Supplementary materials

APPENDIX
Sampling of experimental linguistic constructions in affirmative and negative pattern
Non-factive verbs

1 (affirmative) O Pάvlos prótine ston Táso na taksidépsi argótera.
Pavlos proposed Tasos to travel later.
Who might have traveled later?
1a. Tasos (the Y)
1b. Pavlos (the X)
1c. I cannot decide who might have traveled later

1 (negative) O Pάvlos den prótine ston Táso na taksidépsi argótera.
Pavlos didn't propose Tasos to travel later.
Who might have not traveled later?
1a. Tasos (the Y)
1b. Pavlos (the X)
1c. I cannot decide who might have not traveled later

2 (affirmative) O Yórgos sinfónise me ton Mihάli na allάksi to prógramma ton kalokerinón diakopón.
Yorgos proposed Mihalis to change the summer holiday schedule.
Who might have changed the schedule?
2a. Yorgos (the X)
2b. Mihalis (the Y)
2c. I cannot decide who might have changed the schedule

2 (negative) O Yórgos den sinfónise me ton Mihάli na allάksi to prógramma ton kalokerinón diakopón.
Yorgos did not propose Mihalis to change the summer holiday schedule.
Who might have not changed the schedule?
2a. Yorgos (the X)
2b. Mihalis (the Y)
2c. I cannot decide who might have not changed the schedule

3 (affirmative) O Stάvros iposhέthike ston Alexi na agorάsi perissótera vivlía.
Stavros promised Alexis to buy more books.
Who might have bought more books?
3a. Stavros (the X)
3b. Alexis (the Y)
3c. I cannot decide who might have bought more books

3 (negative) O Stάvros den iposhέthike ston Alexi na agorάsi perissótera vivlía.
Stavros didn't promise Alexis to buy more books.
Who might have not bought more books?
3a. Alexis (the Y)
3b. Stavros (the X)
3c. I cannot decide who might have not bought more books

Factive verbs

1 (affirmative) I Chrisí thimíthike na apantísi éngera stin epistolí
Chrisi remembered to answer the letter in time.
Is it true that:
1a. the letter might have been answered in time
1b. the letter was not answered in time
1c. the letter was answered in time

1 (negative) I Chrisí den thimíthike na apantísi éngera stin epistolí
Chrisi didn't remember to answer the letter in time.
Is it true that:
1a. the letter was not answered in time
1b. the letter might have been answered in time
1c. the letter was answered in time

2 (affirmative) O Kiriάkos lismónise na klidósi tin pórta tou spitioú
Kiriakos forgot to lock the door of the house.
Is it true that:
1a. the door of the house was locked
1b. the door of the house was not locked
1c. the door of the house might haven't been locked

2 (negative) O Kiriάkos den lismónise na klidósi tin pórta tou spitioú
Kiriakos didn't forget to lock the door of the house.
Is it true that:
1a. the door of the house was locked
1b. the door of the house might haven't been locked
1c. the door of the house was not locked

3 (affirmative) I Elέni gnórize óti i Lukía éfige norís to proí
Helen knew that Lucia left early in the morning.
Is it true that:
1a. Lucia didn't leave early in the morning
1b. Lucia might have left early in the morning
1c. Lucia left early in the morning

3 (negative) I Elέni den gnórize óti i Lukía éfige norís to proí
Helen didn't know that Lucia left early in the morning.
Is it true that:
1a. Lucia might have left early in the morning
1b. Lucia didn't leave early in the morning
1c. Lucia left early in the morning

The stimuli of the SMVUT and the CMVUT in the pseudo-randomized order in which were presented to the participants.

1. Anthimos proposed Perikles to play basketball with the school team.
Who might have played basketball?
1a. Perikles
1b. Anthimos
1c.I cannot decide who might have played basketball

2. Lucia didn’t know that Irene came back from holiday.
Is it true that:
2a. Irene didn’t come back from holiday
2b. Irene might have come back from holiday
2c. Irene came back from holiday

3. Pavlos agreed with Christos to spend less money.
Who might have spent less money?
3a. Christos
3b.Pavlos
3c. I cannot decide who might have spent less money

4. Socrates didn’t forget to return the books to the library in time.
Is it true that:
4a. The books might have not been returned on time
4b. The books were not returned on time
4c. The books were returned on time

5. Stavros didn’t promise Alexis to buy more books.
Who might have not bought more books?
5a. Stavros
5b. Alexis
5c. I cannot decide who might have not bought more books

6. Chrisi remembered to answer to the letter in time.
Is it true that:
6a. The letter was not answered in time
6b. The letter might have been answered in time
6c. The letter was answered in time

7. Yorgos didn’t propose Mihalis to change the summer holiday schedule.
Who might have not changed the schedule?
7a. Yorgos
7b. Mihalis
7c. I cannot decide who might have not changed the schedule

8. Kyriakos forgot to lock the door
Is it true that:
8a. The door was locked
8b. The door might have been locked
8c.The door was not locked

9. Mihalis promised Giannes to invite a lot of friends to the party.
Who might have invited a lot of friends?
9a. Giannes
9b. Mihalis
9c. I cannot decide who might have invited a lot of friends

10. Chrisanthi didn’t remember to pay the installment of the loan.

Is it true that:
10a. The installment of the loan was paid
10b. The installment of the loan wasn't paid
10c. The installment of the loan might have been paid

11. Fotis didn't agree with Takis to be paid at the end of each week.
Who might have not been paid in the end of each week?
11a. Fotis
11b.Takis
11c. I cannot decide who might have not been paid in the end of each week

12. Maria didn't know that Georgia bought a lot of books.
Is it true that:
12a. Georgia might have bought a lot of books
12b. Georgia did not buy a lot of books
12c. Georgia bought a lot of books

13. Pavlos proposed Tasos to travel later.
Who might have traveled later?
13a. Tasos
13b. Pavlos
13c. I cannot decide who might have traveled later

14. Charis didn't forget to leash the dog.
Is it true that:
14a. The dog was not leashed
14b. The dog was leashed
14c. The dog might has been leashed

15. Kostas didn't promise Yorgos to drive the car.
Who might have not driven the car?
15a. Kostas
15b. Yorgos
15c. I cannot decide who might have not driven the car

16. Ioanna didn't remember to feed the dog in the morning.
Is it true that:
16a. The dog might have been fed in the morning
16b. The dog was not fed in the morning
16c.The dog was fed in the morning

17. Dimos agreed with Basilis to work more time.
Who might have worked more time?
17a. Basilis
17b. Dimos
17c. I cannot decide who might have worked more time

18. Eleni knew that Lucia left early in the morning.
Is it true that:
18a. Lucia did not leave early in the morning

18b. Lucia might have left early in the morning
18c. Lucia left early in the morning

19. Grigoris didn't propose Petros to sell the old car.
Who might have not sold the old car?
19a. Grigoris
19b. Petros
19c. I cannot decide who might have not sold the old car

20. Antonis forgot to send wishes for his friend's birthday.
Is it true that:
20a. Antonis's friend might have received wishes
20b. Antonis's friend did not receive wishes
20c. Antonis's friend received wishes

21. Nikos promised Thanos to travel the next day.
Who might have traveled the next day?
21a. Thanos
21b. Nikos
21c. I cannot decide who might have traveled the next day

22. Fotini remembered to lend books to Eleftheria.
Is it true that:
22a. Eleftheria was lent books
22b. Eleftheria might have lent books
22c. Eleftheria was not lent books

23. Sotiris didn't agree with Andreas to visit the new museum.
Who might have not visited the new museum?
24a. Sotiris
24b. Andreas
24c. I cannot decide who might have not visited the new museum

24. Maria knew that Eleni travelled.
Is it true that:
24a. Eleni travelled
24b. Eleni did not travel
24c. Eleni might have travelled

SUPPLEMENTARY MATERIAL
One-factor solution vs. two-factor solution for the SMVUT model withour the old-old adult group

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EQS, A STRUCTURAL EQUATION PROGRAM          MULTIVARIATE SOFTWARE, INC.
  COPYRIGHT BY P.M. BENTLER                   VERSION 6.1 (C) 1985 - 2005 (B85).


    PROGRAM CONTROL INFORMATION

     1  /TITLE
     2  Model built by EQS 6 for Windows
     3  /SPECIFICATIONS
     4  DATA='c:\users\user\desktop\berlinverbswithoutoldest_1.ess';
     5  VARIABLES=71; CASES=86;
     6  METHOD=ML,ROBUST; ANALYSIS=COVARIANCE; MATRIX=RAW;
     7  /LABELS
     8  V1=CODE; V2=GENDER; V3=AGECAT; V4=AGE; V5=EDUC;
     9  V6=XARA; V7=EKPLIXI; V8=OUDETERO; V9=LIPIMENO; V10=THUMOS;
    10  V11=AGXOS; V12=AIDIA; V13=CORRECT; V14=RANGE; V15=PR1P;
    11  V16=GN1N; V17=S1P; V18=L1N; V19=Y1N; V20=TH1P;
    12  V21=P1N; V22=PR2N; V23=L2P; V24=Y2P; V25=TH2N;
    13  V26=P2P; V27=S2N; V28=GN2N; V29=PR3P; V30=L3N;
    14  V31=Y3N; V32=TH3N; V33=P3N; V34=S3P; V35=GN3P;
    15  V36=PR4N; V37=L4P; V38=Y4P; V39=TH4P; V40=P4P;
    16  V41=GN4P; V42=S4N; V43=PRP; V44=PRN; V45=SP;
    17  V46=SN; V47=YP; V48=YN; V49=PP; V50=PN;
    18  V51=PROTOTAL; V52=SYMFVNVT; V53=YPOSXOMA; V54=PISTEYVT; V55=SYNOLOPR;
    19  V56=SYNOLOSY; V57=SYNOLOYP; V58=SYNOLOPI; V59=TASITDEC; V60=TOTALPOS;
    20  V61=TOTALNEG; V62=FACTIVEP; V63=FACTIVEN; V64=TOTALNON; V65=TOTALFAC;
    21  V66=GNORIZOP; V67=GNORIZON; V68=LISMOMOP; V69=LISMOMON; V70=THYMAMAI;
    22  V71=V71_A;
    23  /EQUATIONS
    24  V43 =   1F1 + E43;
    25  V44 =   *F1 + E44;
    26  V45 =   *F1 + E45;
    27  V46 =   *F1 + E46;
```

```
28  V47 =   *F1 + E47;
29  V48 =   *F1 + E48;
30  /VARIANCES
31   F1 = *;
32   E43 = *;
33   E44 = *;
34   E45 = *;
35   E46 = *;
36   E47 = *;
37   E48 = *;
38  /COVARIANCES
39  E45,E43 = *;
40  /PRINT
41  FIT=ALL;
42  TABLE=EQUATION;
43  /LMTEST
44  PROCESS=SIMULTANEOUS;
45  SET=PVV,PFV,PFF,PDD,GVV,GVF,GFV,GFF,
46  BVF,BFF;
47  /WTEST
48  PVAL=0.05;
49  PRIORITY=ZERO;
50  /END


   50 RECORDS OF INPUT MODEL FILE WERE READ


DATA IS READ FROM c:\users\user\desktop\berlinverbswithoutoldest_1.ess
THERE ARE  71 VARIABLES AND    86 CASES
IT IS A RAW DATA ESS FILE
```

SAMPLE STATISTICS BASED ON COMPLETE CASES

UNIVARIATE STATISTICS

VARIABLE	PRP V43	PRN V44	SP V45	SN V46	YP V47
MEAN	.3372	.5814	.5116	.7093	.1860
SKEWNESS (G1)	1.5348	.8950	.9669	.5732	2.3693
KURTOSIS (G2)	1.2998	-.8511	-.2899	-1.2272	5.0148
STANDARD DEV.	.5863	.8039	.6816	.8097	.4475

VARIABLE	YN V48
MEAN	.5581
SKEWNESS (G1)	.8429
KURTOSIS (G2)	-.5213
STANDARD DEV.	.6963

MULTIVARIATE KURTOSIS

MARDIA'S COEFFICIENT (G2,P) = 14.8015
NORMALIZED ESTIMATE = 7.0047

BONETT-WOODWARD-RANDALL TEST SHOWS SIGNIFICANT EXCESS KURTOSIS
INDICATIVE OF NON-NORMALITY AT A ONE-TAIL .05 LEVEL.

ELLIPTICAL THEORY KURTOSIS ESTIMATES

MARDIA-BASED KAPPA = .3084 MEAN SCALED UNIVARIATE KURTOSIS = .1903

MARDIA-BASED KAPPA IS USED IN COMPUTATION. KAPPA= .3084

CASE NUMBERS WITH LARGEST CONTRIBUTION TO NORMALIZED MULTIVARIATE KURTOSIS:

CASE NUMBER	6	15	26	34	43
ESTIMATE	93.5890	182.5853	135.7264	139.2267	270.4189

TITLE: Model built by EQS 6 for Windows

COVARIANCE MATRIX TO BE ANALYZED: 6 VARIABLES (SELECTED FROM 71 VARIABLES)
BASED ON 86 CASES.

		PRP V43	PRN V44	SP V45	SN V46	YP V47
PRP	V43	.344				
PRN	V44	.237	.646			
SP	V45	.249	.217	.465		
SN	V46	.229	.395	.315	.656	
YP	V47	.078	.091	.092	.184	.200
YN	V48	.174	.283	.170	.270	.107

		YN V48
YN	V48	.485

BENTLER-WEEKS STRUCTURAL REPRESENTATION:

NUMBER OF DEPENDENT VARIABLES = 6
DEPENDENT V'S : 43 44 45 46 47 48

NUMBER OF INDEPENDENT VARIABLES = 7
INDEPENDENT F'S : 1
INDEPENDENT E'S : 43 44 45 46 47 48

NUMBER OF FREE PARAMETERS = 13
NUMBER OF FIXED NONZERO PARAMETERS = 7

*** WARNING MESSAGES ABOVE, IF ANY, REFER TO THE MODEL PROVIDED.

CALCULATIONS FOR INDEPENDENCE MODEL NOW BEGIN.

*** WARNING MESSAGES ABOVE, IF ANY, REFER TO INDEPENDENCE MODEL.
CALCULATIONS FOR USER'S MODEL NOW BEGIN.

3RD STAGE OF COMPUTATION REQUIRED 8393 WORDS OF MEMORY.
PROGRAM ALLOCATED 2000000 WORDS

DETERMINANT OF INPUT MATRIX IS .71446D-03

PARAMETER ESTIMATES APPEAR IN ORDER,
NO SPECIAL PROBLEMS WERE ENCOUNTERED DURING OPTIMIZATION.

RESIDUAL COVARIANCE MATRIX (S-SIGMA) :

		PRP V43	PRN V44	SP V45	SN V46	YP V47
PRP	V43	.000				
PRN	V44	.033	.000			
SP	V45	.000	-.026	.000		
SN	V46	-.020	.001	.020	.000	
YP	V47	-.007	-.043	-.008	.022	.000
YN	V48	.021	.041	-.012	-.025	.007

		YN V48
YN	V48	.000

AVERAGE ABSOLUTE COVARIANCE RESIDUALS = .0136
AVERAGE OFF-DIAGONAL ABSOLUTE COVARIANCE RESIDUALS = .0190

STANDARDIZED RESIDUAL MATRIX:

		PRP V43	PRN V44	SP V45	SN V46	YP V47
PRP	V43	.000				
PRN	V44	.069	.000			
SP	V45	.000	-.048	.000		
SN	V46	-.042	.001	.036	.000	
YP	V47	-.025	-.120	-.027	.059	.000
YN	V48	.053	.074	-.025	-.044	.021

		YN V48
YN	V48	.000

AVERAGE ABSOLUTE STANDARDIZED RESIDUALS = .0307

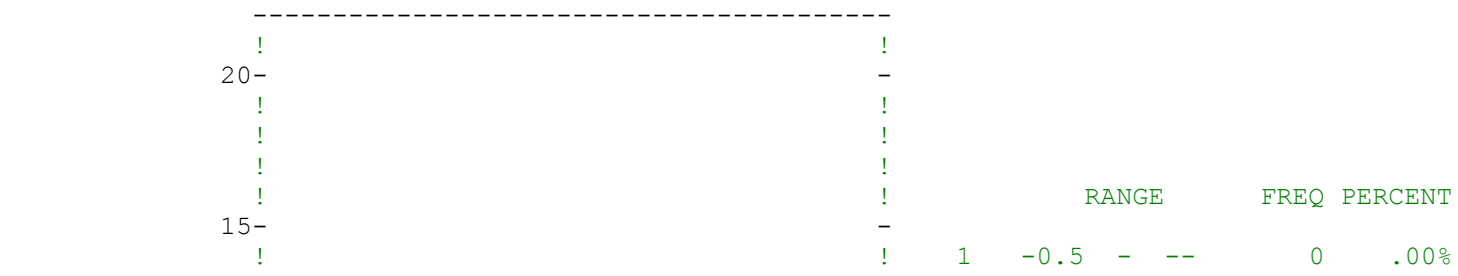
AVERAGE OFF-DIAGONAL ABSOLUTE STANDARDIZED RESIDUALS = .0429

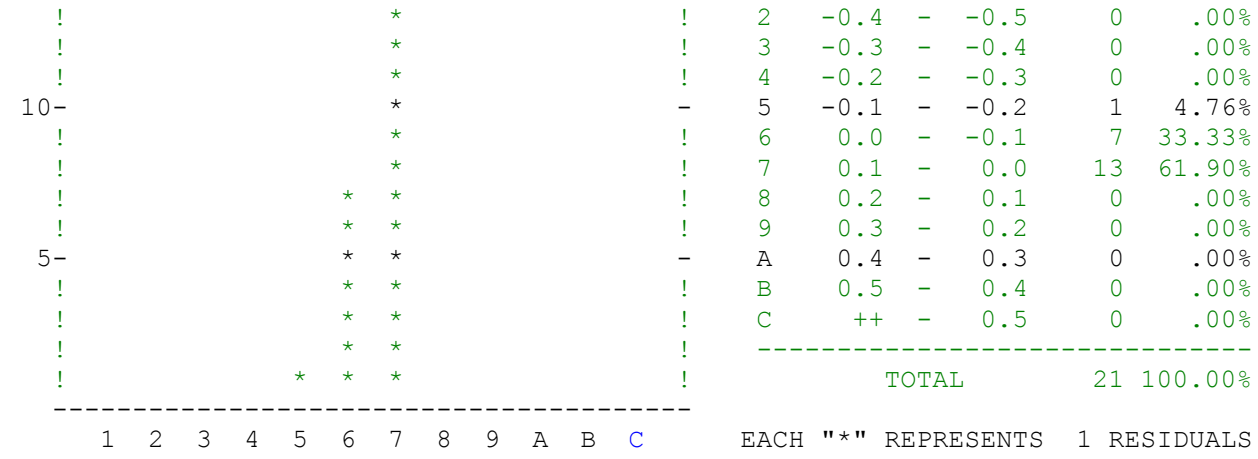
MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

LARGEST STANDARDIZED RESIDUALS:

NO.	PARAMETER	ESTIMATE	NO.	PARAMETER	ESTIMATE
1	V47, V44	-.120	11	V47, V43	-.025
2	V48, V44	.074	12	V48, V45	-.025
3	V44, V43	.069	13	V48, V47	.021
4	V47, V46	.059	14	V46, V44	.001
5	V48, V43	.053	15	V46, V46	.000
6	V45, V44	-.048	16	V45, V45	.000
7	V48, V46	-.044	17	V47, V47	.000
8	V46, V43	-.042	18	V45, V43	.000
9	V46, V45	.036	19	V44, V44	.000
10	V47, V45	-.027	20	V48, V48	.000

DISTRIBUTION OF STANDARDIZED RESIDUALS




!
*
!
2 -0.4 - -0.5 0 .00%
3 -0.3 - -0.4 0 .00%
4 -0.2 - -0.3 0 .00%
10- 5 -0.1 - -0.2 1 4.76%
6 0.0 - -0.1 7 33.33%
7 0.1 - 0.0 13 61.90%
8 0.2 - 0.1 0 .00%
9 0.3 - 0.2 0 .00%
5- A 0.4 - 0.3 0 .00%
B 0.5 - 0.4 0 .00%
C ++ - 0.5 0 .00%
TOTAL 21 100.00%
1 2 3 4 5 6 7 8 9 A B C
EACH "*" REPRESENTS 1 RESIDUALS

TITLE: Model built by EQS 6 for Windows

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

GOODNESS OF FIT SUMMARY FOR METHOD = ML

INDEPENDENCE MODEL CHI-SQUARE = 188.602 ON 15 DEGREES OF FREEDOM

INDEPENDENCE AIC = 158.60167 INDEPENDENCE CAIC = 106.78646
MODEL AIC = -1.07129 MODEL CAIC = -28.70607

CHI-SQUARE = 14.929 BASED ON 8 DEGREES OF FREEDOM
PROBABILITY VALUE FOR THE CHI-SQUARE STATISTIC IS .06055

THE NORMAL THEORY RLS CHI-SQUARE FOR THIS ML SOLUTION IS 14.422.

FIT INDICES

BENTLER-BONETT	NORMED FIT INDEX =	.921
BENTLER-BONETT	NON-NORMED FIT INDEX =	.925
COMPARATIVE FIT INDEX (CFI)	=	.960
BOLLEN (IFI) FIT INDEX	=	.962
MCDONALD (MFI) FIT INDEX	=	.961
LISREL GFI FIT INDEX	=	.946
LISREL AGFI FIT INDEX	=	.859
ROOT MEAN-SQUARE RESIDUAL (RMR)	=	.019
STANDARDIZED RMR	=	.044
ROOT MEAN-SQUARE ERROR OF APPROXIMATION (RMSEA)	=	.101
90% CONFIDENCE INTERVAL OF RMSEA	(	.000, .178)

RELIABILITY COEFFICIENTS

```
CRONBACH'S ALPHA                    =      .826
COEFFICIENT ALPHA FOR AN OPTIMAL SHORT SCALE                =      .827
BASED ON  5 VARIABLES, ALL EXCEPT:
  YP
RELIABILITY COEFFICIENT RHO         =      .835
GREATEST LOWER BOUND RELIABILITY                            =      .903
GLB RELIABILITY FOR AN OPTIMAL SHORT SCALE                  =      .903
BASED ON ALL VARIABLES
BENTLER'S DIMENSION-FREE LOWER BOUND RELIABILITY            =      .902
SHAPIRO'S LOWER BOUND RELIABILITY FOR A WEIGHTED COMPOSITE  =      .910
WEIGHTS THAT ACHIEVE SHAPIRO'S LOWER BOUND:
  PRP       PRN       SP        SN        YP        YN
    .374      .476      .435      .541      .263      .289

MAXIMAL INTERNAL CONSISTENCY RELIABILITY          =      .856
MAXIMAL RELIABILITY CAN BE OBTAINED BY WEIGHTING THE VARIABLES AS FOLLOWS:
  PRP       PRN       SP        SN        YP        YN
    .685      .725      .621     1.607      .665      .575


GOODNESS OF FIT SUMMARY FOR METHOD = ROBUST

ROBUST INDEPENDENCE MODEL CHI-SQUARE =     138.134 ON    15 DEGREES OF FREEDOM

INDEPENDENCE AIC =   108.13366   INDEPENDENCE CAIC =    56.31845
       MODEL AIC =    -6.48314          MODEL CAIC =   -34.11792

SATORRA-BENTLER SCALED CHI-SQUARE =      9.5169 ON       8 DEGREES OF FREEDOM
PROBABILITY VALUE FOR THE CHI-SQUARE STATISTIC IS       .30059

RESIDUAL-BASED TEST STATISTIC                       =     8.313
PROBABILITY VALUE FOR THE CHI-SQUARE STATISTIC IS       .40353

YUAN-BENTLER RESIDUAL-BASED TEST STATISTIC          =     7.580
PROBABILITY VALUE FOR THE CHI-SQUARE STATISTIC IS       .47553
```

YUAN-BENTLER RESIDUAL-BASED F-STATISTIC = .954
DEGREES OF FREEDOM = 8, 78
PROBABILITY VALUE FOR THE F-STATISTIC IS .47834

FIT INDICES

BENTLER-BONETT NORMED FIT INDEX = .931
BENTLER-BONETT NON-NORMED FIT INDEX = .977
COMPARATIVE FIT INDEX (CFI) = .988
BOLLEN (IFI) FIT INDEX = .988
MCDONALD (MFI) FIT INDEX = .991
ROOT MEAN-SQUARE ERROR OF APPROXIMATION (RMSEA) = .047
90% CONFIDENCE INTERVAL OF RMSEA (.000, .140)

ITERATIVE SUMMARY

ITERATION	PARAMETER ABS CHANGE	ALPHA	FUNCTION
1	.174662	1.00000	.41802
2	.134222	1.00000	.19287
3	.014803	1.00000	.17697
4	.008350	1.00000	.17588
5	.003853	1.00000	.17568
6	.001572	1.00000	.17564
7	.000745	1.00000	.17563

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

MEASUREMENT EQUATIONS WITH STANDARD ERRORS AND TEST STATISTICS
STATISTICS SIGNIFICANT AT THE 5% LEVEL ARE MARKED WITH @.
(ROBUST STATISTICS IN PARENTHESES)

PRP =V43 = 1.000 F1 +1.000 E43

PRN =V44 = 1.586*F1 +1.000 E44
.315
5.035@
(.311)
(5.106@

SP =V45 = 1.190*F1 +1.000 E45
.199
5.968@
(.217)
(5.476@

SN =V46 = 1.928*F1 +1.000 E46
.352
5.477@
(.366)
(5.264@

```
YP    =V47 =   .654*F1    +1.000 E47
                .163
              4.023@
             (  .219)
             ( 2.991@

YN    =V48 =  1.186*F1    +1.000 E48
                .262
              4.533@
             (  .283)
             ( 4.189@
```

TITLE: Model built by EQS 6 for Windows

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

VARIANCES OF INDEPENDENT VARIABLES

STATISTICS SIGNIFICANT AT THE 5% LEVEL ARE MARKED WITH @.

V		F		
I F1	-	F1	.129*I	
I			.045 I	
I			2.872@I	
I			(.048)I	
I			(2.688@I	
I			I	

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

VARIANCES OF INDEPENDENT VARIABLES

STATISTICS SIGNIFICANT AT THE 5% LEVEL ARE MARKED WITH @.

	E	D
E43 - PRP	.215*I	I
	.037 I	I
	5.733@I	I
	(.044)I	I
	(4.856@I	I
	I	I
E44 - PRN	.322*I	I
	.062 I	I
	5.232@I	I
	(.069)I	I
	(4.655@I	I
	I	I
E45 - SP	.282*I	I
	.050 I	I
	5.677@I	I
	(.052)I	I
	(5.427@I	I
	I	I
E46 - SN	.177*I	I
	.055 I	I
	3.209@I	I
	(.064)I	I
	(2.745@I	I
	I	I
E47 - YP	.145*I	I

```
                          .024 I                                  I
                         6.061@I                                  I
                        (  .034)I                                 I
                        ( 4.290@I                                 I
                               I                                  I
E48 -  YN                  .304*I                                 I
                           .052 I                                 I
                         5.786@I                                  I
                        (  .055)I                                 I
                        ( 5.512@I                                 I
                               I                                  I
```

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

COVARIANCES AMONG INDEPENDENT VARIABLES

STATISTICS SIGNIFICANT AT THE 5% LEVEL ARE MARKED WITH @.

	E	D
E45 - SP	.096*I	I
E43 - PRP	.034 I	I
	2.832@I	I
	(.031)I	I
	(3.106@I	I
	I	I

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

STANDARDIZED SOLUTION: R-SQUARED

PRP	=V43 =	.612 F1	+ .791 E43	.375
PRN	=V44 =	.708*F1	+ .706 E44	.501
SP	=V45 =	.626*F1	+ .779 E45	.392
SN	=V46 =	.855*F1	+ .519 E46	.730
YP	=V47 =	.525*F1	+ .851 E47	.276
YN	=V48 =	.611*F1	+ .791 E48	.374

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

CORRELATIONS AMONG INDEPENDENT VARIABLES

	E	D
E45 - SP	.389*I	I
E43 - PRP	I	I
	I	I

E N D O F M E T H O D

```
EQS, A STRUCTURAL EQUATION PROGRAM          MULTIVARIATE SOFTWARE, INC.
COPYRIGHT BY P.M. BENTLER                   VERSION 6.1 (C) 1985 - 2005 (B85).
```

PROGRAM CONTROL INFORMATION

```
 1  /TITLE
 2  Model built by EQS 6 for Windows
 3  /SPECIFICATIONS
 4  DATA='c:\users\user\desktop\berlinverbswithoutoldest_1.ess';
 5  VARIABLES=71; CASES=86;
 6  METHOD=ML,ROBUST; ANALYSIS=COVARIANCE; MATRIX=RAW;
 7  /LABELS
 8  V1=CODE; V2=GENDER; V3=AGECAT; V4=AGE; V5=EDUC;
 9  V6=XARA; V7=EKPLIXI; V8=OUDETERO; V9=LIPIMENO; V10=THUMOS;
10  V11=AGXOS; V12=AIDIA; V13=CORRECT; V14=RANGE; V15=PR1P;
11  V16=GN1N; V17=S1P; V18=L1N; V19=Y1N; V20=TH1P;
12  V21=P1N; V22=PR2N; V23=L2P; V24=Y2P; V25=TH2N;
13  V26=P2P; V27=S2N; V28=GN2N; V29=PR3P; V30=L3N;
14  V31=Y3N; V32=TH3N; V33=P3N; V34=S3P; V35=GN3P;
15  V36=PR4N; V37=L4P; V38=Y4P; V39=TH4P; V40=P4P;
16  V41=GN4P; V42=S4N; V43=PRP; V44=PRN; V45=SP;
17  V46=SN; V47=YP; V48=YN; V49=PP; V50=PN;
18  V51=PROTOTAL; V52=SYMFVNVT; V53=YPOSXOMA; V54=PISTEYVT; V55=SYNOLOPR;
19  V56=SYNOLOSY; V57=SYNOLOYP; V58=SYNOLOPI; V59=TASITDEC; V60=TOTALPOS;
20  V61=TOTALNEG; V62=FACTIVEP; V63=FACTIVEN; V64=TOTALNON; V65=TOTALFAC;
21  V66=GNORIZOP; V67=GNORIZON; V68=LISMOMOP; V69=LISMOMON; V70=THYMAMAI;
22  V71=V71_A;
23  /EQUATIONS
24  V43 =   1F1 + E43;
25  V44 =   1F2 + E44;
26  V45 =   *F1 + E45;
27  V46 =   *F2 + E46;
28  V47 =   *F1 + E47;
29  V48 =   *F2 + E48;
30  /VARIANCES
```

```
31   F1 = *;
32   F2 = *;
33   E43 = *;
34   E44 = *;
35   E45 = *;
36   E46 = *;
37   E47 = *;
38   E48 = *;
39  /COVARIANCES
40  F2,F1 = *;
41  E45,E43 = *;
42  /PRINT
43  FIT=ALL;
44  TABLE=EQUATION;
45  /LMTEST
46  PROCESS=SIMULTANEOUS;
47  SET=PVV,PFV,PFF,PDD,GVV,GVF,GFV,GFF,
48  BVF,BFF;
49  /WTEST
50  PVAL=0.05;
51  PRIORITY=ZERO;
52  /END


   52 RECORDS OF INPUT MODEL FILE WERE READ


DATA IS READ FROM c:\users\user\desktop\berlinverbswithoutoldest_1.ess
THERE ARE  71 VARIABLES AND    86 CASES
IT IS A RAW DATA ESS FILE
```

SAMPLE STATISTICS BASED ON COMPLETE CASES

UNIVARIATE STATISTICS

VARIABLE	PRP V43	PRN V44	SP V45	SN V46	YP V47
MEAN	.3372	.5814	.5116	.7093	.1860
SKEWNESS (G1)	1.5348	.8950	.9669	.5732	2.3693
KURTOSIS (G2)	1.2998	-.8511	-.2899	-1.2272	5.0148
STANDARD DEV.	.5863	.8039	.6816	.8097	.4475

VARIABLE	YN V48
MEAN	.5581
SKEWNESS (G1)	.8429
KURTOSIS (G2)	-.5213
STANDARD DEV.	.6963

MULTIVARIATE KURTOSIS

MARDIA'S COEFFICIENT (G2,P) = 14.8015
NORMALIZED ESTIMATE = 7.0047

BONETT-WOODWARD-RANDALL TEST SHOWS SIGNIFICANT EXCESS KURTOSIS
INDICATIVE OF NON-NORMALITY AT A ONE-TAIL .05 LEVEL.

ELLIPTICAL THEORY KURTOSIS ESTIMATES

MARDIA-BASED KAPPA = .3084 MEAN SCALED UNIVARIATE KURTOSIS = .1903

MARDIA-BASED KAPPA IS USED IN COMPUTATION. KAPPA= .3084

CASE NUMBERS WITH LARGEST CONTRIBUTION TO NORMALIZED MULTIVARIATE KURTOSIS:

CASE NUMBER	6	15	26	34	43
ESTIMATE	93.5890	182.5853	135.7264	139.2267	270.4189

TITLE: Model built by EQS 6 for Windows

COVARIANCE MATRIX TO BE ANALYZED: 6 VARIABLES (SELECTED FROM 71 VARIABLES)
BASED ON 86 CASES.

		PRP V43	PRN V44	SP V45	SN V46	YP V47
PRP	V43	.344				
PRN	V44	.237	.646			
SP	V45	.249	.217	.465		
SN	V46	.229	.395	.315	.656	
YP	V47	.078	.091	.092	.184	.200
YN	V48	.174	.283	.170	.270	.107

		YN V48
YN	V48	.485

BENTLER-WEEKS STRUCTURAL REPRESENTATION:

NUMBER OF DEPENDENT VARIABLES = 6
DEPENDENT V'S : 43 44 45 46 47 48

NUMBER OF INDEPENDENT VARIABLES = 8
INDEPENDENT F'S : 1 2
INDEPENDENT E'S : 43 44 45 46 47 48

NUMBER OF FREE PARAMETERS = 14
NUMBER OF FIXED NONZERO PARAMETERS = 8

*** WARNING MESSAGES ABOVE, IF ANY, REFER TO THE MODEL PROVIDED.

```
    CALCULATIONS FOR INDEPENDENCE MODEL NOW BEGIN.

*** WARNING MESSAGES ABOVE, IF ANY, REFER TO INDEPENDENCE MODEL.
    CALCULATIONS FOR USER'S MODEL NOW BEGIN.


 3RD STAGE OF COMPUTATION REQUIRED      8625 WORDS OF MEMORY.
 PROGRAM ALLOCATED   2000000 WORDS

 DETERMINANT OF INPUT MATRIX IS    .71446D-03

IN ITERATION #  1, MATRIX W_CFUNCT MAY NOT BE POSITIVE DEFINITE.
 YOU HAVE BAD START VALUES TO BEGIN WITH.
 IF ABOVE MESSAGE APPEARS ON EVERY ITERATION, PLEASE PROVIDE BETTER START VALUES AND RE-RUN THE JOB.

 PARAMETER ESTIMATES APPEAR IN ORDER,
 NO SPECIAL PROBLEMS WERE ENCOUNTERED DURING OPTIMIZATION.



 RESIDUAL COVARIANCE MATRIX  (S-SIGMA) :


                      PRP        PRN        SP         SN         YP
                       V43        V44        V45        V46        V47
     PRP    V43         .000
     PRN    V44         .032       .000
     SP     V45         .000      -.027       .000
     SN     V46        -.022       .004       .017       .000
     YP     V47         .000      -.045       .000       .018       .000
     YN     V48         .020       .043      -.013      -.024       .005


                      YN
                       V48
     YN     V48         .000
```

AVERAGE ABSOLUTE COVARIANCE RESIDUALS = .0129
AVERAGE OFF-DIAGONAL ABSOLUTE COVARIANCE RESIDUALS = .0181

STANDARDIZED RESIDUAL MATRIX:

		PRP V43	PRN V44	SP V45	SN V46	YP V47
PRP	V43	.000				
PRN	V44	.068	.000			
SP	V45	.000	-.049	.000		
SN	V46	-.046	.006	.031	.000	
YP	V47	.001	-.125	-.001	.051	.000
YN	V48	.049	.077	-.028	-.043	.015

		YN V48
YN	V48	.000

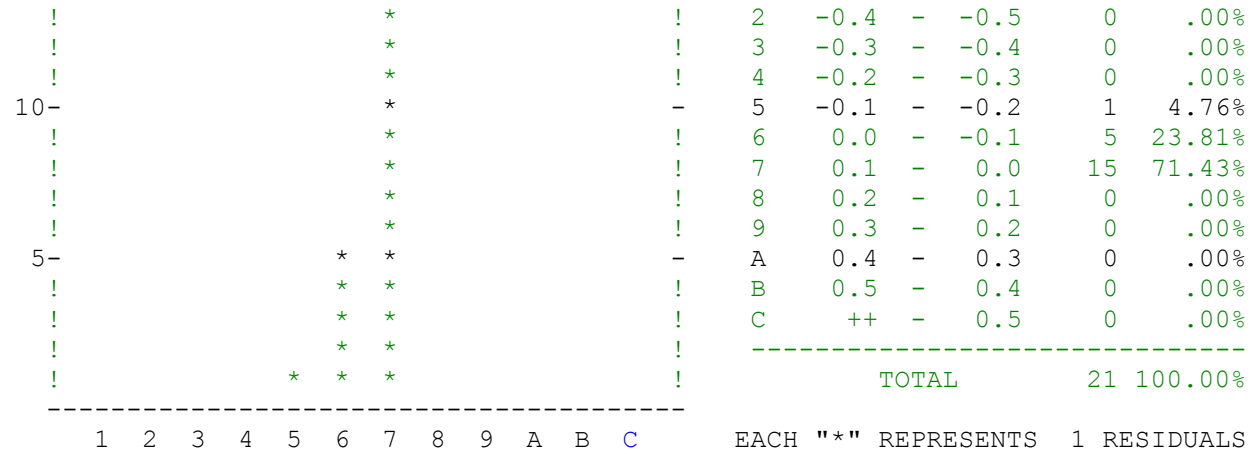
AVERAGE ABSOLUTE STANDARDIZED RESIDUALS = .0281
AVERAGE OFF-DIAGONAL ABSOLUTE STANDARDIZED RESIDUALS = .0394

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

LARGEST STANDARDIZED RESIDUALS:

NO.	PARAMETER	ESTIMATE	NO.	PARAMETER	ESTIMATE
1	V47, V44	-.125	11	V48, V47	.015
2	V48, V44	.077	12	V46, V44	.006
3	V44, V43	.068	13	V47, V43	.001
4	V47, V46	.051	14	V47, V45	-.001
5	V48, V43	.049	15	V46, V46	.000
6	V45, V44	-.049	16	V48, V48	.000
7	V46, V43	-.046	17	V47, V47	.000
8	V48, V46	-.043	18	V45, V45	.000
9	V46, V45	.031	19	V45, V43	.000
10	V48, V45	-.028	20	V44, V44	.000

DISTRIBUTION OF STANDARDIZED RESIDUALS



2	-0.4	-0.5	0	.00%
3	-0.3	-0.4	0	.00%
4	-0.2	-0.3	0	.00%
5	-0.1	-0.2	1	4.76%
6	0.0	-0.1	5	23.81%
7	0.1	0.0	15	71.43%
8	0.2	0.1	0	.00%
9	0.3	0.2	0	.00%
A	0.4	0.3	0	.00%
B	0.5	0.4	0	.00%
C	++	0.5	0	.00%
TOTAL			21	100.00%

EACH "*" REPRESENTS 1 RESIDUALS

TITLE: Model built by EQS 6 for Windows

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

GOODNESS OF FIT SUMMARY FOR METHOD = ML

INDEPENDENCE MODEL CHI-SQUARE = 188.602 ON 15 DEGREES OF FREEDOM

INDEPENDENCE AIC = 158.60167 INDEPENDENCE CAIC = 106.78646
MODEL AIC = .66023 MODEL CAIC = -23.52020

CHI-SQUARE = 14.660 BASED ON 7 DEGREES OF FREEDOM
PROBABILITY VALUE FOR THE CHI-SQUARE STATISTIC IS .04061

THE NORMAL THEORY RLS CHI-SQUARE FOR THIS ML SOLUTION IS 14.070.

FIT INDICES

BENTLER-BONETT	NORMED FIT INDEX =	.922
BENTLER-BONETT	NON-NORMED FIT INDEX =	.905
COMPARATIVE FIT INDEX (CFI)	=	.956
BOLLEN (IFI) FIT INDEX	=	.958
MCDONALD (MFI) FIT INDEX	=	.956
LISREL GFI FIT INDEX	=	.948
LISREL AGFI FIT INDEX	=	.843
ROOT MEAN-SQUARE RESIDUAL (RMR)	=	.019
STANDARDIZED RMR	=	.043
ROOT MEAN-SQUARE ERROR OF APPROXIMATION (RMSEA)	=	.113
90% CONFIDENCE INTERVAL OF RMSEA	(	.022, .194)

RELIABILITY COEFFICIENTS

```
CRONBACH'S ALPHA                    =      .826
COEFFICIENT ALPHA FOR AN OPTIMAL SHORT SCALE                =      .827
BASED ON  5 VARIABLES, ALL EXCEPT:
  YP
RELIABILITY COEFFICIENT RHO         =      .810
GREATEST LOWER BOUND RELIABILITY                            =      .903
GLB RELIABILITY FOR AN OPTIMAL SHORT SCALE                  =      .903
BASED ON ALL VARIABLES
BENTLER'S DIMENSION-FREE LOWER BOUND RELIABILITY            =      .902
SHAPIRO'S LOWER BOUND RELIABILITY FOR A WEIGHTED COMPOSITE  =      .910
WEIGHTS THAT ACHIEVE SHAPIRO'S LOWER BOUND:
  PRP       PRN       SP        SN        YP        YN
    .374      .476      .435      .541      .263      .289



GOODNESS OF FIT SUMMARY FOR METHOD = ROBUST

ROBUST INDEPENDENCE MODEL CHI-SQUARE =     138.134 ON    15 DEGREES OF FREEDOM

INDEPENDENCE AIC =   108.13366   INDEPENDENCE CAIC =    56.31845
       MODEL AIC =    -4.49022          MODEL CAIC =   -28.67065

SATORRA-BENTLER SCALED CHI-SQUARE =      9.5098 ON       7 DEGREES OF FREEDOM
PROBABILITY VALUE FOR THE CHI-SQUARE STATISTIC IS       .21810

RESIDUAL-BASED TEST STATISTIC                       =     8.259
PROBABILITY VALUE FOR THE CHI-SQUARE STATISTIC IS       .31034

YUAN-BENTLER RESIDUAL-BASED TEST STATISTIC          =     7.535
PROBABILITY VALUE FOR THE CHI-SQUARE STATISTIC IS       .37537

YUAN-BENTLER RESIDUAL-BASED F-STATISTIC     =      1.097
DEGREES OF FREEDOM  =                           7,    79
PROBABILITY VALUE FOR THE F-STATISTIC IS          .37364
```

FIT INDICES

BENTLER-BONETT NORMED FIT INDEX = .931
BENTLER-BONETT NON-NORMED FIT INDEX = .956
COMPARATIVE FIT INDEX (CFI) = .980
BOLLEN (IFI) FIT INDEX = .981
MCDONALD (MFI) FIT INDEX = .986
ROOT MEAN-SQUARE ERROR OF APPROXIMATION (RMSEA) = .065
90% CONFIDENCE INTERVAL OF RMSEA (.000, .157)

ITERATIVE SUMMARY

ITERATION	PARAMETER ABS CHANGE	ALPHA	FUNCTION
1	.183329	.50000	1.19757
2	.252677	1.00000	.78416
3	.089912	1.00000	.44955
4	.139772	.50000	.25848
5	.043356	1.00000	.18037
6	.019545	1.00000	.17383
7	.006617	1.00000	.17273
8	.003017	1.00000	.17252
9	.001513	1.00000	.17248
10	.000646	1.00000	.17247

TITLE: Model built by EQS 6 for Windows

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

MEASUREMENT EQUATIONS WITH STANDARD ERRORS AND TEST STATISTICS
STATISTICS SIGNIFICANT AT THE 5% LEVEL ARE MARKED WITH @.
(ROBUST STATISTICS IN PARENTHESES)

PRP =V43 = 1.000 F1 +1.000 E43

PRN =V44 = 1.000 F2 +1.000 E44

SP =V45 = 1.190*F1 +1.000 E45
.199
5.981@
(.214)
(5.569@

SN =V46 = 1.224*F2 +1.000 E46
.190
6.449@
(.181)
(6.747@

```
YP    =V47 =   .662*F1    +1.000 E47
                .166
              3.992@
             (  .218)
             ( 3.034@

YN    =V48 =   .753*F2    +1.000 E48
                .149
              5.036@
             (  .146)
             ( 5.164@
```

TITLE: Model built by EQS 6 for Windows

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

VARIANCES OF INDEPENDENT VARIABLES

STATISTICS SIGNIFICANT AT THE 5% LEVEL ARE MARKED WITH @.

V		F	
I F1	-	F1	.117*I
I			.048 I
I			2.441@I
I			(.046)I
I			(2.523@I
I			I
I F2	-	F2	.319*I
I			.093 I
I			3.444@I
I			(.081)I
I			(3.941@I
I			I

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

VARIANCES OF INDEPENDENT VARIABLES

STATISTICS SIGNIFICANT AT THE 5% LEVEL ARE MARKED WITH @.

	E	D
E43 - PRP	.227*I	I
	.044 I	I
	5.148@I	I
	(.059)I	I
	(3.812@I	I
	I	I
E44 - PRN	.327*I	I
	.062 I	I
	5.304@I	I
	(.069)I	I
	(4.711@I	I
	I	I
E45 - SP	.299*I	I
	.060 I	I
	5.016@I	I
	(.070)I	I
	(4.287@I	I
	I	I
E46 - SN	.178*I	I
	.055 I	I
	3.207@I	I
	(.069)I	I
	(2.590@I	I
	I	I

```
E47 -  YP                .149*I                                  I
                         .026 I                                  I
                        5.823@I                                  I
                       (  .038)I                                 I
                       ( 3.901@I                                 I
                              I                                  I
E48 -  YN                .304*I                                  I
                         .052 I                                  I
                        5.804@I                                  I
                       (  .055)I                                 I
                       ( 5.549@I                                 I
                              I                                  I
```

TITLE: Model built by EQS 6 for Windows

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

COVARIANCES AMONG INDEPENDENT VARIABLES

STATISTICS SIGNIFICANT AT THE 5% LEVEL ARE MARKED WITH @.

V		F	
I F2	-	F2	.205*I
I F1	-	F1	.051 I
I			3.988@I
I			(.053)I
I			(3.883@I
I			I

TITLE: Model built by EQS 6 for Windows

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

COVARIANCES AMONG INDEPENDENT VARIABLES

STATISTICS SIGNIFICANT AT THE 5% LEVEL ARE MARKED WITH @.

	E	D
E45 - SP	.110*I	I
E43 - PRP	.044 I	I
	2.503@I	I
	(.053)I	I
	(2.084@I	I
	I	I

TITLE: Model built by EQS 6 for Windows

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

STANDARDIZED SOLUTION: R-SQUARED

PRP	=V43 =	.584 F1	+ .812 E43	.341
PRN	=V44 =	.703 F2	+ .711 E44	.494
SP	=V45 =	.598*F1	+ .802 E45	.357
SN	=V46 =	.854*F2	+ .520 E46	.729
YP	=V47 =	.506*F1	+ .863 E47	.256
YN	=V48 =	.611*F2	+ .792 E48	.373

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

CORRELATIONS AMONG INDEPENDENT VARIABLES

V			F	
	I F2	-	F2	1.059*I
	I F1	-	F1	I
	I			I

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

CORRELATIONS AMONG INDEPENDENT VARIABLES

	E	D
E45 - SP	.421*I	I
E43 - PRP	I	I
	I	I

E N D O F M E T H O D

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

WALD TEST (FOR DROPPING PARAMETERS)
ROBUST INFORMATION MATRIX USED IN THIS WALD TEST
MULTIVARIATE WALD TEST BY SIMULTANEOUS PROCESS

	CUMULATIVE MULTIVARIATE STATISTICS				UNIVARIATE INCREMENT	
STEP	PARAMETER	CHI-SQUARE	D.F.	PROBABILITY	CHI-SQUARE	PROBABILITY

****
NONE OF THE FREE PARAMETERS IS DROPPED IN THIS PROCESS.

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

LAGRANGE MULTIPLIER TEST (FOR ADDING PARAMETERS)

ORDERED UNIVARIATE TEST STATISTICS:

NO	CODE	PARAMETER	CHI-SQUARE	PROB.	HANCOCK 7 DF PROB.	PARAMETER CHANGE	STANDARDIZED CHANGE
1	2 12	V44,F1	3.191	.074	.867	4.183	15.206
2	2 12	V46,F1	2.511	.113	.926	-5.012	-18.089
3	2 12	V48,F1	.131	.717	1.000	-.659	-2.768
4	2 12	V45,F2	.001	.979	1.000	-.047	-.121
5	2 12	V43,F2	.001	.979	1.000	.039	.118
6	2 12	V47,F2	.000	1.000	1.000	.000	.000
7	2 0	V43,F1	.000	1.000	1.000	.000	.000
8	2 0	V44,F2	.000	1.000	1.000	.000	.000

***** NONE OF THE UNIVARIATE LAGRANGE MULTIPLIERS IS SIGNIFICANT,
***** THE MULTIVARIATE TEST PROCEDURE WILL NOT BE EXECUTED.

LAGRANGIAN MULTIPLIER TEST REQUIRED 3363 WORDS OF MEMORY.
PROGRAM ALLOCATES 2000000 WORDS.
1
Execution begins at 02:52:21
Execution ends at 02:52:21
Elapsed time = .00 seconds

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

WALD TEST (FOR DROPPING PARAMETERS)
ROBUST INFORMATION MATRIX USED IN THIS WALD TEST
MULTIVARIATE WALD TEST BY SIMULTANEOUS PROCESS

	CUMULATIVE MULTIVARIATE STATISTICS				UNIVARIATE INCREMENT	
STEP	PARAMETER	CHI-SQUARE	D.F.	PROBABILITY	CHI-SQUARE	PROBABILITY

****
NONE OF THE FREE PARAMETERS IS DROPPED IN THIS PROCESS.

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

LAGRANGE MULTIPLIER TEST (FOR ADDING PARAMETERS)

ORDERED UNIVARIATE TEST STATISTICS:

NO	CODE	PARAMETER	CHI-SQUARE	PROB.	HANCOCK 8 DF PROB.	PARAMETER CHANGE	STANDARDIZED CHANGE
1	2 0	V43,F1	.000	1.000	.000	.000	.000

***** NONE OF THE UNIVARIATE LAGRANGE MULTIPLIERS IS SIGNIFICANT,
***** THE MULTIVARIATE TEST PROCEDURE WILL NOT BE EXECUTED.

LAGRANGIAN MULTIPLIER TEST REQUIRED 2740 WORDS OF MEMORY.
PROGRAM ALLOCATES 2000000 WORDS.
1
Execution begins at 02:47:35
Execution ends at 02:47:35
Elapsed time = .00 seconds

Exact age (in years) effects on latent factor and its indicators (non-significant)

PROGRAM CONTROL INFORMATION

```
 1  /TITLE
 2  Model built by EQS 6 for Windows
 3  /SPECIFICATIONS
 4  DATA='c:\users\user\desktop\berlinverbs-natsopoulos new_1.ess';
 5  VARIABLES=71; CASES=94;
 6  METHOD=ML,ROBUST; ANALYSIS=COVARIANCE; MATRIX=RAW;
 7  /LABELS
 8  V1=CODE; V2=GENDER; V3=AGECAT; V4=AGE; V5=EDUC;
 9  V6=XARA; V7=EKPLIXI; V8=OUDETERO; V9=LIPIMENO; V10=THUMOS;
10  V11=AGXOS; V12=AIDIA; V13=CORRECT; V14=RANGE; V15=PR1P;
11  V16=GN1N; V17=S1P; V18=L1N; V19=Y1N; V20=TH1P;
12  V21=P1N; V22=PR2N; V23=L2P; V24=Y2P; V25=TH2N;
13  V26=P2P; V27=S2N; V28=GN2N; V29=PR3P; V30=L3N;
14  V31=Y3N; V32=TH3N; V33=P3N; V34=S3P; V35=GN3P;
15  V36=PR4N; V37=L4P; V38=Y4P; V39=TH4P; V40=P4P;
16  V41=GN4P; V42=S4N; V43=PRP; V44=PRN; V45=SP;
17  V46=SN; V47=YP; V48=YN; V49=PP; V50=PN;
18  V51=PROTOTAL; V52=SYMFVNVT; V53=YPOSXOMA; V54=PISTEYVT; V55=SYNOLOPR;
19  V56=SYNOLOSY; V57=SYNOLOYP; V58=SYNOLOPI; V59=TASITDEC; V60=TOTALPOS;
20  V61=TOTALNEG; V62=FACTIVEP; V63=FACTIVEN; V64=TOTALNON; V65=TOTALFAC;
21  V66=GNORIZOP; V67=GNORIZON; V68=LISMOMOP; V69=LISMOMON; V70=THYMAMAI;
22  V71=V71_A;
23  /EQUATIONS
24  V43 =   1F1 + E43;
25  V44 =   *F1 + E44;
26  V45 =   *F1 + E45;
27  V46 =   *F1 + E46;
28  V47 =   *F1 + E47;
29  V48 =   *F1 + E48;
```

```
30  F1 =   *V4 + D1;
31  /VARIANCES
32   V4 = *;
33   E43 = *;
34   E44 = *;
35   E45 = *;
36   E46 = *;
37   E47 = *;
38   E48 = *;
39   D1 = *;
40  /COVARIANCES
41  E45,E43 = *;
42  /PRINT
43  FIT=ALL;
44  TABLE=EQUATION;
45  /LMTEST
46  PROCESS=SIMULTANEOUS;
47  SET=PVV,PFV,PFF,PDD,GVV,GVF,GFV,GFF,
48  BVF,BFF;
49  /WTEST
50  PVAL=0.05;
51  PRIORITY=ZERO;
52  /END


   52 RECORDS OF INPUT MODEL FILE WERE READ


DATA IS READ FROM c:\users\user\desktop\berlinverbs-natsopoulos new_1.ess
THERE ARE  71 VARIABLES AND    94 CASES
IT IS A RAW DATA ESS FILE
```

SAMPLE STATISTICS BASED ON COMPLETE CASES

UNIVARIATE STATISTICS

VARIABLE	AGE V4	PRP V43	PRN V44	SP V45	SN V46
MEAN	52.1170	.3191	.5957	.5106	.7234
SKEWNESS (G1)	-.1104	1.6068	.8491	.9757	.5475
KURTOSIS (G2)	-1.3954	1.5617	-.8791	-.2855	-1.2911
STANDARD DEV.	23.1074	.5720	.7941	.6838	.8218

VARIABLE	YP V47	YN V48
MEAN	.2021	.5319
SKEWNESS (G1)	2.3302	.9016
KURTOSIS (G2)	4.7141	-.3947
STANDARD DEV.	.4770	.6832

MULTIVARIATE KURTOSIS

MARDIA'S COEFFICIENT (G2,P) = 12.2627
NORMALIZED ESTIMATE = 5.2958

BONETT-WOODWARD-RANDALL TEST SHOWS SIGNIFICANT EXCESS KURTOSIS
INDICATIVE OF NON-NORMALITY AT A ONE-TAIL .05 LEVEL.

ELLIPTICAL THEORY KURTOSIS ESTIMATES

MARDIA-BASED KAPPA = .1946 MEAN SCALED UNIVARIATE KURTOSIS = .0967

MARDIA-BASED KAPPA IS USED IN COMPUTATION. KAPPA= .1946

CASE NUMBERS WITH LARGEST CONTRIBUTION TO NORMALIZED MULTIVARIATE KURTOSIS:

CASE NUMBER	15	26	34	43	70
ESTIMATE	159.0846	135.5504	137.6989	187.2339	177.5028

TITLE: Model built by EQS 6 for Windows

COVARIANCE MATRIX TO BE ANALYZED: 7 VARIABLES (SELECTED FROM 71 VARIABLES)
BASED ON 94 CASES.

		AGE V4	PRP V43	PRN V44	SP V45	SN V46
AGE	V4	533.954				
PRP	V43	-3.339	.327			
PRN	V44	-.802	.216	.631		
SP	V45	-2.512	.233	.219	.468	
SN	V46	-.365	.218	.403	.315	.675
YP	V47	-.497	.075	.093	.078	.207
YN	V48	-3.310	.173	.271	.177	.267

		YP V47	YN V48
YP	V47	.228	
YN	V48	.096	.467

BENTLER-WEEKS STRUCTURAL REPRESENTATION:

NUMBER OF DEPENDENT VARIABLES = 7
DEPENDENT V'S : 43 44 45 46 47 48
DEPENDENT F'S : 1

NUMBER OF INDEPENDENT VARIABLES = 8
INDEPENDENT V'S : 4
INDEPENDENT E'S : 43 44 45 46 47 48
INDEPENDENT D'S : 1

```
      NUMBER OF FREE PARAMETERS =  15
      NUMBER OF FIXED NONZERO PARAMETERS =   8

*** WARNING MESSAGES ABOVE, IF ANY, REFER TO THE MODEL PROVIDED.
    CALCULATIONS FOR INDEPENDENCE MODEL NOW BEGIN.

*** WARNING MESSAGES ABOVE, IF ANY, REFER TO INDEPENDENCE MODEL.
    CALCULATIONS FOR USER'S MODEL NOW BEGIN.


 3RD STAGE OF COMPUTATION REQUIRED     13253 WORDS OF MEMORY.
 PROGRAM ALLOCATED   2000000 WORDS

 DETERMINANT OF INPUT MATRIX IS    .37099D+00

 PARAMETER ESTIMATES APPEAR IN ORDER,
 NO SPECIAL PROBLEMS WERE ENCOUNTERED DURING OPTIMIZATION.



 RESIDUAL COVARIANCE MATRIX  (S-SIGMA) :
```

		AGE	PRP	PRN	SP	SN
		V4	V43	V44	V45	V46
AGE	V4	.000				
PRP	V43	-2.457	.000			
PRN	V44	.668	.025	.000		
SP	V45	-1.412	.000	-.019	.000	
SN	V46	1.481	-.022	.003	.015	.000
YP	V47	.145	-.009	-.046	-.026	.032
YN	V48	-2.233	.032	.037	.002	-.027

	YP	YN
	V47	V48

YP	V47	.000	
YN	V48	-.006	.000

AVERAGE ABSOLUTE COVARIANCE RESIDUALS = .3106
AVERAGE OFF-DIAGONAL ABSOLUTE COVARIANCE RESIDUALS = .4142

STANDARDIZED RESIDUAL MATRIX:

		AGE V4	PRP V43	PRN V44	SP V45	SN V46
AGE	V4	.000				
PRP	V43	-.186	.000			
PRN	V44	.036	.055	.000		
SP	V45	-.089	.000	-.035	.000	
SN	V46	.078	-.047	.004	.027	.000
YP	V47	.013	-.033	-.121	-.079	.082
YN	V48	-.141	.083	.069	.005	-.047

		YP V47	YN V48
YP	V47	.000	
YN	V48	-.020	.000

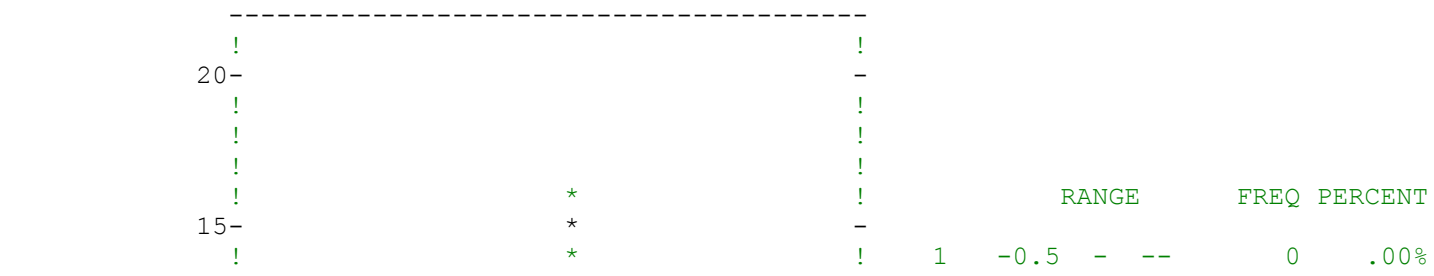
AVERAGE ABSOLUTE STANDARDIZED RESIDUALS = .0447
AVERAGE OFF-DIAGONAL ABSOLUTE STANDARDIZED RESIDUALS = .0596

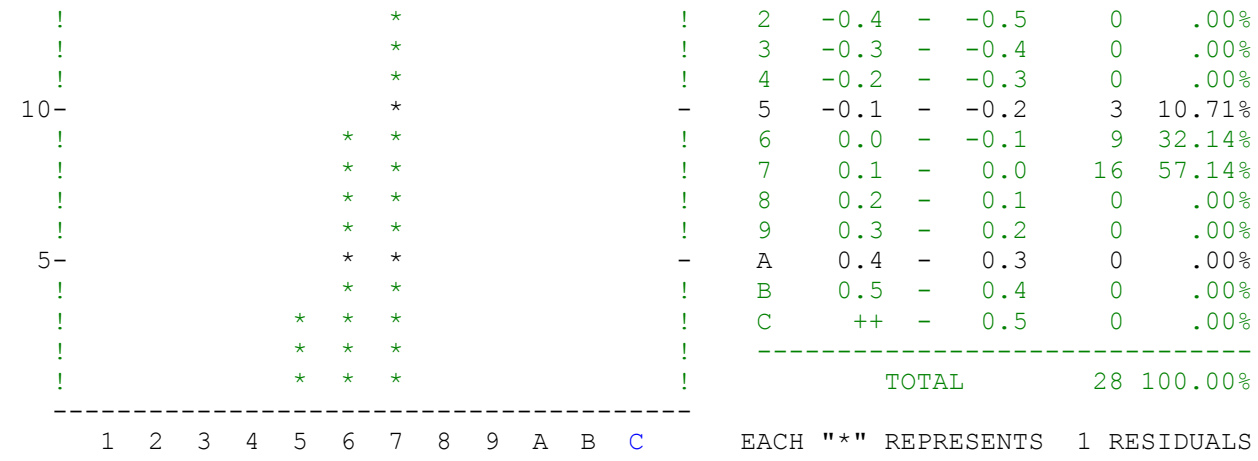
MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

LARGEST STANDARDIZED RESIDUALS:

NO.	PARAMETER	ESTIMATE	NO.	PARAMETER	ESTIMATE
1	V43, V4	-.186	11	V48, V46	-.047
2	V48, V4	-.141	12	V46, V43	-.047
3	V47, V44	-.121	13	V44, V4	.036
4	V45, V4	-.089	14	V45, V44	-.035
5	V48, V43	.083	15	V47, V43	-.033
6	V47, V46	.082	16	V46, V45	.027
7	V47, V45	-.079	17	V48, V47	-.020
8	V46, V4	.078	18	V47, V4	.013
9	V48, V44	.069	19	V48, V45	.005
10	V44, V43	.055	20	V46, V44	.004

DISTRIBUTION OF STANDARDIZED RESIDUALS





2	-0.4	-0.5	0	.00%
3	-0.3	-0.4	0	.00%
4	-0.2	-0.3	0	.00%
5	-0.1	-0.2	3	10.71%
6	0.0	-0.1	9	32.14%
7	0.1	0.0	16	57.14%
8	0.2	0.1	0	.00%
9	0.3	0.2	0	.00%
A	0.4	0.3	0	.00%
B	0.5	0.4	0	.00%
C	++	0.5	0	.00%
TOTAL			28	100.00%

EACH "*" REPRESENTS 1 RESIDUALS

TITLE: Model built by EQS 6 for Windows

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

GOODNESS OF FIT SUMMARY FOR METHOD = ML

INDEPENDENCE MODEL CHI-SQUARE = 213.736 ON 21 DEGREES OF FREEDOM

INDEPENDENCE AIC = 171.73565 INDEPENDENCE CAIC = 97.32646
MODEL AIC = 2.14915 MODEL CAIC = -43.91368

CHI-SQUARE = 28.149 BASED ON 13 DEGREES OF FREEDOM
PROBABILITY VALUE FOR THE CHI-SQUARE STATISTIC IS .00863

THE NORMAL THEORY RLS CHI-SQUARE FOR THIS ML SOLUTION IS 27.959.

FIT INDICES

BENTLER-BONETT	NORMED FIT INDEX =	.868
BENTLER-BONETT	NON-NORMED FIT INDEX =	.873
COMPARATIVE FIT INDEX (CFI)	=	.921
BOLLEN (IFI) FIT INDEX	=	.925
MCDONALD (MFI) FIT INDEX	=	.923
LISREL GFI FIT INDEX	=	.921
LISREL AGFI FIT INDEX	=	.830
ROOT MEAN-SQUARE RESIDUAL (RMR)	=	.748
STANDARDIZED RMR	=	.066
ROOT MEAN-SQUARE ERROR OF APPROXIMATION (RMSEA)	=	.112
90% CONFIDENCE INTERVAL OF RMSEA (	.054,	.168)

RELIABILITY COEFFICIENTS

```
CRONBACH'S ALPHA                    =     -.035
COEFFICIENT ALPHA FOR AN OPTIMAL SHORT SCALE               =      .825
BASED ON  5 VARIABLES, ALL EXCEPT:
  SN        YN
GREATEST LOWER BOUND RELIABILITY                           =      .087
GLB RELIABILITY FOR AN OPTIMAL SHORT SCALE                 =      .902
BASED ON  6 VARIABLES, ALL EXCEPT:
  YN
BENTLER'S DIMENSION-FREE LOWER BOUND RELIABILITY           =      .008
SHAPIRO'S LOWER BOUND RELIABILITY FOR A WEIGHTED COMPOSITE  =      .310
WEIGHTS THAT ACHIEVE SHAPIRO'S LOWER BOUND:
  AGE       PRP       PRN       SP        SN        YP
   -.164      .360      .424      .406      .550      .266
  YN
    .354



GOODNESS OF FIT SUMMARY FOR METHOD = ROBUST

ROBUST INDEPENDENCE MODEL CHI-SQUARE =     172.548 ON    21 DEGREES OF FREEDOM

INDEPENDENCE AIC =   130.54817   INDEPENDENCE CAIC =    56.13898
       MODEL AIC =    -5.32517          MODEL CAIC =   -51.38800

SATORRA-BENTLER SCALED CHI-SQUARE =     20.6748 ON      13 DEGREES OF FREEDOM
PROBABILITY VALUE FOR THE CHI-SQUARE STATISTIC IS       .07961

RESIDUAL-BASED TEST STATISTIC                         =    18.365
PROBABILITY VALUE FOR THE CHI-SQUARE STATISTIC IS       .14413

YUAN-BENTLER RESIDUAL-BASED TEST STATISTIC         =    15.364
PROBABILITY VALUE FOR THE CHI-SQUARE STATISTIC IS       .28520

YUAN-BENTLER RESIDUAL-BASED F-STATISTIC     =      1.230
DEGREES OF FREEDOM  =                          13,    81
```

PROBABILITY VALUE FOR THE F-STATISTIC IS .27373

FIT INDICES

BENTLER-BONETT NORMED FIT INDEX = .880
BENTLER-BONETT NON-NORMED FIT INDEX = .918
COMPARATIVE FIT INDEX (CFI) = .949
BOLLEN (IFI) FIT INDEX = .952
MCDONALD (MFI) FIT INDEX = .960
ROOT MEAN-SQUARE ERROR OF APPROXIMATION (RMSEA) = .080
90% CONFIDENCE INTERVAL OF RMSEA (.000, .141)

ITERATIVE SUMMARY

ITERATION	PARAMETER ABS CHANGE	ALPHA	FUNCTION
1	35.992760	1.00000	17.96269
2	35.977040	1.00000	.96076
3	.153297	1.00000	.40547
4	.044869	1.00000	.31245
5	.020398	1.00000	.30488
6	.008858	1.00000	.30326
7	.005284	1.00000	.30283
8	.002511	1.00000	.30272
9	.001446	1.00000	.30269
10	.000710	1.00000	.30268

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

MEASUREMENT EQUATIONS WITH STANDARD ERRORS AND TEST STATISTICS
STATISTICS SIGNIFICANT AT THE 5% LEVEL ARE MARKED WITH @.
(ROBUST STATISTICS IN PARENTHESES)

PRP =V43 = 1.000 F1 + 1.000 E43

PRN =V44 = 1.666*F1 + 1.000 E44
.324
5.139@
(.334)
(4.990@

SP =V45 = 1.247*F1 + 1.000 E45
.211
5.907@
(.236)
(5.277@

SN =V46 = 2.093*F1 + 1.000 E46
.377
5.558@
(.411)
(5.089@

```
YP    =V47 =     .728*F1    +  1.000 E47
                  .178
                 4.087@
               (   .228)
               (  3.190@

YN    =V48 =    1.222*F1    +  1.000 E48
                  .265
                 4.609@
               (   .276)
               (  4.423@
```

TITLE: Model built by EQS 6 for Windows

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

CONSTRUCT EQUATIONS WITH STANDARD ERRORS AND TEST STATISTICS
STATISTICS SIGNIFICANT AT THE 5% LEVEL ARE MARKED WITH @.
(ROBUST STATISTICS IN PARENTHESES)

F1 =F1 = -.002*V4 + 1.000 D1
.002
-.997
(.002)
(-.911)

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

VARIANCES OF INDEPENDENT VARIABLES

STATISTICS SIGNIFICANT AT THE 5% LEVEL ARE MARKED WITH @.

	V	F
V4 - AGE	533.954*I	I
	78.303 I	I
	6.819@I	I
	(42.594)I	I
	(12.536@I	I
	I	I

TITLE: Model built by EQS 6 for Windows

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

VARIANCES OF INDEPENDENT VARIABLES

STATISTICS SIGNIFICANT AT THE 5% LEVEL ARE MARKED WITH @.

	E		D	
E43 - PRP	.212*I	D1 - F1	.113*I	
	.035 I		.039 I	
	6.096@I		2.891@I	
	(.042)I		(.042)I	
	(5.045@I		(2.720@I	
	I		I	
E44 - PRN	.312*I		I	
	.057 I		I	
	5.465@I		I	
	(.063)I		I	
	(4.941@I		I	
	I		I	
E45 - SP	.289*I		I	
	.048 I		I	
	5.999@I		I	
	(.048)I		I	
	(5.987@I		I	
	I		I	
E46 - SN	.172*I		I	
	.054 I		I	
	3.196@I		I	
	(.064)I		I	
	(2.708@I		I	
	I		I	
E47 - YP	.167*I		I	

```
                          .026 I                                  I
                         6.371@I                                  I
                      (   .040)I                                  I
                      (  4.198@I                                  I
                               I                                  I
E48 -  YN                 .295*I                                  I
                          .049 I                                  I
                         6.090@I                                  I
                      (   .052)I                                  I
                      (  5.645@I                                  I
                               I                                  I
```

TITLE: Model built by EQS 6 for Windows

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

COVARIANCES AMONG INDEPENDENT VARIABLES

STATISTICS SIGNIFICANT AT THE 5% LEVEL ARE MARKED WITH @.

	E	D
E45 - SP	.090*I	I
E43 - PRP	.032 I	I
	2.837@I	I
	(.031)I	I
	(2.950@I	I
	I	I

TITLE: Model built by EQS 6 for Windows

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

STANDARDIZED SOLUTION: R-SQUARED

PRP	=V43	=	.592 F1	+	.806 E43		.351
PRN	=V44	=	.711*F1	+	.703 E44		.506
SP	=V45	=	.618*F1	+	.786 E45		.382
SN	=V46	=	.863*F1	+	.505 E46		.745
YP	=V47	=	.517*F1	+	.856 E47		.267
YN	=V48	=	.606*F1	+	.796 E48		.367
F1	=F1	=	-.113*V4	+	.994 D1		.013

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

CORRELATIONS AMONG INDEPENDENT VARIABLES

	E	D
E45 - SP	.363*I	I
E43 - PRP	I	I
	I	I

E N D O F M E T H O D

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

WALD TEST (FOR DROPPING PARAMETERS)
ROBUST INFORMATION MATRIX USED IN THIS WALD TEST
MULTIVARIATE WALD TEST BY SIMULTANEOUS PROCESS

	CUMULATIVE MULTIVARIATE STATISTICS				UNIVARIATE INCREMENT	
STEP	PARAMETER	CHI-SQUARE	D.F.	PROBABILITY	CHI-SQUARE	PROBABILITY
1	F1,V4	.829	1	.362	.829	.362

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

LAGRANGE MULTIPLIER TEST (FOR ADDING PARAMETERS)

ORDERED UNIVARIATE TEST STATISTICS:

NO	CODE	PARAMETER	CHI-SQUARE	PROB.	HANCOCK 13 DF PROB.	PARAMETER CHANGE	STANDARDIZED CHANGE
1	2 11	V46,V4	4.568	.033	.984	.006	.000
2	2 11	V43,V4	4.082	.043	.990	-.004	.000
3	2 11	V48,V4	3.337	.068	.996	-.005	.000
4	2 11	V44,V4	.304	.582	1.000	.002	.000
5	2 11	V45,V4	.104	.747	1.000	-.001	.000
6	2 11	V47,V4	.023	.879	1.000	.000	.000
7	2 0	V43,F1	.000	1.000	1.000	.000	.000

MAXIMUM LIKELIHOOD SOLUTION (NORMAL DISTRIBUTION THEORY)

MULTIVARIATE LAGRANGE MULTIPLIER TEST BY SIMULTANEOUS PROCESS IN STAGE 1

PARAMETER SETS (SUBMATRICES) ACTIVE AT THIS STAGE ARE:

PVV PFV PFF PDD GVV GVF GFV GFF BVF BFF

	CUMULATIVE MULTIVARIATE STATISTICS			UNIVARIATE INCREMENT			
STEP	PARAMETER	CHI-SQUARE	D.F.	PROB.	CHI-SQUARE	PROB.	HANCOCK'S SEQUENTIAL D.F.	HANCOCK'S SEQUENTIAL PROB.
1	V46,V4	4.568	1	.033	4.568	.033	13	.984

LAGRANGIAN MULTIPLIER TEST REQUIRED 4049 WORDS OF MEMORY.
PROGRAM ALLOCATES 2000000 WORDS.
1
Execution begins at 02:32:25
Execution ends at 02:32:26
Elapsed time = 1.00 seconds