modelo3fact
```

```
. estat gof, stats(all)
```

Fit statistic	Value	Description
Likelihood ratio		
chi2_ms(41)	65.445	model vs. saturated
p > chi2	0.009	
chi2_bs(55)	770.355	baseline vs. saturated
p > chi2	0.000	
Population error		
RMSEA	0.055	Root mean squared error of approximation
90% CI, lower bound	0.028	
upper bound	0.079	
pclose	0.354	Probability RMSEA <= 0.05
Information criteria		
AIC	7651.045	Akaike's information criterion
BIC	7769.785	Bayesian information criterion
Baseline comparison		
CFI	0.966	Comparative fit index
TLI	0.954	Tucker-Lewis index
Size of residuals		
SRMR	0.050	Standardized root mean squared residual
CD	0.989	Coefficient of determination

```
. factorformat poly, n(200) factor(3)
(obs=200)
```

```
Factor analysis/correlation          Number of obs = 200
Method: principal factors           Retained factors = 3
Rotation: (unrotated)              Number of params = 30
```

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	4.53265	3.72416	0.8357	0.8357
Factor2	0.80849	0.22228	0.1491	0.9848
Factor3	0.58620	0.39120	0.1081	1.0928
Factor4	0.19500	0.14025	0.0360	1.1288
Factor5	0.05476	0.08367	0.0101	1.1389
Factor6	-0.02892	0.04257	-0.0053	1.1335
Factor7	-0.07149	0.03531	-0.0132	1.1204
Factor8	-0.10680	0.04203	-0.0197	1.1007
Factor9	-0.14883	0.03955	-0.0274	1.0732
Factor10	-0.18837	0.02047	-0.0347	1.0385
Factor11	-0.20884	.	-0.0385	1.0000

```
LR test: independent vs. saturated: chi2(55) = 1012.53 Prob>chi2 = 0.0000
```

```
Factor loadings (pattern matrix) and unique variances
```

Variable	Factor1	Factor2	Factor3	Uniqueness
prellasseca	0.6693	0.0333	0.4610	0.3384
pre2elmalo	0.5458	-0.0347	0.4841	0.4665
pre3lospro	0.8147	-0.2511	-0.1568	0.2486
pre4lospro	0.7975	-0.3001	-0.1858	0.2394
pre5molest	0.5859	-0.2444	0.0914	0.5886
pre6losmar	0.6650	0.0286	-0.0834	0.5500
pre7tinnit	0.7347	-0.2167	-0.1321	0.3959
pre8conque	0.5890	0.4258	-0.0233	0.4712
pre9realiz	0.6350	0.1981	-0.1949	0.5196
pre10debid	0.3884	0.4698	-0.0481	0.6261
pre11conqu	0.5105	0.3230	-0.0817	0.6284

```
. rotate, factor(3) blank(0.25) varimax
```

```
Factor analysis/correlation          Number of obs = 200
Method: principal factors           Retained factors = 3
Rotation: orthogonal varimax (Kaiser off) Number of params = 30
```

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

Factor	1	2	3	4
Factor1	3.01875	1.47811	0.5566	0.5566
Factor2	1.54063	0.17267	0.2840	0.8406
Factor3	1.36796	.	0.2522	1.0928

LR test: independent vs. saturated: $\chi^2(55) = 1012.53$ Prob> $\chi^2 = 0.0000$

Rotated factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Uniqueness
prellasseca	0.3265		0.7109	0.3384
pre2elmalo	0.2559		0.6762	0.4665
pre3lospro	0.8181			0.2486
pre4lospro	0.8404			0.2394
pre5molest	0.5424		0.3412	0.5886
pre6losmar	0.5336	0.3409		0.5500
pre7tinnit	0.7293			0.3959
pre8conque	0.2525	0.6369		0.4712
pre9realiz	0.4680	0.4995		0.5196
pre10debid		0.5910		0.6261
pre11conqu	0.2654	0.5262		0.6284

(blanks represent abs (loading) < .25)

Factor rotation matrix

	Factor1	Factor2	Factor3
Factor1	0.7760	0.4469	0.4451
Factor2	-0.5016	0.8651	0.0059
Factor3	-0.3824	-0.2278	0.8955

. rotate, promax horst blanks(.3)

Factor analysis/correlation Number of obs = 200
Method: principal factors Retained factors = 3
Rotation: oblique promax (Kaiser on) Number of params = 30

Factor	Variance	Proportion	Rotated factors are correlated
Factor1	4.01959	0.7411	
Factor2	2.91809	0.5380	
Factor3	2.65472	0.4895	

LR test: independent vs. saturated: $\chi^2(55) = 1012.53$ Prob> $\chi^2 = 0.0000$

Rotated factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Uniqueness
prellasseca			0.7102	0.3384
pre2elmalo			0.7121	0.4665
pre3lospro	0.8467			0.2486
pre4lospro	0.8984			0.2394
pre5molest	0.5243			0.5886
pre6losmar	0.4567			0.5500
pre7tinnit	0.7486			0.3959
pre8conque		0.6704		0.4712
pre9realiz	0.3665	0.4803		0.5196
pre10debid		0.6650		0.6261
pre11conqu		0.5478		0.6284

(blanks represent abs (loading) < .3)

Factor rotation matrix

	Factor1	Factor2	Factor3
Factor1	0.9298	0.7532	0.7240
Factor2	-0.3104	0.6465	-0.0139
Factor3	-0.1977	-0.1211	0.6897

***Parallel Analysis

. fapara, reps(100)

PA -- Parallel Analysis for Factor Analysis -- N = 200
PA Eigenvalues Averaged Over 100 Replications

	FA	PA	Dif
1.	4.532649	.4532064	4.079443
2.	.8084863	.3329512	.4755351
3.	.5862035	.2411771	.3450265

```

4. .1950031 .162653 .0323501
5. .0547553 .0955798 -.0408245
6. -.0289196 .0284292 -.0573488
7. -.0714914 -.0328738 -.0386176
8. -.1067984 -.0887762 -.0180223
9. -.1488288 -.152416 .0035871
10. -.1883742 -.2147534 .0263792
11. -.2088436 -.2761805 .0673369

```

***THE ANALYSIS SHOWS CONFIRMS THE MODEL WITH THREE FACTORS AND THE 11 INITIAL QUESTIONS OF THE SCALE

*****ANALYSIS WITH THE PARTITIONED SAMPLE

```

. set seed 512
.
. gen grupo = floor((2-1+1)*runiform() + 2)
.
. replace grupo=grupo-2
(200 real changes made)

. factortest prellassecrecionesoeldrena - prellconquéfrecuenciaoque if grupo==0

```

Determinant of the correlation matrix
Det = 0.018

Bartlett test of sphericity

```

Chi-square = 379.063
Degrees of freedom = 55
p-value = 0.000
H0: variables are not intercorrelated

```

Kaiser-Meyer-Olkin Measure of Sampling Adequacy
KMO = 0.834

```

. polychoric prellassecrecionesoeldrena - prellconquéfrecuenciaoque if grupo==0

```

Polychoric correlation matrix

```

prellassecrecionesoeldrena      prellassecrecionesoeldrena      pre2elmalolordeloido      pre3losproblemasparaoiren
prellassecrecionesoeldrena      1
pre2elmalolordeloido      .63882084      1
pre3losproblemasparaoiren      .51176697      .42220538      1
pre4losproblemasparaoirrcua      .4089081      .40236579      .77516204
pre5molestiasdentroyalreded      .44730226      .32211293      .45803287
pre6losmareososensaciónde      .39247615      .29498669      .55472498
pre7tinnitusoruidoseneloi      .40606689      .42707886      .6558389
pre8conquéfrecuenciaoque      .35939117      .23042408      .32183624
pre9realizarsusactividades      .48014346      .48801319      .55866965
pre10debidoasuproblemaene      .2000945      .08040282      .05074619
prellconquéfrecuenciaoque      .3714107      .26803619      .43265184

pre4losproblemasparaoirrcua      pre5molestiasdentroyalreded      pre6losmareososensaciónde
pre4losproblemasparaoirrcua      1
pre5molestiasdentroyalreded      .45983489      1
pre6losmareososensaciónde      .45111786      .31052967      1
pre7tinnitusoruidoseneloi      .59477907      .45610356      .5478254
pre8conquéfrecuenciaoque      .28985661      .16074349      .440085
pre9realizarsusactividades      .63060895      .38114702      .52925769
pre10debidoasuproblemaene      -.09270289      -.06059961      .26987992
prellconquéfrecuenciaoque      .30404889      .11511593      .27748393

pre7tinnitusoruidoseneloi      pre8conquéfrecuenciaoque      pre9realizarsusactividades
pre7tinnitusoruidoseneloi      1
pre8conquéfrecuenciaoque      .22111049      1
pre9realizarsusactividades      .52181502      .49096349      1
pre10debidoasuproblemaene      -.02614323      .49507833      .13019425
prellconquéfrecuenciaoque      .29464829      .38636611      .44151561

pre10debidoasuproblemaene      prellconquéfrecuenciaoque
pre10debidoasuproblemaene      1
prellconquéfrecuenciaoque      .29674857      1

```

```

. matrix poly2=r(R)

```

```

. *Análisis factorial sin la pregunta 12 (con base reducida)

```

```

. factormat poly2, n(100) factor(3)
(obs=100)

```

```

Factor analysis/correlation      Number of obs      =      100
Method: principal factors      Retained factors =      3

```

Rotation: (unrotated) Number of params = 30

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	4.47471	3.42660	0.7951	0.7951
Factor2	1.04812	0.58496	0.1862	0.9814
Factor3	0.46316	0.26521	0.0823	1.0637
Factor4	0.19795	0.07657	0.0352	1.0988
Factor5	0.12138	0.06178	0.0216	1.1204
Factor6	0.05960	0.08747	0.0106	1.1310
Factor7	-0.02787	0.08823	-0.0050	1.1260
Factor8	-0.11610	0.05135	-0.0206	1.1054
Factor9	-0.16746	0.01621	-0.0298	1.0757
Factor10	-0.18367	0.05845	-0.0326	1.0430
Factor11	-0.24212	.	-0.0430	1.0000

LR test: independent vs. saturated: $\chi^2(55) = 507.93$ Prob> $\chi^2 = 0.0000$

Factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Uniqueness
prellassec~a	0.6851	0.0847	0.3992	0.3640
pre2elmalo~o	0.6026	-0.0366	0.4115	0.4662
pre3lospro~n	0.8260	-0.1885	-0.1634	0.2555
pre4lospro~a	0.7668	-0.3161	-0.1841	0.2783
pre5molest~d	0.5292	-0.2501	0.1073	0.6459
pre6losmar~e	0.6608	0.1359	-0.2002	0.5048
pre7tinnit~i	0.7117	-0.2418	-0.0925	0.4265
pre8conqu~e	0.5165	0.5071	-0.1039	0.4653
pre9realiz~s	0.7718	0.0619	-0.0422	0.3987
pre10debid~e	0.1925	0.6503	-0.0196	0.5397
pre11conqu~e	0.4992	0.2842	-0.0282	0.6693

. rotate, factor(3) blank(0.25) varimax

Factor analysis/correlation Number of obs = 100
 Method: principal factors Retained factors = 3
 Rotation: orthogonal varimax (Kaiser off) Number of params = 30

Factor	Variance	Difference	Proportion	Cumulative
Factor1	3.21243	1.77763	0.5708	0.5708
Factor2	1.43480	0.09603	0.2550	0.8258
Factor3	1.33876	.	0.2379	1.0637

LR test: independent vs. saturated: $\chi^2(55) = 507.93$ Prob> $\chi^2 = 0.0000$

Rotated factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Uniqueness
prellassec~a	0.3558		0.6749	0.3640
pre2elmalo~o	0.3325		0.6443	0.4662
pre3lospro~n	0.8164			0.2555
pre4lospro~a	0.8284			0.2783
pre5molest~d	0.4864		0.3361	0.6459
pre6losmar~e	0.5666	0.3949		0.5048
pre7tinnit~i	0.7152			0.4265
pre8conqu~e	0.2591	0.6645		0.4653
pre9realiz~s	0.6205	0.3330	0.3247	0.3987
pre10debid~e		0.6657		0.5397
pre11conqu~e	0.3031	0.4389		0.6693

(blanks represent abs(loading)<.25)

Factor rotation matrix

	Factor1	Factor2	Factor3
Factor1	0.8134	0.3467	0.4671
Factor2	-0.4034	0.9147	0.0236
Factor3	-0.4191	-0.2076	0.8839

. rotate, promax horst blanks(.3)

Factor analysis/correlation Number of obs = 100
 Method: principal factors Retained factors = 3
 Rotation: oblique promax (Kaiser on) Number of params = 30

Factor	Variance	Proportion	Rotated factors are correlated
--------	----------	------------	--------------------------------

	Factor1	Factor2	Factor3
Factor1	4.05402	0.7204	
Factor2	2.91694	0.5183	
Factor3	2.18075	0.3875	

LR test: independent vs. saturated: $\chi^2(55) = 507.93$ Prob> $\chi^2 = 0.0000$

Rotated factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Uniqueness
prellassec~a		0.6883		0.3640
pre2elmalo~o		0.6854		0.4662
pre3lospro~n	0.8309			0.2555
pre4lospro~a	0.8850			0.2783
pre5molest~d	0.4255			0.6459
pre6losmar~e	0.5520		0.3465	0.5048
pre7tinnit~i	0.7218			0.4265
pre8conqué~e			0.6719	0.4653
pre9realiz~s	0.5359			0.3987
pre10debid~e			0.7236	0.5397
pre11conqu~e			0.4155	0.6693

(blanks represent abs(loading)<.3)

Factor rotation matrix

	Factor1	Factor2	Factor3
Factor1	0.9408	0.7821	0.5765
Factor2	-0.2141	0.6232	-0.1028
Factor3	-0.2629	-0.0009	0.8106

. matrix factor2=e(r_L)

. **Adicionales

. *Comunalidad

. estat smc

Squared multiple correlations of variables with all other variables

Variable	smc
prellassec~a	0.5537
pre2elmalo~o	0.4769
pre3lospro~n	0.7239
pre4lospro~a	0.6952
pre5molest~d	0.3472
pre6losmar~e	0.4926
pre7tinnit~i	0.5464
pre8conqué~e	0.4604
pre9realiz~s	0.6009
pre10debid~e	0.3787
pre11conqu~e	0.3519

. *Factores Bondad de ajuste

. estat factors, factors(3)

Factor analysis with different numbers of factors (maximum likelihood)

#factors	loglik	df_m	df_r	AIC	BIC
1	-72.72784	11	44	167.4557	196.1126
2	-37.78287	21	34	117.5657	172.2743
3	-20.93227	30	25	101.8645	180.0196

the model with 3 factors is a Heywood case

. *Matriz de correlacion

. estat common

Correlation matrix of the promax(3) rotated common factors

Factors	Factor1	Factor2	Factor3
Factor1	1		
Factor2	.6026	1	
Factor3	.3512	.3861	1

```

-----
. tab grupo

```

grupo	Freq.	Percent	Cum.
0	100	50.00	50.00
1	100	50.00	100.00
Total	200	100.00	

```

. keep if grupo==1
(100 observations deleted)

```

```

. tab grupo

```

grupo	Freq.	Percent	Cum.
1	100	100.00	100.00
Total	100	100.00	

```

. sem (Secrecionymalolor -> prellassecrecionesoeldrena, ) (Secrecionymalolor -> pre2elmalolordeloido, ) (Problemasauditivos ->
> pre3losproblemasparaairen, ) (Problemasauditivos -> pre4losproblemasparaaircua, ) (Problemasauditivos -> pre5molestiasdentroy
> alredez, ) (Problemasauditivos -> pre6losmareososensaciónde, ) (Problemasauditivos -> pre7tinnitusoruidoseneloi, ) (Impactosa
> ludestilovida -> pre8conquéfrecuenciaoque, ) (Impactosaludestilovida -> pre9realizarsusactividades, ) (Impactosaludestilovida
> -> pre10debidoadsuproblemaene, ) (Impactosaludestilovida -> prellconquéfrecuenciaoque, ), covstruct(_lexogenous, diagonal) la
> tent(Secrecionymalolor Problemasauditivos Impactosaludestilovida ) cov( Secrecionymalolor*Problemasauditivos Problemasauditiv
> os*Impactosaludestilovida Impactosaludestilovida*Secrecionymalolor) nocapslatent

```

Endogenous variables

```

Measurement: prellassecrecionesoeldrena pre2elmalolordeloido pre3losproblemasparaairen pre4losproblemasparaaircua
pre5molestiasdentroyalredez pre6losmareososensaciónde pre7tinnitusoruidoseneloi pre8conquéfrecuenciaoque
pre9realizarsusactividades pre10debidoadsuproblemaene prellconquéfrecuenciaoque

```

Exogenous variables

```

Latent: Secrecionymalolor Problemasauditivos Impactosaludestilovida

```

Fitting target model:

```

Iteration 0: log likelihood = -1855.1005
Iteration 1: log likelihood = -1853.8304
Iteration 2: log likelihood = -1853.4373
Iteration 3: log likelihood = -1853.1282
Iteration 4: log likelihood = -1853.112 (backed up)
Iteration 5: log likelihood = -1853.108 (backed up)
Iteration 6: log likelihood = -1853.1078 (backed up)
Iteration 7: log likelihood = -1853.1077 (backed up)
Iteration 8: log likelihood = -1853.1076 (backed up)
Iteration 9: log likelihood = -1853.1076 (backed up)
Iteration 10: log likelihood = -1853.1076 (backed up)
Iteration 11: log likelihood = -1853.1076 (backed up)
Iteration 12: log likelihood = -1853.1076 (backed up)
Iteration 13: log likelihood = -1853.1076 (backed up)
Iteration 14: log likelihood = -1853.1076 (backed up)
Iteration 15: log likelihood = -1853.1076 (backed up)
Iteration 16: log likelihood = -1853.1076 (backed up)
Iteration 17: log likelihood = -1853.1076 (backed up)
Iteration 18: log likelihood = -1853.1076 (backed up)
Iteration 19: log likelihood = -1853.1076 (backed up)
Iteration 20: log likelihood = -1853.1076 (backed up)
Iteration 21: log likelihood = -1853.1076 (backed up)
Iteration 22: log likelihood = -1853.1076 (backed up)
Iteration 23: log likelihood = -1853.1076 (backed up)
Iteration 24: log likelihood = -1853.1076 (backed up)
Iteration 25: log likelihood = -1853.1076 (backed up)
Iteration 26: log likelihood = -1853.1076 (backed up)
Iteration 27: log likelihood = -1853.1076 (backed up)
Iteration 28: log likelihood = -1853.1076 (backed up)
Iteration 29: log likelihood = -1853.1076 (backed up)
Iteration 30: log likelihood = -1853.1076 (backed up)
Iteration 31: log likelihood = -1853.1076 (backed up)
Iteration 32: log likelihood = -1853.1076 (backed up)
Iteration 33: log likelihood = -1853.1076 (backed up)
Iteration 34: log likelihood = -1853.1076 (backed up)
Iteration 35: log likelihood = -1853.1076 (backed up)
Iteration 36: log likelihood = -1853.1076 (backed up)
Iteration 37: log likelihood = -1853.1076 (backed up)
Iteration 38: log likelihood = -1853.1076 (backed up)
Iteration 39: log likelihood = -1853.1076 (backed up)
Iteration 40: log likelihood = -1853.1076 (backed up)
Iteration 41: log likelihood = -1853.1076 (backed up)
Iteration 42: log likelihood = -1853.1076 (backed up)
Iteration 43: log likelihood = -1853.1076 (backed up)
Iteration 44: log likelihood = -1853.1076 (backed up)
Iteration 45: log likelihood = -1853.1076 (backed up)
Iteration 46: log likelihood = -1853.1076 (backed up)
Iteration 47: log likelihood = -1853.1076 (backed up)

```


Problemasauditivos		.9259157	.0830166	11.15	0.000	.7632062	1.088625
_cons		3.97	.1193837	33.25	0.000	3.736012	4.203988

pre5molestiasdentroyalreded							
Problemasauditivos		.9112768	.1373528	6.63	0.000	.6420702	1.180483
_cons		3.33	.1654889	20.12	0.000	3.005648	3.654352

pre6losmareososensaciónde							
Problemasauditivos		.8518748	.158591	5.37	0.000	.5410422	1.162707
_cons		2.64	.1813413	14.56	0.000	2.284578	2.995422

pre7tinnitusoruidoseneloí							
Problemasauditivos		1.082396	.126303	8.57	0.000	.8348471	1.329946
_cons		3.61	.1623	22.24	0.000	3.291898	3.928102

pre8conquéfrecuenciaoque							
Impactosaludestilovida		1	(constrained)				
_cons		2.41	.1837167	13.12	0.000	2.049922	2.770078

pre9realizarsusactividades							
Impactosaludestilovida		.6591434	.1445589	4.56	0.000	.3758132	.9424736
_cons		2.98	.1725172	17.27	0.000	2.641873	3.318127

pre10debidoasuproblemaene							
Impactosaludestilovida		.5342918	.139178	3.84	0.000	.2615079	.8070757
_cons		4.24	.16737	25.33	0.000	3.911961	4.568039

pre11conquéfrecuenciaoque							
Impactosaludestilovida		.507158	.0945417	5.36	0.000	.3218597	.6924564
_cons		3.02	.1221846	24.72	0.000	2.780523	3.259477

var(e.pre11assecrecionesoeldrena)		-1.00e-09	.4045776			.	.
var(e.pre2elmalolordeloido)		2.23764	.3851168			1.596949	3.135373
var(e.pre3losproblemasparaoíren)		.3809856	.0753481			.2585623	.5613736
var(e.pre4losproblemasparaoírca)		.3428688	.0707628			.2287985	.5138103
var(e.pre5molestiasdentroyalreded)		1.690234	.2557145			1.256519	2.273655
var(e.pre6losmareososensaciónde)		2.372272	.350767			1.775435	3.169744
var(e.pre7tinnitusoruidoseneloí)		1.154992	.1869275			.8410425	1.586135
var(e.pre8conquéfrecuenciaoque)		1.224601	.3320231			.7197975	2.083429
var(e.pre9realizarsusactividades)		2.041856	.3449438			1.466311	2.843308
var(e.pre10debidoasuproblemaene)		2.18735	.3354564			1.619482	2.954338
var(e.pre11conquéfrecuenciaoque)		.9397573	.1680468			.6619183	1.334219
var(Secrecionymalolor)		2.148957	.5007547			1.361065	3.392943
var(Problemasauditivos)		1.262513	.2376521			.8729874	1.825844
var(Impactosaludestilovida)		2.15058	.5208454			1.337841	3.457058

cov(Secrecionymalolor,Problemasauditivos)		.8679783	.2073019	4.19	0.000	.4616742	1.274283
cov(Secrecionymalolor,Impactosaludestilovida)		1.125302	.2978059	3.78	0.000	.5416134	1.708991
cov(Problemasauditivos,Impactosaludestilovida)		1.057588	.2446189	4.32	0.000	.5781436	1.537032

LR test of model vs. saturated: chi2(41) = 62.75, Prob > chi2 = 0.0160
convergence not achieved
r(430);

. estimate store modelo3factred

. estat gof, stats(all)

Fit statistic	Value	Description

Likelihood ratio		
chi2_ms(41)	62.753	model vs. saturated
p > chi2	0.016	
chi2_bs(55)	451.473	baseline vs. saturated
p > chi2	0.000	

Population error		
RMSEA	0.073	Root mean squared error of approximation
90% CI, lower bound	0.032	
upper bound	0.108	
pclose	0.147	Probability RMSEA <= 0.05

Information criteria		
AIC	3778.215	Akaike's information criterion
BIC	3872.001	Bayesian information criterion

Baseline comparison		
CFI	0.945	Comparative fit index
TLI	0.926	Tucker-Lewis index

Size of residuals		
SRMR	0.063	Standardized root mean squared residual
CD	1.000	Coefficient of determination

. log close
name: <unnamed>

log: C:\Users\smmor\Desktop\Análisis factorial adicional COMQ-12 03 jul 2020.log
log type: text
closed on: 3 Jul 2020, 20:42:15
