

```

>Warning # 853 in column 23. Text: sv_SE
>The LOCALE subcommand of the SET command specifies a locale
>for which collation and translation are not available.
NEW FILE.
DATASET NAME DataSet2 WINDOW=FRONT.

SAVE OUTFILE='/Users/Per/Dropbox/Pågående arbeten/Zoothera mollissima/Ljudanalyser/Final Aug '+
'2015 (inkl nya gris plus alla Alpine ommätta)/Zoothera mollissima songs FINAL.sav'
/COMPRESSED.
DATASET ACTIVATE DataSet2.

SAVE OUTFILE='/Users/Per/Dropbox/Pågående arbeten/Zoothera mollissima/Ljudanalyser/Final Aug '+
'2015 (inkl nya gris plus alla Alpine ommätta)/Zoothera mollissima songs FINAL.sav'
/COMPRESSED.
DATASET ACTIVATE DataSet2.

SAVE OUTFILE='/Users/Per/Dropbox/Pågående arbeten/Zoothera mollissima/Ljudanalyser/Final Aug '+
'2015 (inkl nya gris plus alla Alpine ommätta)/Zoothera mollissima songs FINAL.sav'
/COMPRESSED.
FACTOR
/VARIABLES DeltaTime HighFreq LowFreq DeltaFreq PeakFreq
/MISSING LISTWISE
/ANALYSIS DeltaTime HighFreq LowFreq DeltaFreq PeakFreq
/SELECT=SelVar(1)
/PRINT UNIVARIATE INITIAL EXTRACTION ROTATION
/CRITERIA MINEIGEN(1) ITERATE(25)
/EXTRACTION PC
/CRITERIA ITERATE(25)
/ROTATION VARIMAX
/SAVE REG(ALL)
/METHOD=CORRELATION

```

Factor Analysis

Notes

Output Created		28-AUG-2015 12:36:29
Comments		
Input	Data	/Users/Per/Dropbox/Pågående arbeten/Zoothera mollissima/Ljudanalyser /Final Aug 2015 (inkl nya gris plus alla Alpine ommätta)/Zoothera mollissima songs FINAL.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	55
Missing Value Handling	Definition of Missing	MISSING=EXCLUDE: User-defined missing values are treated as missing.
	Cases Used	LISTWISE: Statistics are based on cases with no missing values for any variable used.
Syntax		FACTOR /VARIABLES DeltaTime HighFreq LowFreq DeltaFreq PeakFreq /MISSING LISTWISE /ANALYSIS DeltaTime HighFreq LowFreq DeltaFreq PeakFreq /SELECT=SelVar(1) /PRINT UNIVARIATE INITIAL EXTRACTION ROTATION /CRITERIA MINEIGEN(1) ITERATE(25) /EXTRACTION PC /CRITERIA ITERATE(25) /ROTATION VARIMAX /SAVE REG(ALL) /METHOD=CORRELATION.
Resources	Processor Time	00:00:00,02
	Elapsed Time	00:00:00,00
	Maximum Memory Required	4576 (4,469K) bytes
Variables Created	FAC1_1	Component score 1
	FAC2_1	Component score 2

[DataSet2] /Users/Per/Dropbox/Pågående arbeten/Zoothera mollissima/Ljudanalyser/Final Aug 2015 (inkl nya gris plus alla Alpine ommätta)/Zoothera mollissima songs FINAL.sav

Descriptive Statistics^a

	Mean	Std. Deviation	Analysis N
delta time	3,72091	1,687134	55
high freq	7100,6356	1686,00826	55
low freq	1480,1465	306,55530	55
delta freq	5620,4887	1814,47704	55
peak freq	3039,3973	612,76915	55

a. Only cases for which selection variable = 1 are used in the analysis phase.

Correlation Matrix^a

--

a. This matrix is not positive definite.

Communalities^a

	Initial	Extraction
delta time	1,000	,504
high freq	1,000	,922
low freq	1,000	,883
delta freq	1,000	,953
peak freq	1,000	,863

Extraction Method: Principal Component Analysis.

a. Only cases for which selection variable = 1 are used in the analysis phase.

Total Variance Explained^a

Component	Initial Eigenvalues			Extraction Sums of Squared	
	Total	% of Variance	Cumulative %	Total	% of Variance
1	2,566	51,311	51,311	2,566	51,311
2	1,560	31,192	82,503	1,560	31,192
3	,644	12,880	95,383		
4	,231	4,617	100,000		
5	2,770E-11	5,540E-10	100,000		

Total Variance Explained^a

Component	Extraction ...	Rotation Sums of Squared Loadings		
	Cumulative %	Total	% of Variance	Cumulative %
1	51,311	2,565	51,305	51,305
2	82,503	1,560	31,198	82,503
3				
4				
5				

Extraction Method: Principal Component Analysis.

a. Only cases for which selection variable = 1 are used in the analysis phase.

Component Matrix^{a,b}

	Component	
	1	2
delta time	-,627	-,333
high freq	,960	-,028
low freq	-,415	,843
delta freq	,962	-,169
peak freq	,392	,842

Extraction Method: Principal Component Analysis.

a. 2 components extracted.

b. Only cases for which selection variable = 1 are used in the analysis phase.

Rotated Component Matrix^{a,b}

	Component	
	1	2
delta time	-,621	-,344
high freq	,960	-,012
low freq	-,430	,835
delta freq	,965	-,152
peak freq	,378	,849

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

b. Only cases for which selection variable = 1 are used in the analysis phase.

**Component Transformation
Matrix^a**

Component	1	2
1	1,000	,017
2	-,017	1,000

Extraction Method: Principal
Component Analysis.
Rotation Method: Varimax with
Kaiser Normalization.

a. Only cases for which selection variable = 1 are used in the analysis phase.

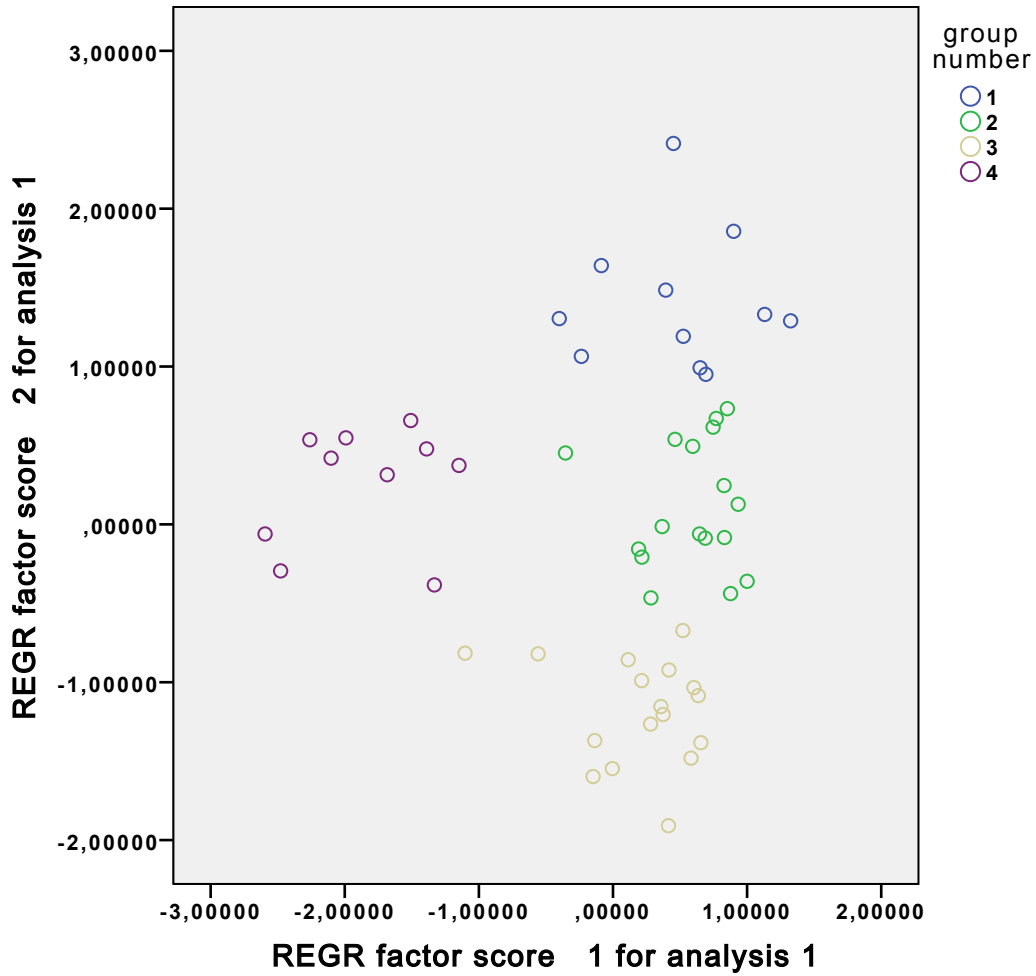
GRAPH

```
/SCATTERPLOT(BIVAR)=FAC1_1 WITH FAC2_1 BY group2
/MISSING=LISTWISE.
```

Graph

Notes

Output Created	28-AUG-2015 12:40:44	
Comments		
Input	Data	/Users/Per/Dropbox/På gående arbeten/Zoothera mollissima/Ljudanalyser /Final Aug 2015 (inkl nya gris plus alla Alpine ommätta)/Zoothera mollissima songs FINAL. sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	55
Syntax	GRAPH /SCATTERPLOT(BIVAR) =FAC1_1 WITH FAC2_1 BY group2 /MISSING=LISTWISE.	
Resources	Processor Time	00:00:00,18
	Elapsed Time	00:00:00,00

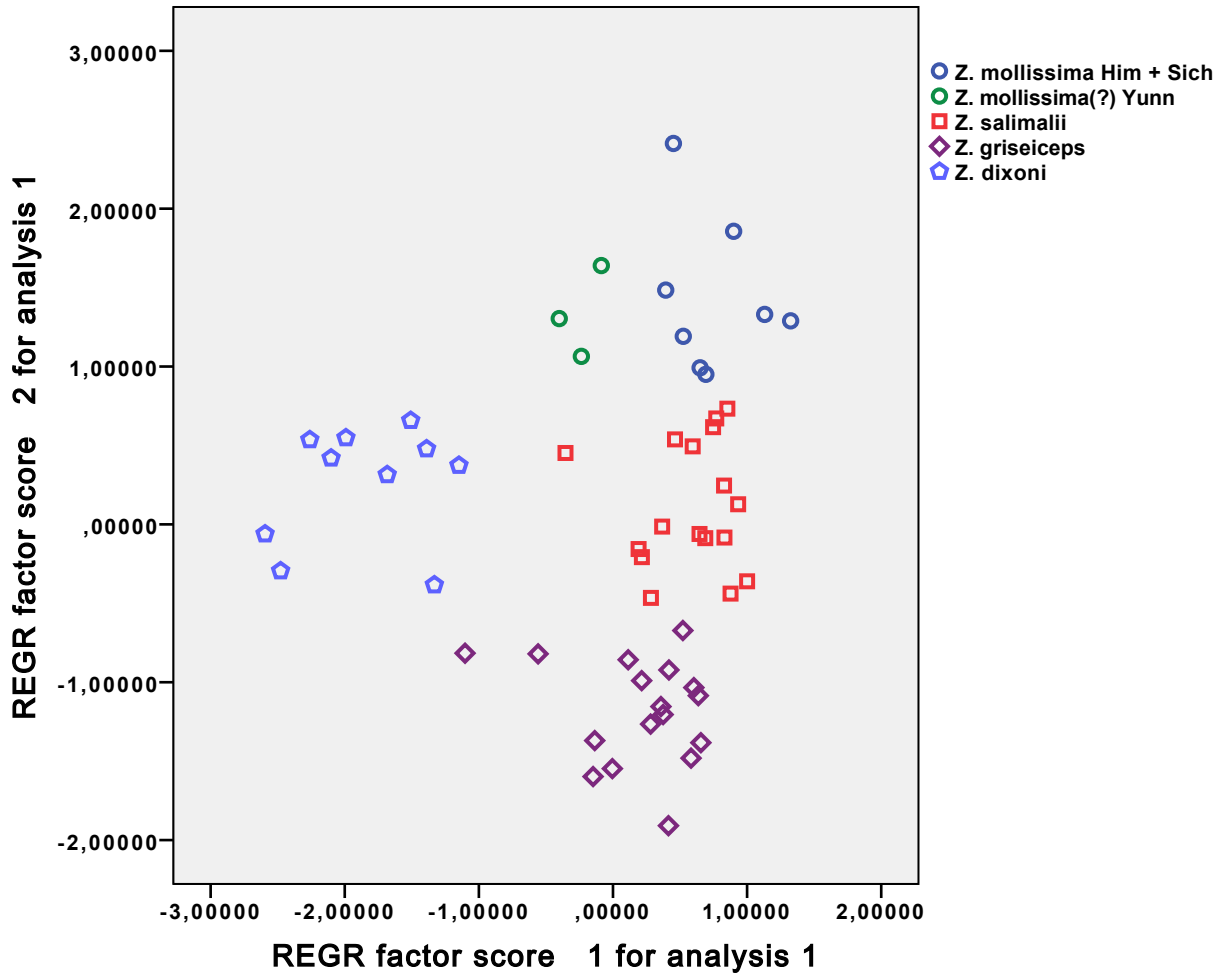


```
GRAPH  
/SCATTERPLOT(BIVAR)=FAC1_1 WITH FAC2_1 BY group3  
/MISSING=LISTWISE.
```

Graph

Notes

Output Created	28-AUG-2015 12:42:12	
Comments		
Input	Data	/Users/Per/Dropbox/På gående arbeten/Zoothera mollissima/Ljudanalyser /Final Aug 2015 (inkl nya gris plus alla Alpine ommätta)/Zoothera mollissima songs FINAL. sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	55
Syntax	GRAPH /SCATTERPLOT(BIVAR) =FAC1_1 WITH FAC2_1 BY group3 /MISSING=LISTWISE.	
Resources	Processor Time	00:00:00,19
	Elapsed Time	00:00:00,00



```

DISCRIMINANT
/GROUPS=group3(1 5)
/VARIABLES=DeltaTime HighFreq LowFreq DeltaFreq PeakFreq
/SELECT=SelVar(1)
/ANALYSIS ALL
/SAVE=SCORES
/PRIORS EQUAL
/STATISTICS=BOXM TABLE CROSSVALID
/CLASSIFY=NONMISSING POOLED.

```

Discriminant

Notes

Output Created		28-AUG-2015 12:49:17
Comments		
Input	Data	/Users/Per/Dropbox/Pågående arbeten/Zoothera mollissima/Ljudanalyser /Final Aug 2015 (inkl nya gris plus alla Alpine ommätta)/Zoothera mollissima songs FINAL.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	55
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing in the analysis phase.
	Cases Used	In the analysis phase, cases with no user- or system-missing values for any predictor variable are used. Cases with user-, system-missing, or out-of-range values for the grouping variable are always excluded.
Syntax		DISCRIMINANT /GROUPS=group3(1 5) /VARIABLES=DeltaTime HighFreq LowFreq DeltaFreq PeakFreq /SELECT=SelVar(1) /ANALYSIS ALL /SAVE=SCORES /PRIORS EQUAL /STATISTICS=BOXM TABLE CROSSVALID /CLASSIFY=NONMISSING POOLED.
Resources	Processor Time	00:00:00,02
	Elapsed Time	00:00:00,00
Variables Created or Modified	Dis1_1	Discriminant Scores from Function 1 for ...
	Dis2_1	Discriminant Scores from Function 2 for ...

Notes

Dis3_1	Discriminant Scores from Function 3 for ...
Dis4_1	Discriminant Scores from Function 4 for ...
Number of unweighted cases written to the working file after classification	55

Analysis Case Processing Summary

Unweighted Cases		N	Percent
Valid		55	100,0
Excluded	Missing or out-of- range group codes	0	,0
	At least one missing discriminating variable	0	,0
	Both missing or out-of-range group codes and at least one missing discriminating variable	0	,0
	Unselected	0	,0
	Total	0	,0
Total		55	100,0

Group Statistics

group number Yun		Valid N (listwise)	
		Unweighted	Weighted
1	delta time	8	8,000
	high freq	8	8,000
	low freq	8	8,000
	delta freq	8	8,000
	peak freq	8	8,000
2	delta time	3	3,000
	high freq	3	3,000
	low freq	3	3,000
	delta freq	3	3,000
	peak freq	3	3,000
3	delta time	17	17,000
	high freq	17	17,000
	low freq	17	17,000
	delta freq	17	17,000
	peak freq	17	17,000
4	delta time	17	17,000
	high freq	17	17,000
	low freq	17	17,000
	delta freq	17	17,000
	peak freq	17	17,000
5	delta time	10	10,000
	high freq	10	10,000
	low freq	10	10,000
	delta freq	10	10,000
	peak freq	10	10,000
Total	delta time	55	55,000
	high freq	55	55,000
	low freq	55	55,000
	delta freq	55	55,000
	peak freq	55	55,000

Analysis 1

Box's Test of Equality of Covariance Matrices

Log Determinants

group number Yun	Rank	Log Determinant
1	4	30,672
2	. ^a	. ^b
3	4	31,321
4	4	33,586
5	4	31,524
Pooled within-groups	4	35,109

The ranks and natural logarithms of determinants printed are those of the group covariance matrices.

- a. Rank < 3
- b. Too few cases to be non-singular

Test Results^a

Box's M		156,120
F	Approx.	4,261
	df1	30
	df2	2948,206
	Sig.	,000

Tests null hypothesis of equal population covariance matrices.

- a. Some covariance matrices are singular and the usual procedure will not work. The non-singular groups will be tested against their own pooled within-groups covariance matrix. The log of its determinant is 35,272.

Variables Failing Tolerance Test^a

	Within-Groups Variance	Tolerance	Minimum Tolerance
delta freq	647157,677	,000	,000

All variables passing the tolerance criteria are entered simultaneously.

- a. Minimum tolerance level is ,001.

Summary of Canonical Discriminant Functions

Eigenvalues

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	6,472 ^a	53,0	53,0	,931
2	5,286 ^a	43,3	96,2	,917
3	,438 ^a	3,6	99,8	,552
4	,023 ^a	,2	100,0	,149

a. First 4 canonical discriminant functions were used in the analysis.

Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 4	,014	209,633	16	,000
2 through 4	,108	110,082	9	,000
3 through 4	,680	19,084	4	,001
4	,978	1,119	1	,290

Standardized Canonical Discriminant Function Coefficients

	Function			
	1	2	3	4
delta time	-,487	-,188	,445	,798
high freq	,159	,832	-,443	,384
low freq	,550	-,492	-,708	,232
peak freq	,735	-,001	,724	-,031

Structure Matrix

	Function			
	1	2	3	4
peak freq	,780 [*]	,091	,596	,165
delta freq ^b	,144	,907 [*]	-,129	,374
high freq	,244	,819 [*]	-,226	,468
low freq	,499	-,561 [*]	-,489	,445
delta time	-,232	-,227	,274	,905 [*]

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions

Variables ordered by absolute size of correlation within function.

*. Largest absolute correlation between each variable and any discriminant function

b. This variable not used in the analysis.

Functions at Group Centroids

group number Yun	Function			
	1	2	3	4
1	4,318	,697	,996	,048
2	3,034	-1,620	-1,588	,430
3	,726	1,198	-,542	-,152
4	-2,762	1,367	,248	,091
5	-,904	-4,432	,180	-,063

Unstandardized canonical discriminant functions evaluated at group means

Classification Statistics

Classification Processing Summary

Processed		55
Excluded	Missing or out-of-range group codes	0
	At least one missing discriminating variable	0
Used in Output		55

Prior Probabilities for Groups

group number Yun	Prior	Cases Used in Analysis	
		Unweighted	Weighted
1	,200	8	8,000
2	,200	3	3,000
3	,200	17	17,000
4	,200	17	17,000
5	,200	10	10,000
Total	1,000	55	55,000

Classification Results^{a,b,d}

				Predicted Group Membership			
				1	2	3	
			group number Yun				
Cases Selected	Original	Count	1	7	1	0	
			2	0	3	0	
			3	0	1	16	
			4	0	0	0	
			5	0	0	0	
			%	87,5	12,5	,0	
		Cross-validated^c	Count	1	7	1	0
	2			0	3	0	
	3			1	1	14	
	4			0	0	0	
	5			0	0	0	
%	87,5	12,5	,0				
	Cross-validated^c	Count	1	0	0	0	
2			0	0	0		
3			0	0	0		
4			0	0	0		
5			0	0	0		
%	,0	,0	,0				
	Cross-validated^c	Count	1	0	0	0	
2			0	0	0		
3			0	0	0		
4			0	0	0		
5			0	0	0		
%	,0	,0	,0				
	Cross-validated^c	Count	1	0	0	0	
2			0	0	0		
3			0	0	0		
4			0	0	0		
5			0	0	0		
%	,0	,0	,0				

Classification Results^{a,b,d}

				Predicted Group ...		Total
group number Yun				4	5	
Cases Selected	Original	Count	1	0	0	8
			2	0	0	3
			3	0	0	17
			4	16	1	17
			5	0	10	10
	%	1	,0	,0	100,0	
		2	,0	,0	100,0	
		3	,0	,0	100,0	
		4	94,1	5,9	100,0	
		5	,0	100,0	100,0	
Cross-validated^c	Count	1	0	0	8	
		2	0	0	3	
		3	1	0	17	
		4	16	1	17	
		5	0	10	10	
	%	1	,0	,0	100,0	
		2	,0	,0	100,0	
		3	5,9	,0	100,0	
		4	94,1	5,9	100,0	
		5	,0	100,0	100,0	
Cases Not Selected	Original	Count	1	0	0	0
			2	0	0	0
			3	0	0	0
			4	0	0	0
			5	0	0	0
	%	1	,0	,0	100,0	
		2	,0	,0	100,0	
		3	,0	,0	100,0	
		4	,0	,0	100,0	
		5	,0	,0	100,0	

- a. 94,5% of selected original grouped cases correctly classified.
- b. 0,0% of unselected original grouped cases correctly classified.
- c. Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.
- d. 90,9% of selected cross-validated grouped cases correctly classified.

```
GRAPH
/SCATTERPLOT(BIVAR)=Dis1_1 WITH Dis2_1 BY group3
/MISSING=LISTWISE.
```

Graph

Notes

Output Created	28-AUG-2015 12:51:53	
Comments		
Input	Data	/Users/Per/Dropbox/På gående arbeten/Zoothera mollissima/Ljudanalyser /Final Aug 2015 (inkl nya gris plus alla Alpine ommätta)/Zoothera mollissima songs FINAL. sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	55
Syntax	GRAPH /SCATTERPLOT(BIVAR) =Dis1_1 WITH Dis2_1 BY group3 /MISSING=LISTWISE.	
Resources	Processor Time	00:00:00,17
	Elapsed Time	00:00:00,00

