

N1: up to 10 common factors: PCA

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Initial Factor Method: Principal Components

Prior Communality Estimates: ONE

Eigenvalues of the Correlation Matrix: Total = 10 Average = 1

|            | 1      | 2      | 3      | 4      | 5      |
|------------|--------|--------|--------|--------|--------|
| Eigenvalue | 1.3738 | 1.1869 | 1.1034 | 1.0613 | 1.0016 |
| Difference | 0.1869 | 0.0835 | 0.0421 | 0.0597 | 0.0231 |
| Proportion | 0.1374 | 0.1187 | 0.1103 | 0.1061 | 0.1002 |
| Cumulative | 0.1374 | 0.2561 | 0.3664 | 0.4725 | 0.5727 |
|            | 6      | 7      | 8      | 9      | 10     |
| Eigenvalue | 0.9786 | 0.9103 | 0.8632 | 0.7907 | 0.7303 |
| Difference | 0.0682 | 0.0471 | 0.0725 | 0.0604 |        |
| Proportion | 0.0979 | 0.0910 | 0.0863 | 0.0791 | 0.0730 |
| Cumulative | 0.6706 | 0.7616 | 0.8479 | 0.9270 | 1.0000 |

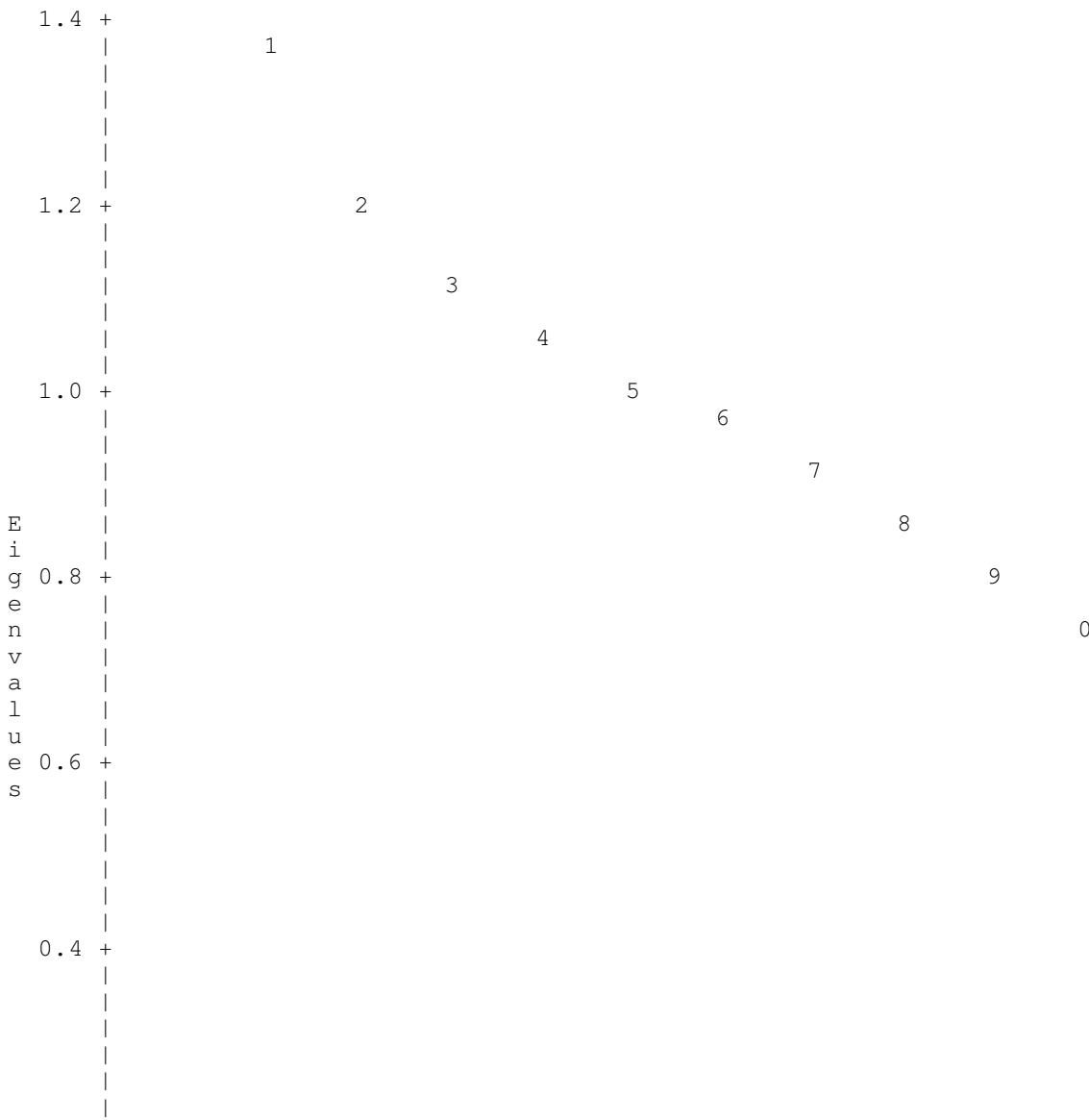
5 factors will be retained by the MINEIGEN criterion.

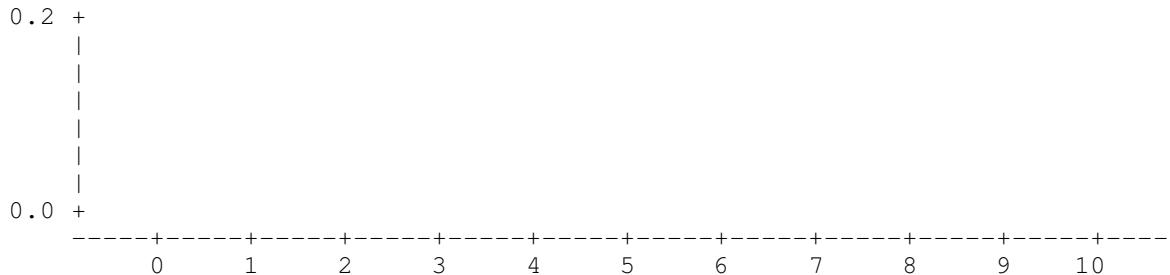
N1: up to 10 common factors: PCA

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Initial Factor Method: Principal Components

Scree Plot of Eigenvalues





Number  
N1: up to 10 common factors: PCA 224

Initial Factor Method: Principal Components

#### Factor Pattern

|     | FACTOR1  | FACTOR2  | FACTOR3  | FACTOR4  | FACTOR5  |
|-----|----------|----------|----------|----------|----------|
| X1  | 0.01069  | -0.55305 | -0.40019 | -0.15921 | 0.14023  |
| X2  | 0.42347  | 0.14703  | -0.36907 | 0.49179  | -0.22300 |
| X3  | 0.18727  | 0.60340  | 0.07144  | -0.37765 | -0.13234 |
| X4  | -0.50072 | 0.26748  | 0.04539  | 0.49230  | -0.20677 |
| X5  | 0.36978  | -0.28765 | 0.06093  | 0.32570  | -0.55251 |
| X6  | 0.30057  | -0.39337 | 0.44624  | 0.04906  | 0.19676  |
| X7  | 0.40083  | 0.21142  | 0.55749  | -0.06373 | -0.07260 |
| X8  | 0.47888  | 0.08219  | 0.06660  | 0.37809  | 0.55829  |
| X9  | -0.41039 | 0.13374  | 0.15624  | 0.38725  | 0.39408  |
| X10 | 0.35083  | 0.34196  | -0.50730 | -0.06017 | 0.23607  |

#### Variance explained by each factor

| FACTOR1  | FACTOR2  | FACTOR3  | FACTOR4  | FACTOR5  |
|----------|----------|----------|----------|----------|
| 1.373807 | 1.186870 | 1.103371 | 1.061275 | 1.001623 |

Final Communality Estimates: Total = 5.726946

| X1       | X2       | X3       | X4       | X5       |
|----------|----------|----------|----------|----------|
| 0.511143 | 0.628743 | 0.564396 | 0.609444 | 0.634541 |
| X6       | X7       | X8       | X9       | X10      |
| 0.485338 | 0.525488 | 0.695161 | 0.515973 | 0.556721 |

N1: up to 10 common factors: ML 225

Initial Factor Method: Maximum Likelihood

#### Prior Communality Estimates: SMC

| X1       | X2       | X3       | X4       | X5       |
|----------|----------|----------|----------|----------|
| 0.026854 | 0.037483 | 0.031480 | 0.049254 | 0.024931 |
| X6       | X7       | X8       | X9       | X10      |
| 0.022770 | 0.032153 | 0.036022 | 0.025594 | 0.032692 |

Preliminary Eigenvalues: Total = 0.33036742 Average = 0.03303674

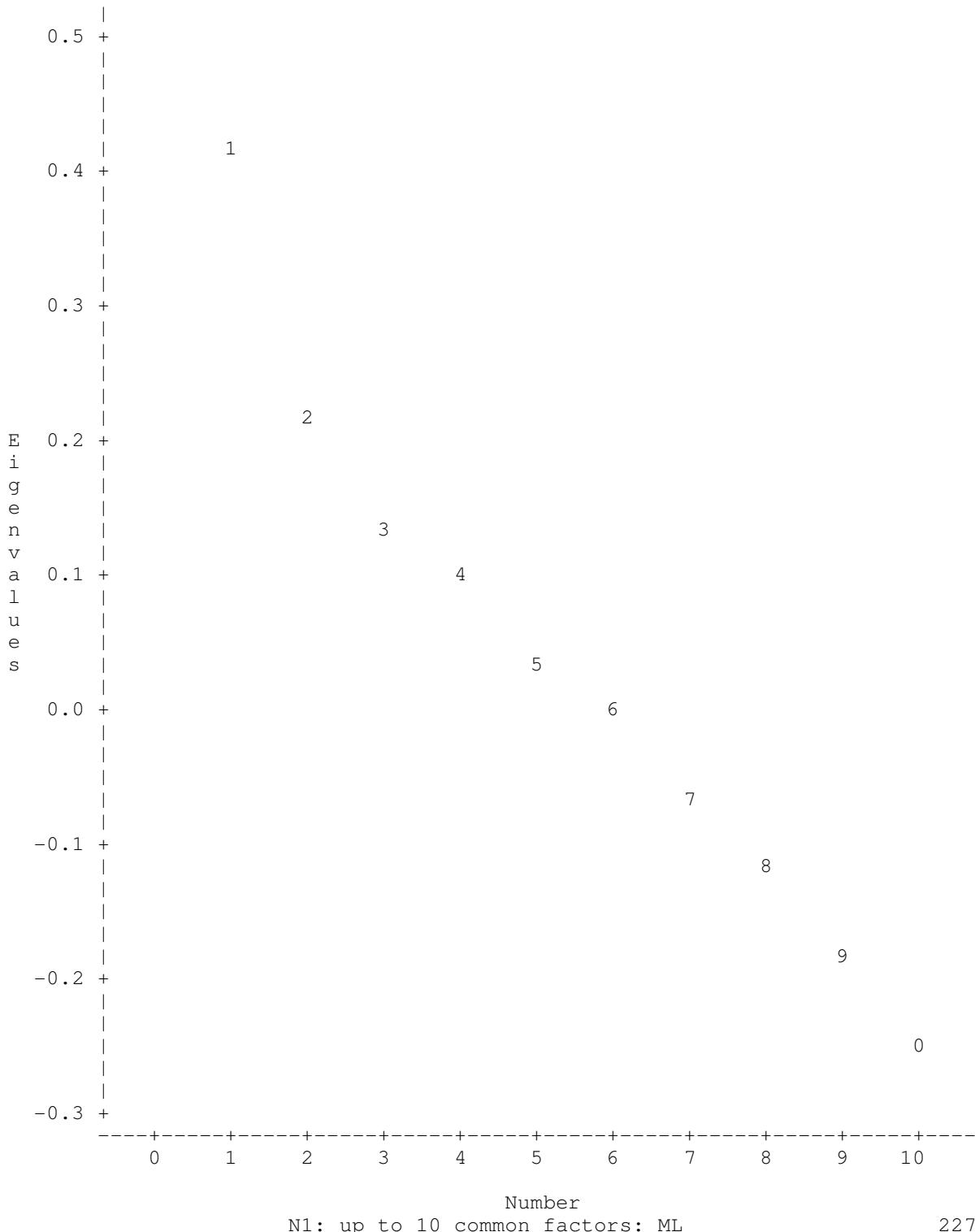
|            | 1      | 2       | 3       | 4       | 5       |
|------------|--------|---------|---------|---------|---------|
| Eigenvalue | 0.4232 | 0.2238  | 0.1381  | 0.1011  | 0.0335  |
| Difference | 0.1995 | 0.0857  | 0.0370  | 0.0676  | 0.0253  |
| Proportion | 1.2811 | 0.6773  | 0.4179  | 0.3060  | 0.1014  |
| Cumulative | 1.2811 | 1.9584  | 2.3763  | 2.6823  | 2.7837  |
|            | 6      | 7       | 8       | 9       | 10      |
| Eigenvalue | 0.0082 | -0.0602 | -0.1117 | -0.1836 | -0.2420 |
| Difference | 0.0684 | 0.0515  | 0.0718  | 0.0584  |         |
| Proportion | 0.0248 | -0.1823 | -0.3382 | -0.5556 | -0.7324 |

|            |        |        |        |        |        |
|------------|--------|--------|--------|--------|--------|
| Cumulative | 2.8085 | 2.6262 | 2.2880 | 1.7324 | 1.0000 |
|------------|--------|--------|--------|--------|--------|

1 factors will be retained by the PROPORTION criterion.  
 N1: up to 10 common factors: ML 226

Initial Factor Method: Maximum Likelihood

Scree Plot of Eigenvalues



Number

N1: up to 10 common factors: ML

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Initial Factor Method: Maximum Likelihood

Iter Criterion Ridge Change Communalities

|   |         |       |         |         |         |         |         |         |
|---|---------|-------|---------|---------|---------|---------|---------|---------|
| 1 | 0.09606 | 0.000 | 0.04390 | 0.00006 | 0.05459 | 0.00894 | 0.09077 | 0.03916 |
|   |         |       |         | 0.02399 | 0.04763 | 0.07992 | 0.05164 | 0.03538 |
| 2 | 0.09605 | 0.000 | 0.00275 | 0.00028 | 0.05203 | 0.00845 | 0.09291 | 0.04054 |
|   |         |       |         | 0.02674 | 0.04663 | 0.07909 | 0.05071 | 0.03544 |
| 3 | 0.09605 | 0.000 | 0.00089 | 0.00032 | 0.05150 | 0.00831 | 0.09380 | 0.04060 |
|   |         |       |         | 0.02700 | 0.04654 | 0.07879 | 0.05102 | 0.03503 |

Convergence criterion satisfied.

Significance tests based on 250 observations:

Test of H0: No common factors.  
vs HA: At least one common factor.

Chi-square = 40.041 df = 45 Prob>chi\*\*2 = 0.6816

Test of H0: 1 Factors are sufficient.  
vs HA: More factors are needed.

Chi-square = 23.452 df = 35 Prob>chi\*\*2 = 0.9316

Chi-square without Bartlett's correction = 23.916227045  
Akaike's Information Criterion = -46.08377296  
Schwarz's Bayesian Criterion = -169.3349051  
Tucker and Lewis's Reliability Coefficient = 0

#### Squared Canonical Correlations

FACTOR1  
0.315526

Eigenvalues of the Weighted Reduced Correlation Matrix:  
Total = 0.4609746 Average = 0.04609746

|            | 1      | 2       | 3       | 4       | 5       |
|------------|--------|---------|---------|---------|---------|
| Eigenvalue | 0.4610 | 0.2189  | 0.1440  | 0.1251  | 0.0620  |
| Difference | 0.2421 | 0.0749  | 0.0189  | 0.0631  | 0.0526  |
| Proportion | 1.0000 | 0.4748  | 0.3124  | 0.2715  | 0.1345  |
| Cumulative | 1.0000 | 1.4748  | 1.7872  | 2.0586  | 2.1931  |
|            | 6      | 7       | 8       | 9       | 10      |
| Eigenvalue | 0.0094 | -0.0489 | -0.1026 | -0.1749 | -0.2330 |
| Difference | 0.0583 | 0.0537  | 0.0723  | 0.0581  |         |
| Proportion | 0.0204 | -0.1060 | -0.2226 | -0.3794 | -0.5055 |
| Cumulative | 2.2135 | 2.1075  | 1.8849  | 1.5055  | 1.0000  |

N1: up to 10 common factors: ML

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Initial Factor Method: Maximum Likelihood

#### Factor Pattern

FACTOR1

|     |          |
|-----|----------|
| X1  | 0.01816  |
| X2  | 0.22658  |
| X3  | 0.09100  |
| X4  | -0.30654 |
| X5  | 0.20157  |
| X6  | 0.16455  |
| X7  | 0.21569  |
| X8  | 0.28052  |
| X9  | -0.22605 |
| X10 | 0.18699  |

Variance explained by each factor

|            |          |
|------------|----------|
|            | FACTOR1  |
| Weighted   | 0.460976 |
| Unweighted | 0.432903 |

Final Communality Estimates and Variable Weights  
 Total Communality: Weighted = 0.460976      Unweighted = 0.432903

|             |          |          |          |          |          |
|-------------|----------|----------|----------|----------|----------|
|             | X1       | X2       | X3       | X4       | X5       |
| Communality | 0.000330 | 0.051340 | 0.008282 | 0.093965 | 0.040629 |
| Weight      | 1.000317 | 1.054294 | 1.008376 | 1.103515 | 1.042316 |

|             |          |          |          |          |          |
|-------------|----------|----------|----------|----------|----------|
|             | X6       | X7       | X8       | X9       | X10      |
| Communality | 0.027076 | 0.046524 | 0.078694 | 0.051100 | 0.034965 |
| Weight      | 1.027748 | 1.048815 | 1.085530 | 1.053759 | 1.036305 |

N1: 2 common factors: PCA

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Initial Factor Method: Principal Components

Partial Correlations Controlling all other Variables

|     |          |          |          |          |          |
|-----|----------|----------|----------|----------|----------|
|     | X1       | X2       | X3       | X4       | X5       |
| X1  | 1.00000  | 0.05044  | -0.08561 | -0.11348 | -0.01617 |
| X2  | 0.05044  | 1.00000  | 0.04186  | 0.04588  | 0.10369  |
| X3  | -0.08561 | 0.04186  | 1.00000  | -0.06992 | -0.04105 |
| X4  | -0.11348 | 0.04588  | -0.06992 | 1.00000  | -0.07158 |
| X5  | -0.01617 | 0.10369  | -0.04105 | -0.07158 | 1.00000  |
| X6  | -0.00723 | -0.01540 | -0.07128 | -0.06917 | 0.04510  |
| X7  | -0.05919 | 0.02965  | 0.09605  | -0.03611 | 0.02001  |
| X8  | -0.03111 | 0.09740  | -0.02698 | -0.08328 | 0.01767  |
| X9  | -0.00821 | -0.03948 | 0.00962  | 0.09621  | -0.04472 |
| X10 | -0.04615 | 0.09566  | 0.05092  | -0.05673 | -0.03900 |
|     | X6       | X7       | X8       | X9       | X10      |
| X1  | -0.00723 | -0.05919 | -0.03111 | -0.00821 | -0.04615 |
| X2  | -0.01540 | 0.02965  | 0.09740  | -0.03948 | 0.09566  |
| X3  | -0.07128 | 0.09605  | -0.02698 | 0.00962  | 0.05092  |
| X4  | -0.06917 | -0.03611 | -0.08328 | 0.09621  | -0.05673 |
| X5  | 0.04510  | 0.02001  | 0.01767  | -0.04472 | -0.03900 |
| X6  | 1.00000  | 0.06439  | 0.05045  | -0.03508 | -0.02740 |
| X7  | 0.06439  | 1.00000  | 0.08221  | -0.04906 | -0.04525 |
| X8  | 0.05045  | 0.08221  | 1.00000  | 0.03733  | 0.07355  |
| X9  | -0.03508 | -0.04906 | 0.03733  | 1.00000  | -0.07561 |
| X10 | -0.02740 | -0.04525 | 0.07355  | -0.07561 | 1.00000  |

Kaiser's Measure of Sampling Adequacy: Over-all MSA = 0.51104148

|  |          |          |          |          |          |
|--|----------|----------|----------|----------|----------|
|  | X1       | X2       | X3       | X4       | X5       |
|  | 0.451727 | 0.500065 | 0.477013 | 0.503047 | 0.527286 |
|  | X6       | X7       | X8       | X9       | X10      |
|  | 0.545676 | 0.531277 | 0.532336 | 0.545915 | 0.509660 |

Prior Communality Estimates: ONE

Eigenvalues of the Correlation Matrix: Total = 10 Average = 1

|            |        |        |        |        |        |
|------------|--------|--------|--------|--------|--------|
|            | 1      | 2      | 3      | 4      | 5      |
| Eigenvalue | 1.3738 | 1.1869 | 1.1034 | 1.0613 | 1.0016 |
| Difference | 0.1869 | 0.0835 | 0.0421 | 0.0597 | 0.0231 |
| Proportion | 0.1374 | 0.1187 | 0.1103 | 0.1061 | 0.1002 |
| Cumulative | 0.1374 | 0.2561 | 0.3664 | 0.4725 | 0.5727 |
|            | 6      | 7      | 8      | 9      | 10     |
| Eigenvalue | 0.9786 | 0.9103 | 0.8632 | 0.7907 | 0.7303 |
| Difference | 0.0682 | 0.0471 | 0.0725 | 0.0604 |        |

|            |        |        |        |        |        |
|------------|--------|--------|--------|--------|--------|
| Proportion | 0.0979 | 0.0910 | 0.0863 | 0.0791 | 0.0730 |
| Cumulative | 0.6706 | 0.7616 | 0.8479 | 0.9270 | 1.0000 |

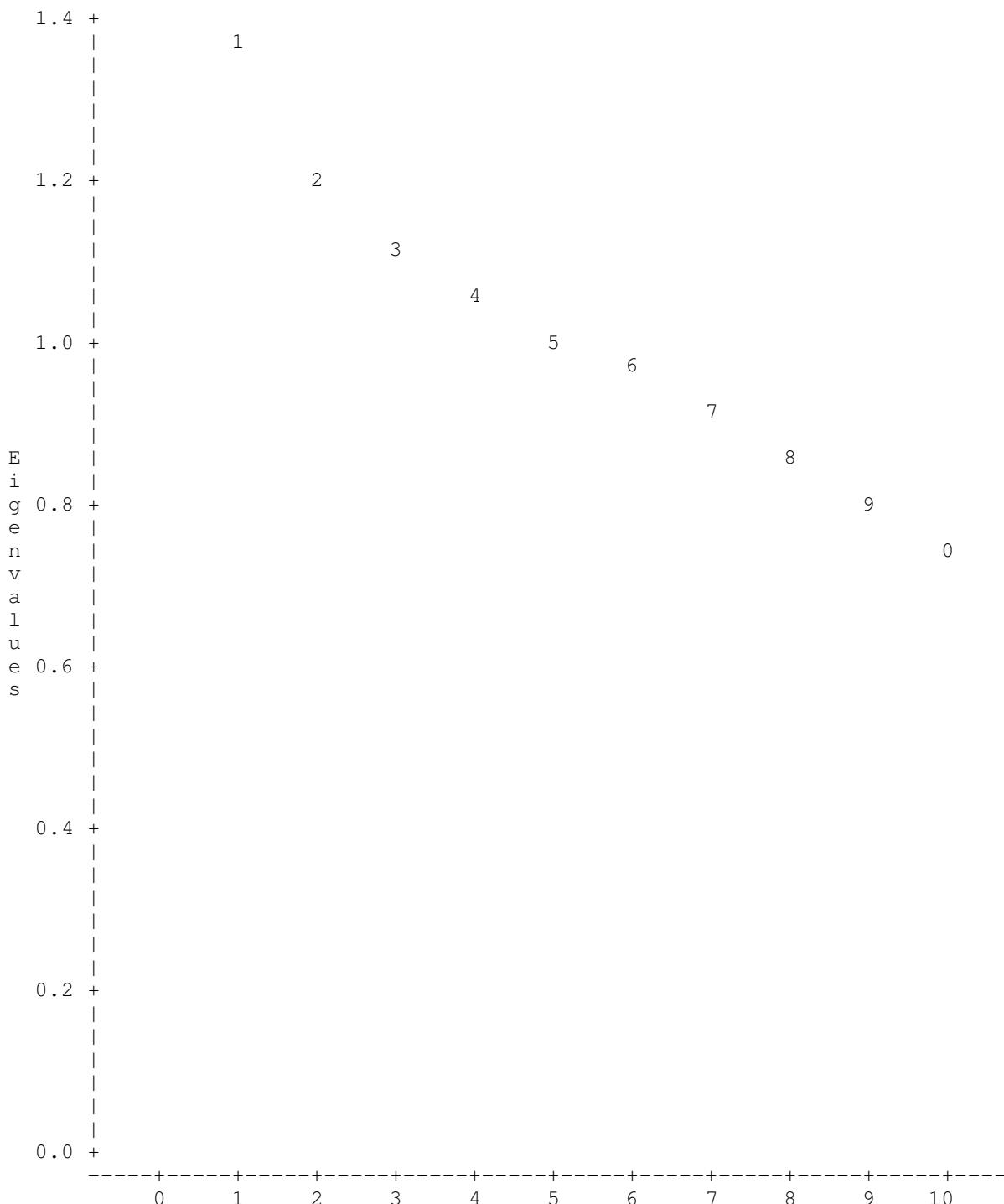
2 factors will be retained by the NFACTOR criterion.

N1: 2 common factors: PCA

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Initial Factor Method: Principal Components

#### Scree Plot of Eigenvalues



Number

N1: 2 common factors: PCA

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Initial Factor Method: Principal Components

Eigenvectors

|  | 1 | 2 |
|--|---|---|
|--|---|---|

|     |          |          |
|-----|----------|----------|
| X1  | 0.00912  | -0.50765 |
| X2  | 0.36129  | 0.13496  |
| X3  | 0.15978  | 0.55386  |
| X4  | -0.42720 | 0.24552  |
| X5  | 0.31549  | -0.26403 |
| X6  | 0.25644  | -0.36108 |
| X7  | 0.34198  | 0.19406  |
| X8  | 0.40857  | 0.07545  |
| X9  | -0.35013 | 0.12276  |
| X10 | 0.29932  | 0.31388  |

#### Factor Pattern

|     | FACTOR1  | FACTOR2  |
|-----|----------|----------|
| X1  | 0.01069  | -0.55305 |
| X2  | 0.42347  | 0.14703  |
| X3  | 0.18727  | 0.60340  |
| X4  | -0.50072 | 0.26748  |
| X5  | 0.36978  | -0.28765 |
| X6  | 0.30057  | -0.39337 |
| X7  | 0.40083  | 0.21142  |
| X8  | 0.47888  | 0.08219  |
| X9  | -0.41039 | 0.13374  |
| X10 | 0.35083  | 0.34196  |

#### Variance explained by each factor

|  | FACTOR1  | FACTOR2  |
|--|----------|----------|
|  | 1.373807 | 1.186870 |

Final Communality Estimates: Total = 2.560678

|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| X1       | X2       | X3       | X4       | X5       |
| 0.305976 | 0.200943 | 0.399160 | 0.322265 | 0.219482 |
| X6       | X7       | X8       | X9       | X10      |
| 0.245083 | 0.205365 | 0.236085 | 0.186304 | 0.240014 |

N1: 2 common factors: PCA

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Initial Factor Method: Principal Components

#### Residual Correlations With Uniqueness on the Diagonal

|     | X1       | X2       | X3       | X4       | X5       |
|-----|----------|----------|----------|----------|----------|
| X1  | 0.69402  | 0.11120  | 0.24732  | 0.05363  | -0.16436 |
| X2  | 0.11120  | 0.79906  | -0.12777 | 0.18467  | -0.01255 |
| X3  | 0.24732  | -0.12777 | 0.60084  | -0.12521 | 0.06951  |
| X4  | 0.05363  | 0.18467  | -0.12521 | 0.67773  | 0.18629  |
| X5  | -0.16436 | -0.01255 | 0.06951  | 0.18629  | 0.78052  |
| X6  | -0.21927 | -0.07759 | 0.11621  | 0.17692  | -0.16629 |
| X7  | 0.05065  | -0.16181 | -0.10639 | 0.09215  | -0.05441 |
| X8  | 0.01488  | -0.11032 | -0.14646 | 0.12966  | -0.11677 |
| X9  | 0.06333  | 0.10571  | -0.00647 | -0.13400 | 0.13320  |
| X10 | 0.14614  | -0.09731 | -0.21168 | 0.02265  | -0.05391 |
|     | X6       | X7       | X8       | X9       | X10      |
| X1  | -0.21927 | 0.05065  | 0.01488  | 0.06333  | 0.14614  |
| X2  | -0.07759 | -0.16181 | -0.11032 | 0.10571  | -0.09731 |
| X3  | 0.11621  | -0.10639 | -0.14646 | -0.00647 | -0.21168 |
| X4  | 0.17692  | 0.09215  | 0.12966  | -0.13400 | 0.02265  |
| X5  | -0.16629 | -0.05441 | -0.11677 | 0.13320  | -0.05391 |

|     |          |          |          |         |          |
|-----|----------|----------|----------|---------|----------|
| X6  | 0.75492  | 0.03256  | -0.05069 | 0.13105 | 0.00462  |
| X7  | 0.03256  | 0.79464  | -0.11940 | 0.08304 | -0.23624 |
| X8  | -0.05069 | -0.11940 | 0.76391  | 0.19608 | -0.11451 |
| X9  | 0.13105  | 0.08304  | 0.19608  | 0.81370 | 0.01930  |
| X10 | 0.00462  | -0.23624 | -0.11451 | 0.01930 | 0.75999  |

Root Mean Square Off-diagonal Residuals: Over-all = 0.12747853

|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| X1       | X2       | X3       | X4       | X5       |
| 0.141285 | 0.119242 | 0.144962 | 0.134344 | 0.120924 |
| X6       | X7       | X8       | X9       | X10      |
| 0.127970 | 0.119973 | 0.121415 | 0.112455 | 0.128395 |

#### Partial Correlations Controlling Factors

|     |          |          |          |          |          |
|-----|----------|----------|----------|----------|----------|
| X1  | 1.00000  | 0.14933  | 0.38299  | 0.07819  | -0.22331 |
| X2  | 0.14933  | 1.00000  | -0.18440 | 0.25094  | -0.01589 |
| X3  | 0.38299  | -0.18440 | 1.00000  | -0.19622 | 0.10150  |
| X4  | 0.07819  | 0.25094  | -0.19622 | 1.00000  | 0.25614  |
| X5  | -0.22331 | -0.01589 | 0.10150  | 0.25614  | 1.00000  |
| X6  | -0.30293 | -0.09991 | 0.17256  | 0.24734  | -0.21663 |
| X7  | 0.06820  | -0.20306 | -0.15397 | 0.12557  | -0.06909 |
| X8  | 0.02044  | -0.14120 | -0.21618 | 0.18020  | -0.15123 |
| X9  | 0.08427  | 0.13109  | -0.00926 | -0.18045 | 0.16715  |
| X10 | 0.20122  | -0.12487 | -0.31325 | 0.03156  | -0.06999 |

N1: 2 common factors: PCA

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Initial Factor Method: Principal Components

#### Partial Correlations Controlling Factors

|     |          |          |          |          |          |
|-----|----------|----------|----------|----------|----------|
| X6  | X7       | X8       | X9       | X10      |          |
| X1  | -0.30293 | 0.06820  | 0.02044  | 0.08427  | 0.20122  |
| X2  | -0.09991 | -0.20306 | -0.14120 | 0.13109  | -0.12487 |
| X3  | 0.17256  | -0.15397 | -0.21618 | -0.00926 | -0.31325 |
| X4  | 0.24734  | 0.12557  | 0.18020  | -0.18045 | 0.03156  |
| X5  | -0.21663 | -0.06909 | -0.15123 | 0.16715  | -0.06999 |
| X6  | 1.00000  | 0.04204  | -0.06675 | 0.16721  | 0.00610  |
| X7  | 0.04204  | 1.00000  | -0.15325 | 0.10327  | -0.30400 |
| X8  | -0.06675 | -0.15325 | 1.00000  | 0.24870  | -0.15028 |
| X9  | 0.16721  | 0.10327  | 0.24870  | 1.00000  | 0.02455  |
| X10 | 0.00610  | -0.30400 | -0.15028 | 0.02455  | 1.00000  |

Root Mean Square Off-diagonal Partialials: Over-all = 0.17509329

|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| X1       | X2       | X3       | X4       | X5       |
| 0.202591 | 0.157571 | 0.218051 | 0.187429 | 0.161051 |
| X6       | X7       | X8       | X9       | X10      |
| 0.174437 | 0.155802 | 0.161524 | 0.143740 | 0.175037 |

N1: 2 common factors: PCA

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Initial Factor Method: Principal Components

Plot of Factor Pattern for FACTOR1 and FACTOR2

FACTOR1

1

.9

```

          .8
          .7
          .6
          .5 H
          .4   B G
          E           J
          F       .3
          .2
          C
          F
          A
          C
          -1 -.9-.8-.7-.6A.5-.4-.3-.2-.1  0  .1  .2  .3  .4  .5  .6  .7  .8  .9  1.0T
          O
          -.1
          R
          2
          -.2
          -.3
          -.4   I
          -.5       D
          -.6
          -.7
          -.8
          -.9
          -1
X1      =A     X2      =B     X3      =C     X4      =D     X5      =E
X6      =F     X7      =G     X8      =H     X9      =I     X10    =J
N1: 2 common factors: PCA                                235

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Rotation Method: Varimax

#### Orthogonal Transformation Matrix

|   | 1        | 2       |
|---|----------|---------|
| 1 | 0.72221  | 0.69168 |
| 2 | -0.69168 | 0.72221 |

#### Rotated Factor Pattern

|     | FACTOR1  | FACTOR2  |
|-----|----------|----------|
| X1  | 0.39026  | -0.39202 |
| X2  | 0.20414  | 0.39909  |
| X3  | -0.28211 | 0.56531  |
| X4  | -0.54663 | -0.15316 |
| X5  | 0.46602  | 0.04803  |
| X6  | 0.48916  | -0.07620 |
| X7  | 0.14325  | 0.42994  |
| X8  | 0.28900  | 0.39059  |
| X9  | -0.38889 | -0.18727 |
| X10 | 0.01684  | 0.48962  |

#### Variance explained by each factor

| FACTOR1 | FACTOR2 |
|---------|---------|
|---------|---------|

1.284373 1.276305

Final Communality Estimates: Total = 2.560678

|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| X1       | X2       | X3       | X4       | X5       |
| 0.305976 | 0.200943 | 0.399160 | 0.322265 | 0.219482 |
| X6       | X7       | X8       | X9       | X10      |
| 0.245083 | 0.205365 | 0.236085 | 0.186304 | 0.240014 |

Scoring Coefficients Estimated by Regression

Squared Multiple Correlations of the Variables with each Factor

|                           |          |
|---------------------------|----------|
| FACTOR1                   | FACTOR2  |
| 1.000000                  | 1.000000 |
| N1: 2 common factors: PCA |          |
| 236                       |          |

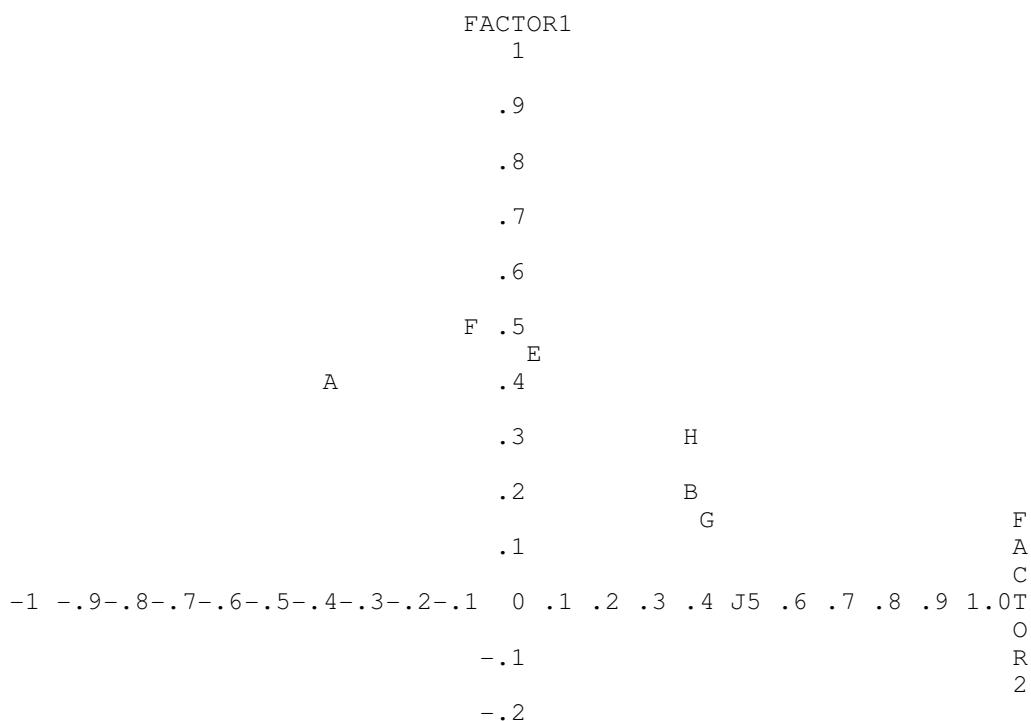
Rotation Method: Varimax

Standardized Scoring Coefficients

|                           | FACTOR1  | FACTOR2  |
|---------------------------|----------|----------|
| X1                        | 0.32792  | -0.33114 |
| X2                        | 0.13693  | 0.30267  |
| X3                        | -0.25320 | 0.46145  |
| X4                        | -0.41911 | -0.08934 |
| X5                        | 0.36203  | 0.01115  |
| X6                        | 0.38726  | -0.08804 |
| X7                        | 0.08751  | 0.33046  |
| X8                        | 0.20385  | 0.29112  |
| X9                        | -0.29368 | -0.12524 |
| X10                       | -0.01486 | 0.38471  |
| N1: 2 common factors: PCA |          |          |
| 237                       |          |          |

Rotation Method: Varimax

Plot of Factor Pattern for FACTOR1 and FACTOR2



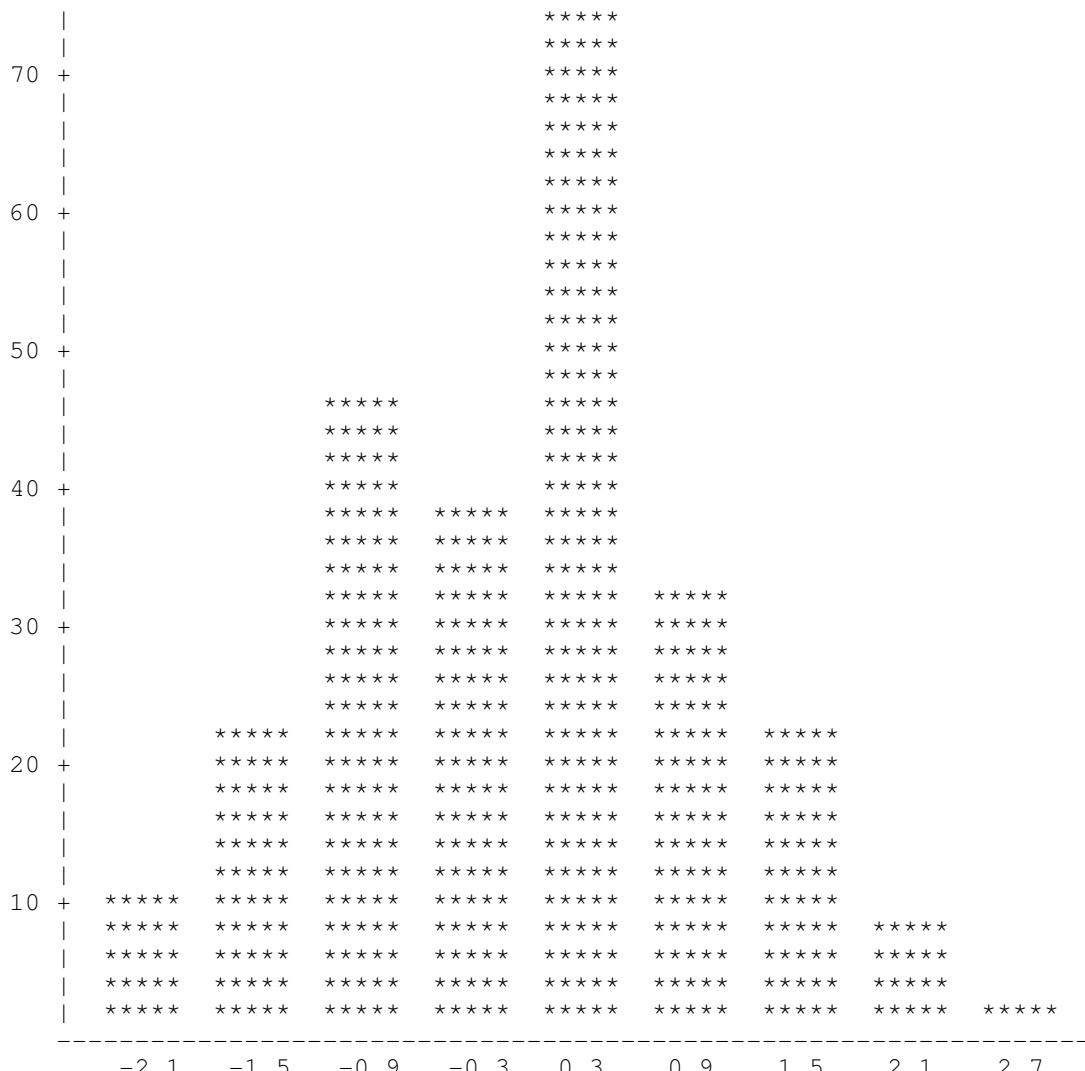
C

-.3  
I -.4  
D -.5  
-.6  
-.7  
-.8  
-.9  
-1

|    |    |    |    |    |    |    |    |     |    |
|----|----|----|----|----|----|----|----|-----|----|
| X1 | =A | X2 | =B | X3 | =C | X4 | =D | X5  | =E |
| X6 | =F | X7 | =G | X8 | =H | X9 | =I | X10 | =J |

N1: 2 common factors: PCA 238

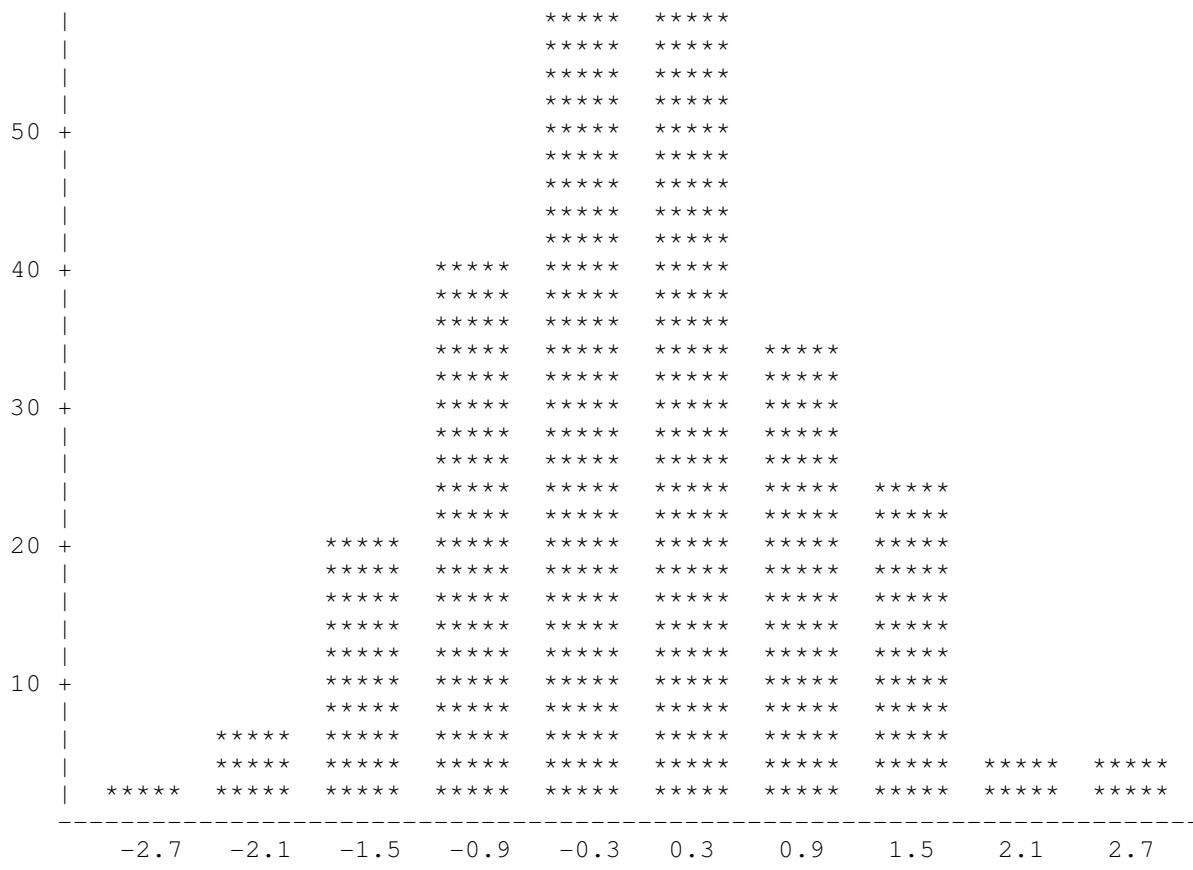
Frequency



FACTOR1 Midpoint  
N1: 2 common factors: PCA 239

Frequency





FACTOR2 Midpoint  
N1: 2 common factors: ML

240

Initial Factor Method: Maximum Likelihood

#### Partial Correlations Controlling all other Variables

|     | X1       | X2       | X3       | X4       | X5       |
|-----|----------|----------|----------|----------|----------|
| X1  | 1.00000  | 0.05044  | -0.08561 | -0.11348 | -0.01617 |
| X2  | 0.05044  | 1.00000  | 0.04186  | 0.04588  | 0.10369  |
| X3  | -0.08561 | 0.04186  | 1.00000  | -0.06992 | -0.04105 |
| X4  | -0.11348 | 0.04588  | -0.06992 | 1.00000  | -0.07158 |
| X5  | -0.01617 | 0.10369  | -0.04105 | -0.07158 | 1.00000  |
| X6  | -0.00723 | -0.01540 | -0.07128 | -0.06917 | 0.04510  |
| X7  | -0.05919 | 0.02965  | 0.09605  | -0.03611 | 0.02001  |
| X8  | -0.03111 | 0.09740  | -0.02698 | -0.08328 | 0.01767  |
| X9  | -0.00821 | -0.03948 | 0.00962  | 0.09621  | -0.04472 |
| X10 | -0.04615 | 0.09566  | 0.05092  | -0.05673 | -0.03900 |
|     | X6       | X7       | X8       | X9       | X10      |
| X1  | -0.00723 | -0.05919 | -0.03111 | -0.00821 | -0.04615 |
| X2  | -0.01540 | 0.02965  | 0.09740  | -0.03948 | 0.09566  |
| X3  | -0.07128 | 0.09605  | -0.02698 | 0.00962  | 0.05092  |
| X4  | -0.06917 | -0.03611 | -0.08328 | 0.09621  | -0.05673 |
| X5  | 0.04510  | 0.02001  | 0.01767  | -0.04472 | -0.03900 |
| X6  | 1.00000  | 0.06439  | 0.05045  | -0.03508 | -0.02740 |
| X7  | 0.06439  | 1.00000  | 0.08221  | -0.04906 | -0.04525 |
| X8  | 0.05045  | 0.08221  | 1.00000  | 0.03733  | 0.07355  |
| X9  | -0.03508 | -0.04906 | 0.03733  | 1.00000  | -0.07561 |
| X10 | -0.02740 | -0.04525 | 0.07355  | -0.07561 | 1.00000  |

Kaiser's Measure of Sampling Adequacy: Over-all MSA = 0.51104148

| X1 | X2 | X3 | X4 | X5 |
|----|----|----|----|----|
|----|----|----|----|----|

|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| 0.451727 | 0.500065 | 0.477013 | 0.503047 | 0.527286 |
| X6       | X7       | X8       | X9       | X10      |
| 0.545676 | 0.531277 | 0.532336 | 0.545915 | 0.509660 |

## Prior Communality Estimates: SMC

|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| X1       | X2       | X3       | X4       | X5       |
| 0.026854 | 0.037483 | 0.031480 | 0.049254 | 0.024931 |
| X6       | X7       | X8       | X9       | X10      |
| 0.022770 | 0.032153 | 0.036022 | 0.025594 | 0.032692 |

Preliminary Eigenvalues: Total = 0.33036742 Average = 0.03303674

|                          |        |        |        |        |        |
|--------------------------|--------|--------|--------|--------|--------|
| Eigenvalue               | 1      | 2      | 3      | 4      | 5      |
| Difference               | 0.4232 | 0.2238 | 0.1381 | 0.1011 | 0.0335 |
| Proportion               | 0.1995 | 0.0857 | 0.0370 | 0.0676 | 0.0253 |
| Cumulative               | 1.2811 | 0.6773 | 0.4179 | 0.3060 | 0.1014 |
| N1: 2 common factors: ML |        |        |        |        | 241    |

## Initial Factor Method: Maximum Likelihood

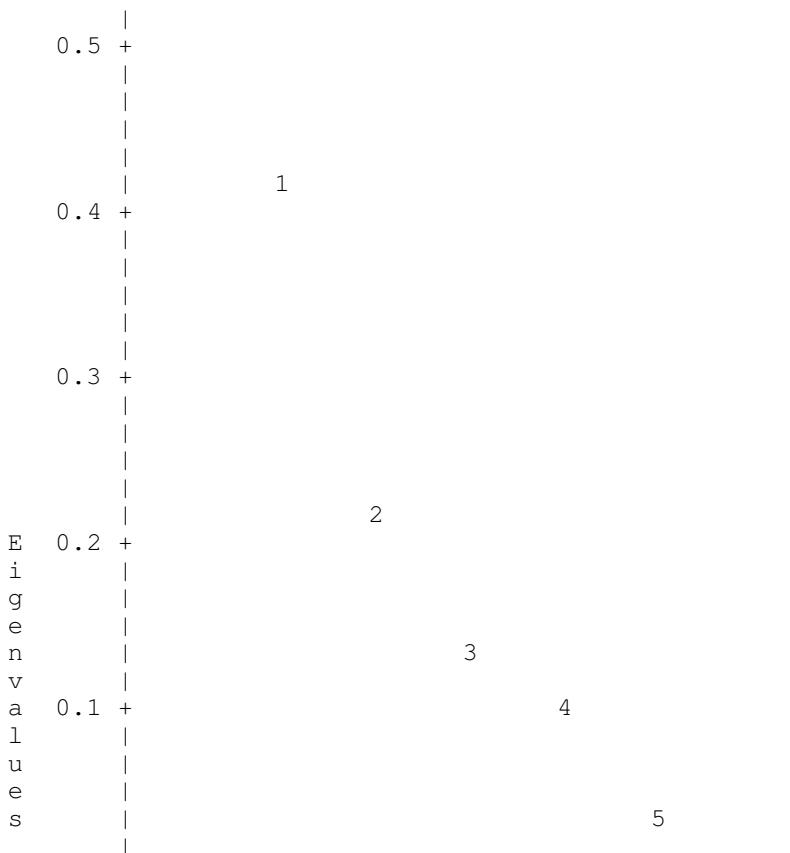
|                          |        |         |         |         |         |
|--------------------------|--------|---------|---------|---------|---------|
| Eigenvalue               | 6      | 7       | 8       | 9       | 10      |
| Difference               | 0.0082 | -0.0602 | -0.1117 | -0.1836 | -0.2420 |
| Proportion               | 0.0684 | 0.0515  | 0.0718  | 0.0584  |         |
| Cumulative               | 0.0248 | -0.1823 | -0.3382 | -0.5556 | -0.7324 |
| N1: 2 common factors: ML | 2.8085 | 2.6262  | 2.2880  | 1.7324  | 1.0000  |

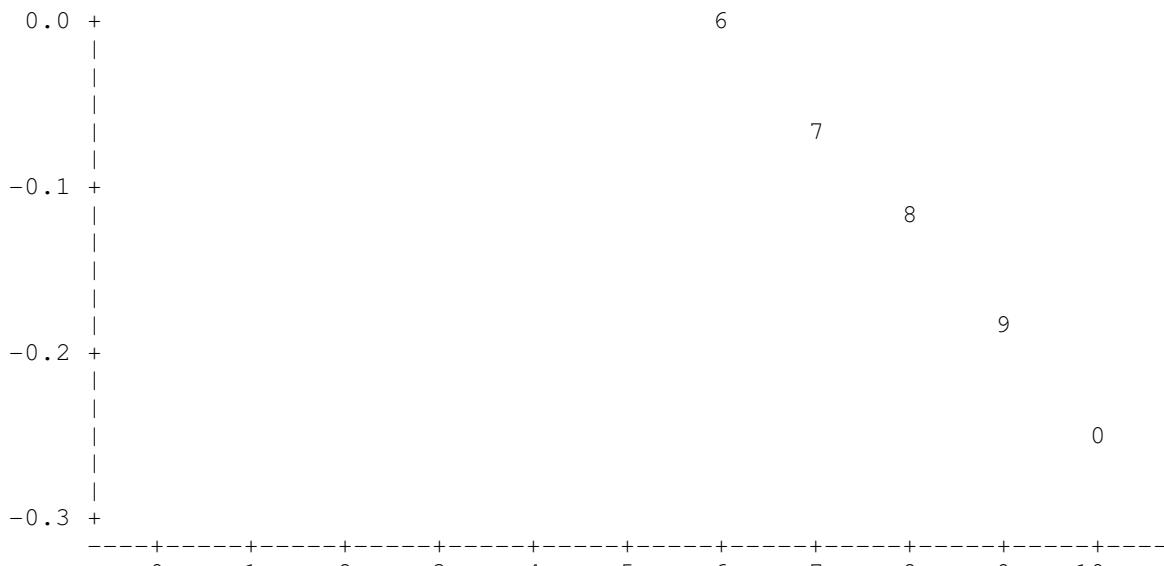
2 factors will be retained by the NFACTOR criterion.

N1: 2 common factors: ML 242

## Initial Factor Method: Maximum Likelihood

## Scree Plot of Eigenvalues





Number  
N1: 2 common factors: ML 243

Initial Factor Method: Maximum Likelihood

| Iter | Criterion | Ridge | Change  | Communalities  |
|------|-----------|-------|---------|--|
| 1    | 0.06936   | 0.000 | 0.08199 | 0.06115 0.05816 0.11347 0.12248 0.05528<br>0.05546 0.05615 0.07834 0.05363 0.06056 |
| 2    | 0.06922   | 0.000 | 0.01371 | 0.06391 0.05168 0.12717 0.12338 0.05400<br>0.05663 0.06122 0.07334 0.05480 0.05693 |
| 3    | 0.06917   | 0.000 | 0.01131 | 0.06219 0.04942 0.13848 0.12280 0.05422<br>0.05634 0.06306 0.07173 0.05519 0.05362 |
| 4    | 0.06913   | 0.000 | 0.01037 | 0.05929 0.04832 0.14885 0.12094 0.05483<br>0.05690 0.06376 0.07080 0.05523 0.05177 |
| 5    | 0.06909   | 0.000 | 0.01096 | 0.05577 0.04772 0.15982 0.11877 0.05555<br>0.05765 0.06381 0.07025 0.05515 0.05039 |
| 6    | 0.06905   | 0.000 | 0.01233 | 0.05204 0.04727 0.17215 0.11658 0.05624<br>0.05833 0.06358 0.06987 0.05501 0.04904 |
| 7    | 0.06899   | 0.000 | 0.01442 | 0.04821 0.04686 0.18657 0.11450 0.05683<br>0.05876 0.06321 0.06958 0.05485 0.04753 |
| 8    | 0.06893   | 0.000 | 0.01748 | 0.04426 0.04645 0.20405 0.11260 0.05725<br>0.05886 0.06268 0.06940 0.05467 0.04579 |
| 9    | 0.06885   | 0.000 | 0.02213 | 0.04009 0.04602 0.22618 0.11089 0.05747<br>0.05852 0.06192 0.06932 0.05450 0.04377 |
| 10   | 0.06875   | 0.000 | 0.02966 | 0.03555 0.04560 0.25583 0.10941 0.05740<br>0.05763 0.06076 0.06942 0.05432 0.04143 |
| 11   | 0.06859   | 0.000 | 0.04278 | 0.03045 0.04522 0.29861 0.10814 0.05693<br>0.05597 0.05897 0.06978 0.05416 0.03875 |
| 12   | 0.06836   | 0.000 | 0.06790 | 0.02459 0.04492 0.36652 0.10708 0.05588<br>0.05323 0.05619 0.07051 0.05400 0.03570 |
| 13   | 0.06801   | 0.000 | 0.12197 | 0.01781 0.04477 0.48849 0.10610 0.05407<br>0.04903 0.05199 0.07174 0.05387 0.03241 |
| 14   | 0.06751   | 0.000 | 0.25840 | 0.01030 0.04485 0.74690 0.10477 0.05145  |

|    |         |       |         |         |         |         |         |         |
|----|---------|-------|---------|---------|---------|---------|---------|---------|
|    |         |       |         | 0.04322 | 0.04612 | 0.07337 | 0.05378 | 0.02927 |
| 15 | 0.06722 | 0.000 | 0.25310 | 0.00758 | 0.04497 | 1.00000 | 0.10389 | 0.05036 |
|    |         |       |         | 0.04075 | 0.04359 | 0.07390 | 0.05376 | 0.02846 |
| 16 | 0.06721 | 0.000 | 0.00276 | 0.00969 | 0.04605 | 1.00000 | 0.10258 | 0.05090 |
|    |         |       |         | 0.04263 | 0.04635 | 0.07583 | 0.05350 | 0.02977 |
| 17 | 0.06720 | 0.000 | 0.00048 | 0.00959 | 0.04636 | 1.00000 | 0.10209 | 0.05086 |
|    |         |       |         | 0.04261 | 0.04652 | 0.07630 | 0.05321 | 0.02973 |

Convergence criterion satisfied.

N1: 2 common factors: ML

244

Initial Factor Method: Maximum Likelihood

Significance tests based on 250 observations:

Test of H0: No common factors.  
vs HA: At least one common factor.

Chi-square = 40.041 df = 45 Prob>chi\*\*2 = 0.6816

Test of H0: 2 Factors are sufficient.  
vs HA: More factors are needed.

Chi-square = 16.364 df = 26 Prob>chi\*\*2 = 0.9270

Chi-square without Bartlett's correction = 16.733978099  
Akaike's Information Criterion = -35.2660219  
Schwarz's Bayesian Criterion = -126.8240058  
Tucker and Lewis's Reliability Coefficient = 0

#### Squared Canonical Correlations

|          |          |
|----------|----------|
| FACTOR1  | FACTOR2  |
| 1.000000 | 0.313442 |

#### Eigenvectors

|   |   |
|---|---|
| 1 | 2 |
|---|---|

|     |          |          |
|-----|----------|----------|
| X1  | -0.08439 | 0.08839  |
| X2  | 0.04318  | 0.37533  |
| X3  | 0.99550  | -0.00879 |
| X4  | 0.00000  | -0.56278 |
| X5  | 0.00000  | 0.31704  |
| X6  | 0.00000  | 0.29148  |
| X7  | 0.00000  | 0.27932  |
| X8  | 0.00000  | 0.36617  |
| X9  | 0.00000  | -0.31079 |
| X10 | 0.00000  | 0.20087  |

Eigenvalues of the Weighted Reduced Correlation Matrix:  
Total = 0.4565397 Average = 0.05072663

| Eigenvalue | 1      | 2       | 3       | 4       | 5       |
|------------|--------|---------|---------|---------|---------|
| Difference | .      | 0.4565  | 0.1778  | 0.1463  | 0.0726  |
| Proportion | .      | 0.2787  | 0.0315  | 0.0737  | 0.0203  |
| Cumulative | .      | 1.0000  | 0.3894  | 0.3205  | 0.1591  |
|            |        | 1.0000  | 1.3894  | 1.7100  | 1.8690  |
| Eigenvalue | 6      | 7       | 8       | 9       | 10      |
| Difference | 0.0523 | -0.0377 | -0.0577 | -0.1455 | -0.2082 |
| Proportion | 0.0900 | 0.0200  | 0.0878  | 0.0628  |         |
| Cumulative | 0.1146 | -0.0825 | -0.1264 | -0.3186 | -0.4561 |
|            | 1.9837 | 1.9012  | 1.7748  | 1.4561  | 1.0000  |

N1: 2 common factors: ML

245

Initial Factor Method: Maximum Likelihood

Factor Pattern

|     | FACTOR1  | FACTOR2  |
|-----|----------|----------|
| X1  | -0.08439 | 0.04949  |
| X2  | 0.04025  | 0.21171  |
| X3  | 1.00000  | -0.00000 |
| X4  | -0.05759 | -0.31413 |
| X5  | -0.03481 | 0.22282  |
| X6  | -0.06486 | 0.19591  |
| X7  | 0.09624  | 0.19310  |
| X8  | -0.00718 | 0.27628  |
| X9  | -0.00263 | -0.23050 |
| X10 | 0.06036  | 0.16159  |

Variance explained by each factor

|            | FACTOR1  | FACTOR2  |
|------------|----------|----------|
| Weighted   | 0.031786 | 0.456540 |
| Unweighted | 1.030441 | 0.426839 |

Final Communality Estimates and Variable Weights  
 Total Communality: Weighted = 0.488326 Unweighted = 1.457280

|             | X1       | X2       | X3       | X4       | X5       |
|-------------|----------|----------|----------|----------|----------|
| Communality | 0.009570 | 0.046441 | 1.000000 | 0.101993 | 0.050862 |
| Weight      | 1.009685 | 1.048610 | .        | 1.113703 | 1.053590 |
|             | X6       | X7       | X8       | X9       | X10      |
| Communality | 0.042587 | 0.046549 | 0.076381 | 0.053139 | 0.029756 |
| Weight      | 1.044505 | 1.048786 | 1.082601 | 1.056203 | 1.030644 |

Residual Correlations With Uniqueness on the Diagonal

|     | X1       | X2       | X3      | X4       | X5       |
|-----|----------|----------|---------|----------|----------|
| X1  | 0.99043  | 0.02734  | 0.00000 | -0.08897 | -0.01528 |
| X2  | 0.02734  | 0.95356  | 0.00000 | 0.08078  | 0.05598  |
| X3  | 0.00000  | 0.00000  | 0.00000 | 0.00000  | 0.00000  |
| X4  | -0.08897 | 0.08078  | 0.00000 | 0.89801  | -0.00782 |
| X5  | -0.01528 | 0.05598  | 0.00000 | -0.00782 | 0.94914  |
| X6  | -0.01367 | -0.04702 | 0.00000 | -0.02099 | 0.01210  |
| X7  | -0.06342 | -0.00574 | 0.00000 | 0.01419  | -0.00668 |
| X8  | -0.03973 | 0.04636  | 0.00000 | -0.00177 | -0.02514 |
| X9  | -0.00384 | 0.00049  | 0.00000 | 0.03470  | -0.00575 |
| X10 | -0.04213 | 0.06489  | 0.00000 | -0.00731 | -0.05645 |

N1: 2 common factors: ML

246

Initial Factor Method: Maximum Likelihood

Residual Correlations With Uniqueness on the Diagonal

|     | X6       | X7       | X8       | X9       | X10      |
|-----|----------|----------|----------|----------|----------|
| X1  | -0.01367 | -0.06342 | -0.03973 | -0.00384 | -0.04213 |
| X2  | -0.04702 | -0.00574 | 0.04636  | 0.00049  | 0.06489  |
| X3  | 0.00000  | 0.00000  | 0.00000  | 0.00000  | 0.00000  |
| X4  | -0.02099 | 0.01419  | -0.00177 | 0.03470  | -0.00731 |
| X5  | 0.01210  | -0.00668 | -0.02514 | -0.00575 | -0.05645 |
| X6  | 0.95741  | 0.03828  | 0.00632  | 0.00008  | -0.05219 |
| X7  | 0.03828  | 0.95345  | 0.03727  | -0.00842 | -0.06034 |
| X8  | 0.00632  | 0.03727  | 0.92362  | 0.07421  | 0.03739  |
| X9  | 0.00008  | -0.00842 | 0.07421  | 0.94686  | -0.04153 |
| X10 | -0.05219 | -0.06034 | 0.03739  | -0.04153 | 0.97024  |

Root Mean Square Off-diagonal Residuals: Over-all = 0.03611822

| X1       | X2       | X3       | X4       | X5       |
|----------|----------|----------|----------|----------|
| 0.042785 | 0.045958 | 0.000000 | 0.042694 | 0.028811 |
| X6       | X7       | X8       | X9       | X10      |
| 0.028311 | 0.034750 | 0.037561 | 0.030830 | 0.045599 |

#### Partial Correlations Controlling Factors

|     | X1       | X2       | X3       | X4       | X5       |
|-----|----------|----------|----------|----------|----------|
| X1  | 1.00000  | 0.02813  | 0.00000  | -0.09434 | -0.01576 |
| X2  | 0.02813  | 1.00000  | 0.00000  | 0.08729  | 0.05884  |
| X3  | 0.00000  | 0.00000  | 0.00000  | 0.00000  | 0.00000  |
| X4  | -0.09434 | 0.08729  | 0.00000  | 1.00000  | -0.00847 |
| X5  | -0.01576 | 0.05884  | 0.00000  | -0.00847 | 1.00000  |
| X6  | -0.01404 | -0.04921 | 0.00000  | -0.02264 | 0.01269  |
| X7  | -0.06527 | -0.00602 | 0.00000  | 0.01534  | -0.00702 |
| X8  | -0.04154 | 0.04940  | 0.00000  | -0.00194 | -0.02685 |
| X9  | -0.00397 | 0.00052  | 0.00000  | 0.03763  | -0.00607 |
| X10 | -0.04298 | 0.06747  | 0.00000  | -0.00784 | -0.05882 |
|     | X6       | X7       | X8       | X9       | X10      |
| X1  | -0.01404 | -0.06527 | -0.04154 | -0.00397 | -0.04298 |
| X2  | -0.04921 | -0.00602 | 0.04940  | 0.00052  | 0.06747  |
| X3  | 0.00000  | 0.00000  | 0.00000  | 0.00000  | 0.00000  |
| X4  | -0.02264 | 0.01534  | -0.00194 | 0.03763  | -0.00784 |
| X5  | 0.01269  | -0.00702 | -0.02685 | -0.00607 | -0.05882 |
| X6  | 1.00000  | 0.04007  | 0.00672  | 0.00009  | -0.05415 |
| X7  | 0.04007  | 1.00000  | 0.03972  | -0.00886 | -0.06273 |
| X8  | 0.00672  | 0.03972  | 1.00000  | 0.07935  | 0.03950  |
| X9  | 0.00009  | -0.00886 | 0.07935  | 1.00000  | -0.04333 |
| X10 | -0.05415 | -0.06273 | 0.03950  | -0.04333 | 1.00000  |

N1: 2 common factors: ML

247

Initial Factor Method: Maximum Likelihood

Root Mean Square Off-diagonal Partialials: Over-all = 0.03805124

| X1       | X2       | X3       | X4       | X5       |
|----------|----------|----------|----------|----------|
| 0.044704 | 0.048674 | 0.000000 | 0.045730 | 0.030204 |
| X6       | X7       | X8       | X9       | X10      |
| 0.029580 | 0.036175 | 0.039959 | 0.032866 | 0.047406 |

N1: 2 common factors: ML

248

Initial Factor Method: Maximum Likelihood

Plot of Factor Pattern for FACTOR1 and FACTOR2



```

          .3
          .2
          .1      G
          J   B
          D      FE
          -.1A
          -.2
          -.3
          -.4
          -.5
          -.6
          -.7
          -.8
          -.9
          -1

X1      =A      X2      =B      X3      =C      X4      =D      X5      =E
X6      =F      X7      =G      X8      =H      X9      =I      X10     =J
N1: 2 common factors: ML                                249

```

Rotation Method: Varimax

#### Orthogonal Transformation Matrix

|   | 1        | 2       |
|---|----------|---------|
| 1 | 0.97799  | 0.20865 |
| 2 | -0.20865 | 0.97799 |

#### Rotated Factor Pattern

|     | FACTOR1  | FACTOR2  |
|-----|----------|----------|
| X1  | -0.09286 | 0.03079  |
| X2  | -0.00481 | 0.21545  |
| X3  | 0.97799  | 0.20865  |
| X4  | 0.00922  | -0.31923 |
| X5  | -0.08053 | 0.21066  |
| X6  | -0.10430 | 0.17807  |
| X7  | 0.05384  | 0.20893  |
| X8  | -0.06467 | 0.26870  |
| X9  | 0.04552  | -0.22598 |
| X10 | 0.02532  | 0.17063  |

#### Variance explained by each factor

|            | FACTOR1  | FACTOR2  |
|------------|----------|----------|
| Weighted   | 0.037439 | 0.450887 |
| Unweighted | 0.992357 | 0.464923 |

Final Communality Estimates and Variable Weights  
 Total Communality: Weighted = 0.488326 Unweighted = 1.457280

|             | X1       | X2       | X3       | X4       | X5       |
|-------------|----------|----------|----------|----------|----------|
| Communality | 0.009570 | 0.046441 | 1.000000 | 0.101993 | 0.050862 |
| Weight      | 1.009685 | 1.048610 | .        | 1.113703 | 1.053590 |

|             | X6       | X7       | X8       | X9       | X10      |
|-------------|----------|----------|----------|----------|----------|
| Communality | 0.042587 | 0.046549 | 0.076381 | 0.053139 | 0.029756 |
| Weight      | 1.044505 | 1.048786 | 1.082601 | 1.056203 | 1.030644 |

## Scoring Coefficients Estimated by Regression

## Squared Multiple Correlations of the Variables with each Factor

| FACTOR1                  | FACTOR2  |     |
|--------------------------|----------|-----|
| 0.970112                 | 0.343330 |     |
| N1: 2 common factors: ML |          | 250 |

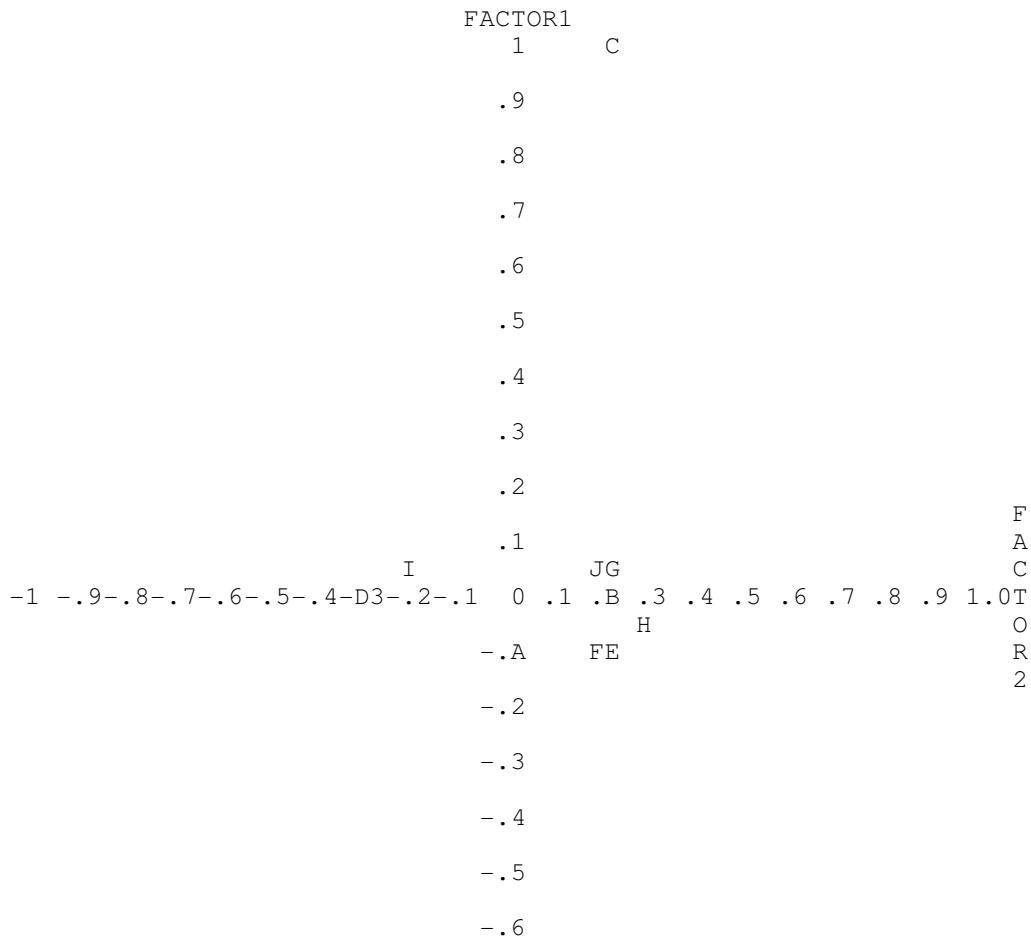
Rotation Method: Varimax

## Standardized Scoring Coefficients

|                          | FACTOR1  | FACTOR2  |  |
|--------------------------|----------|----------|--|
| X1                       | -0.00716 | 0.03355  |  |
| X2                       | -0.03180 | 0.14906  |  |
| X3                       | 0.98250  | 0.18752  |  |
| X4                       | 0.05011  | -0.23490 |  |
| X5                       | -0.03363 | 0.15763  |  |
| X6                       | -0.02931 | 0.13740  |  |
| X7                       | -0.02901 | 0.13598  |  |
| X8                       | -0.04285 | 0.20083  |  |
| X9                       | 0.03487  | -0.16347 |  |
| X10                      | -0.02386 | 0.11183  |  |
| N1: 2 common factors: ML |          | 251      |  |

Rotation Method: Varimax

## Plot of Factor Pattern for FACTOR1 and FACTOR2



-.7

-.8

-.9

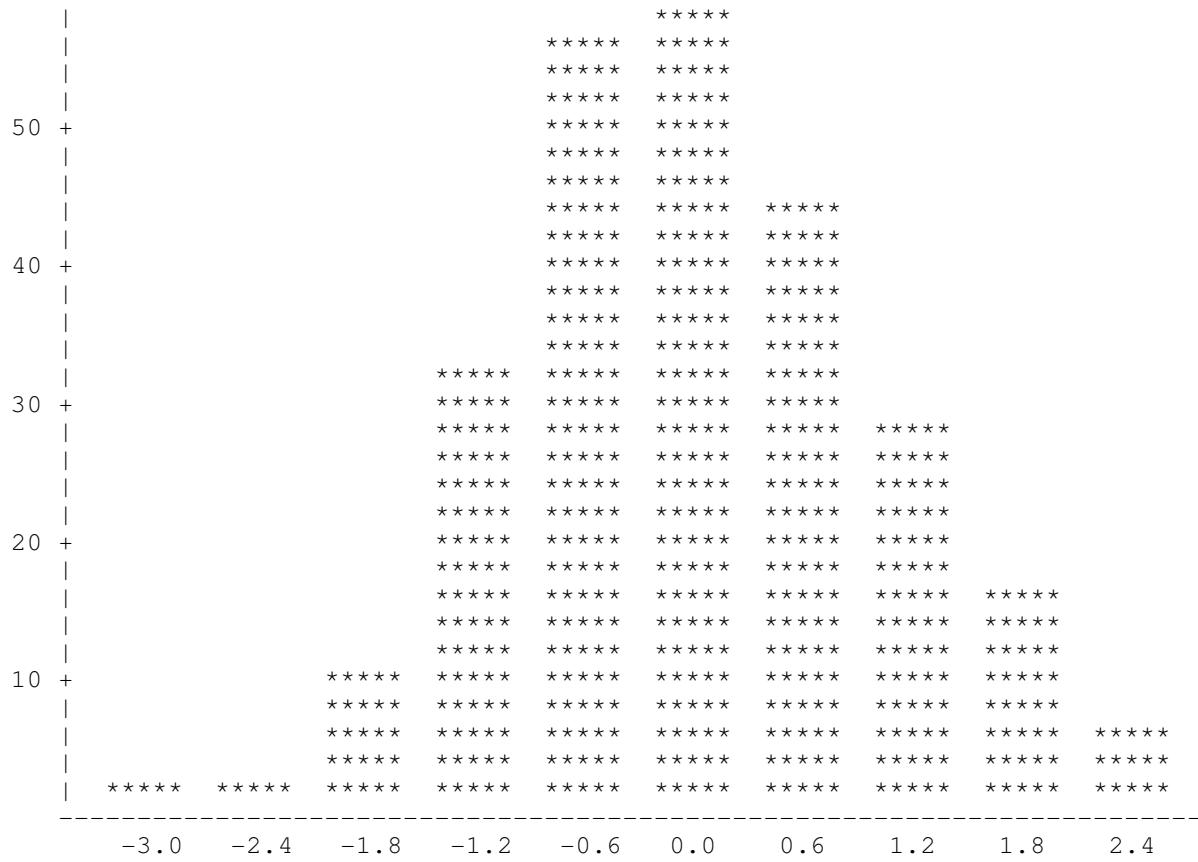
-1

|    |    |    |    |    |    |    |    |     |    |
|----|----|----|----|----|----|----|----|-----|----|
| X1 | =A | X2 | =B | X3 | =C | X4 | =D | X5  | =E |
| X6 | =F | X7 | =G | X8 | =H | X9 | =I | X10 | =J |

N1: 2 common factors: ML

252

## Frequency

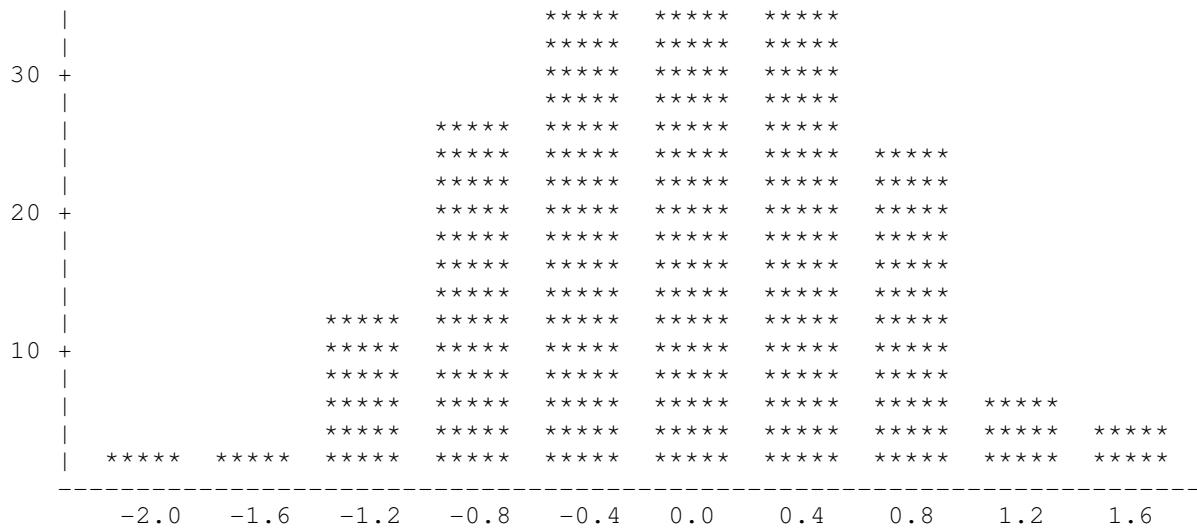


FACTOR1 Midpoint  
N1: 2 common factors: ML

253

## Frequency

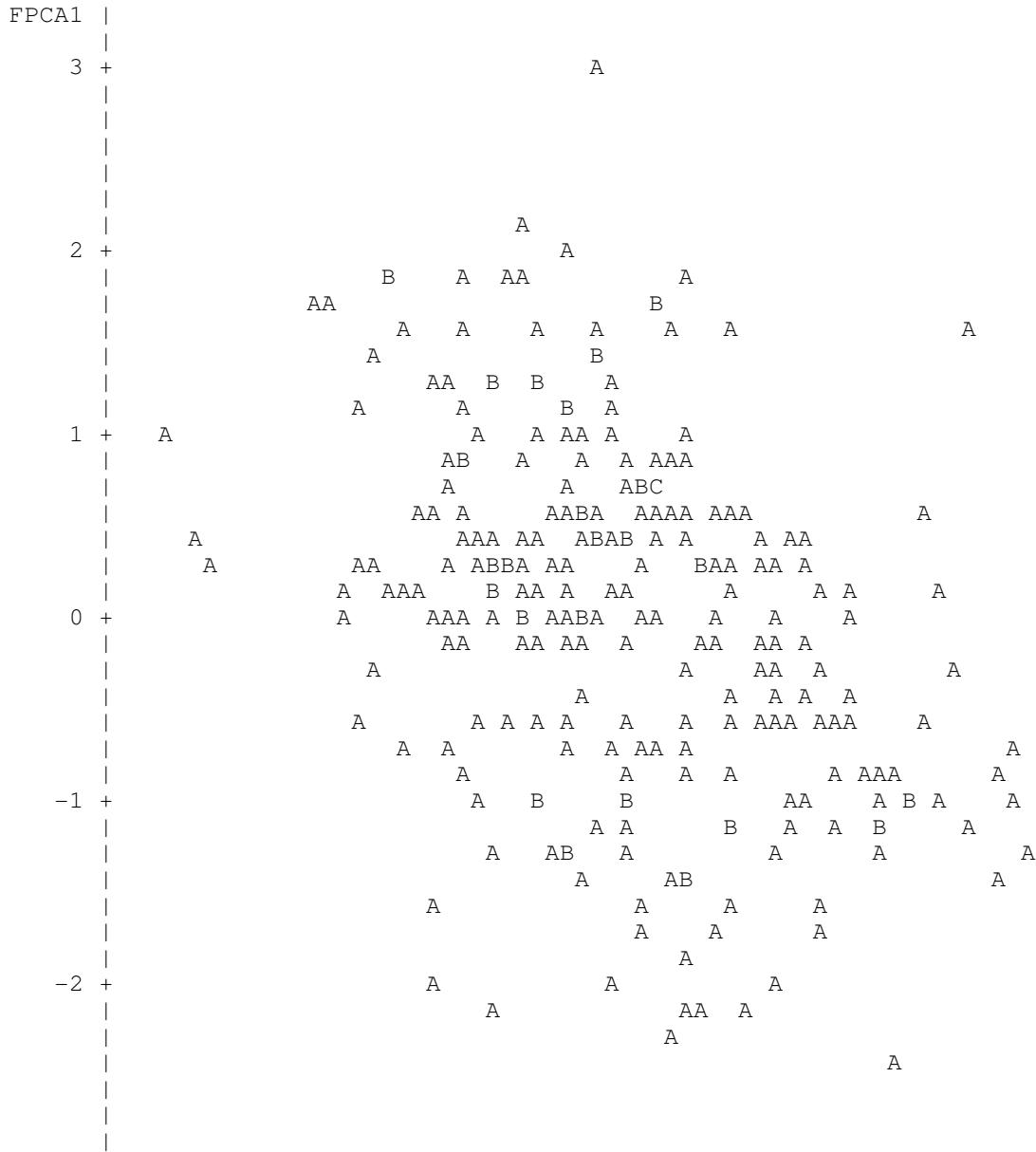


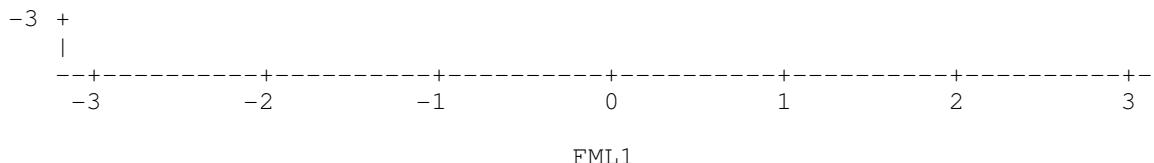


FACTOR2 Midpoint  
N1: Comparing factors by method

254

Plot of FPCA1\*FML1. Legend: A = 1 obs, B = 2 obs, etc.

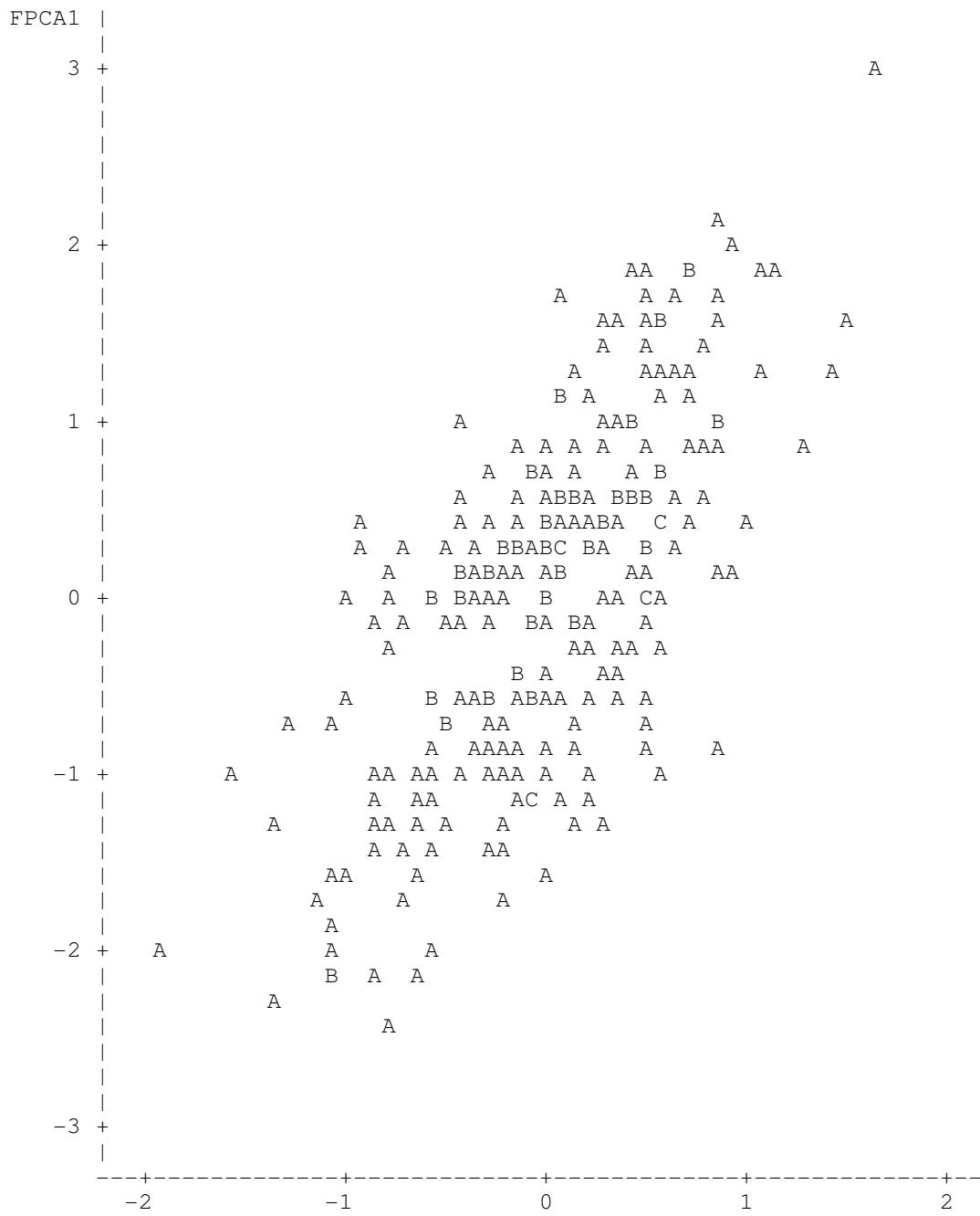




N1: Comparing factors by method

255

Plot of FPCA1\*FML2. Legend: A = 1 obs, B = 2 obs, etc.

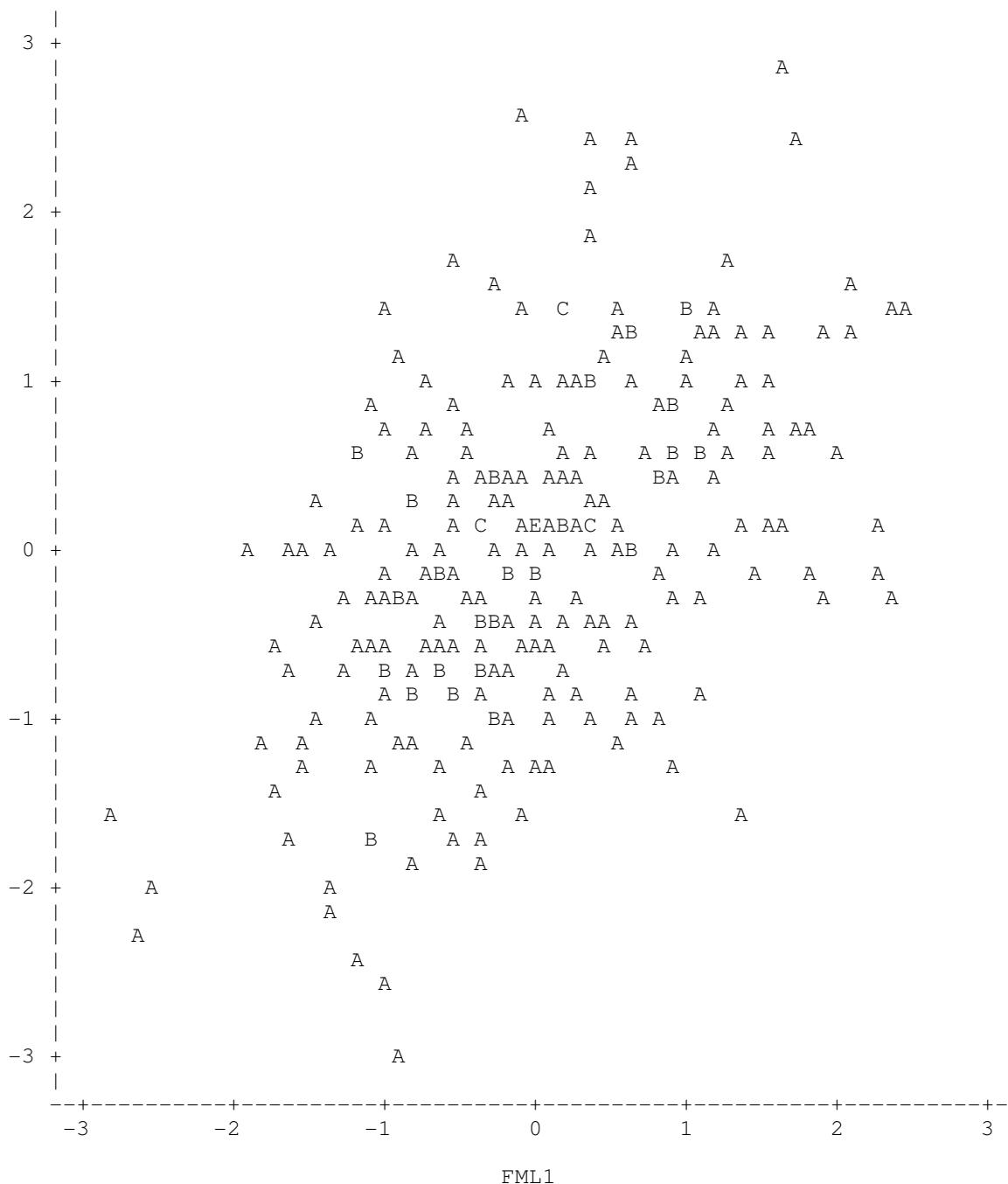


N1: Comparing factors by method

256

Plot of FPCA2\*FML1. Legend: A = 1 obs, B = 2 obs, etc.

FPCA2 |

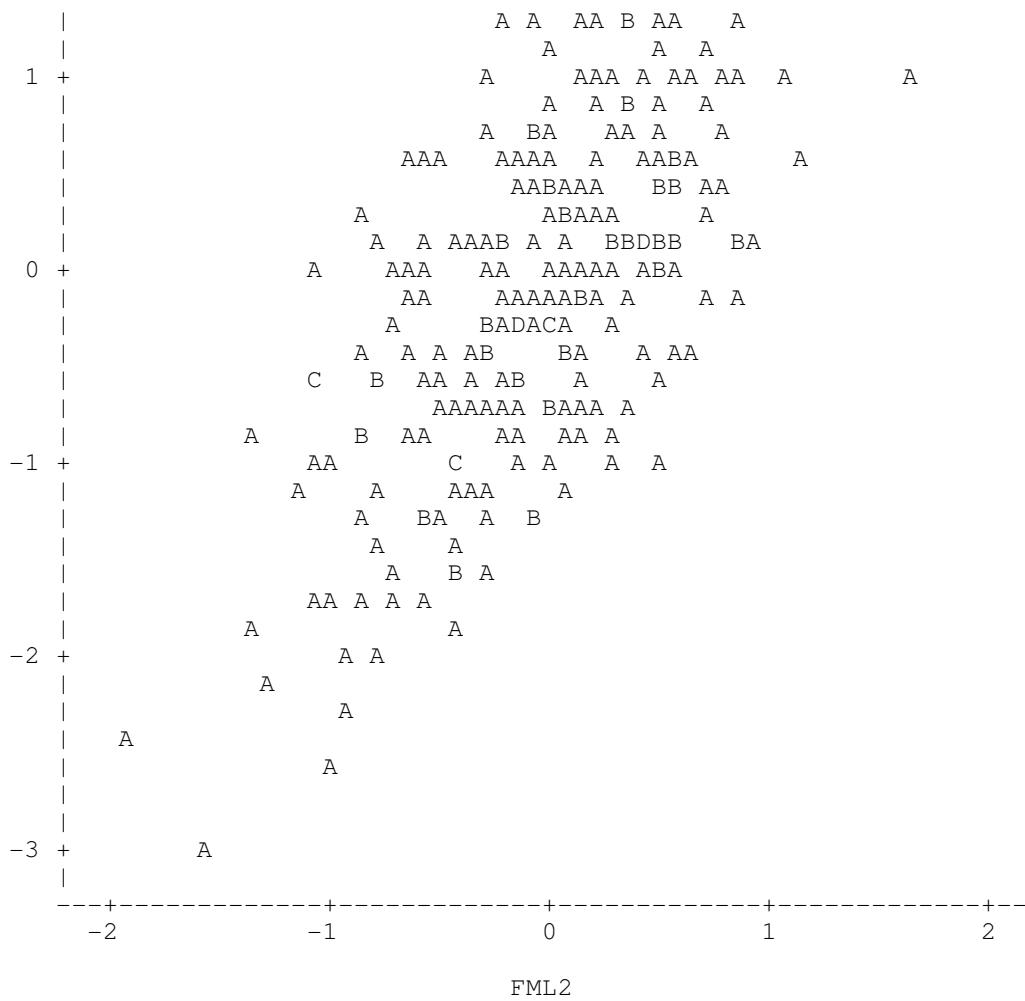


N1: Comparing factors by method

257

Plot of FPCA2\*FML2. Legend: A = 1 obs, B = 2 obs, etc.





N2: 2 common factors: PCA

258

Initial Factor Method: Principal Components

## Partial Correlations Controlling all other Variables

|     | X1       | X2       | X3       | X4       | X5       |
|-----|----------|----------|----------|----------|----------|
| X1  | 1.00000  | 0.76909  | -0.02199 | 0.53242  | -0.03024 |
| X2  | 0.76909  | 1.00000  | 0.04186  | 0.04588  | 0.10369  |
| X3  | -0.02199 | 0.04186  | 1.00000  | -0.06992 | -0.04105 |
| X4  | 0.53242  | 0.04588  | -0.06992 | 1.00000  | -0.07158 |
| X5  | -0.03024 | 0.10369  | -0.04105 | -0.07158 | 1.00000  |
| X6  | -0.19689 | -0.01540 | -0.07128 | -0.06917 | 0.04510  |
| X7  | 0.00524  | 0.02965  | 0.09605  | -0.03611 | 0.02001  |
| X8  | -0.01916 | 0.09740  | -0.02698 | -0.08328 | 0.01767  |
| X9  | -0.03680 | -0.03948 | 0.00962  | 0.09621  | -0.04472 |
| X10 | -0.05557 | 0.09566  | 0.05092  | -0.05673 | -0.03900 |
|     | X6       | X7       | X8       | X9       | X10      |
| X1  | -0.19689 | 0.00524  | -0.01916 | -0.03680 | -0.05557 |
| X2  | -0.01540 | 0.02965  | 0.09740  | -0.03948 | 0.09566  |
| X3  | -0.07128 | 0.09605  | -0.02698 | 0.00962  | 0.05092  |
| X4  | -0.06917 | -0.03611 | -0.08328 | 0.09621  | -0.05673 |
| X5  | 0.04510  | 0.02001  | 0.01767  | -0.04472 | -0.03900 |
| X6  | 1.00000  | 0.06439  | 0.05045  | -0.03508 | -0.02740 |
| X7  | 0.06439  | 1.00000  | 0.08221  | -0.04906 | -0.04525 |
| X8  | 0.05045  | 0.08221  | 1.00000  | 0.03733  | 0.07355  |
| X9  | -0.03508 | -0.04906 | 0.03733  | 1.00000  | -0.07561 |
| X10 | -0.02740 | -0.04525 | 0.07355  | -0.07561 | 1.00000  |

Kaiser's Measure of Sampling Adequacy: Over-all MSA = 0.82711787

|  | X1       | X2       | X3       | X4       | X5       |
|--|----------|----------|----------|----------|----------|
|  | 0.741275 | 0.804052 | 0.588893 | 0.888261 | 0.270284 |
|  | X6       | X7       | X8       | X9       | X10      |
|  | 0.972810 | 0.607433 | 0.394391 | 0.350586 | 0.406057 |

Prior Communality Estimates: ONE

Eigenvalues of the Correlation Matrix: Total = 10 Average = 1

|            | 1      | 2      | 3      | 4      | 5      |
|------------|--------|--------|--------|--------|--------|
| Eigenvalue | 3.7323 | 1.1680 | 1.0679 | 1.0402 | 1.0119 |
| Difference | 2.5643 | 0.1001 | 0.0277 | 0.0283 | 0.1035 |
| Proportion | 0.3732 | 0.1168 | 0.1068 | 0.1040 | 0.1012 |
| Cumulative | 0.3732 | 0.4900 | 0.5968 | 0.7008 | 0.8020 |
|            | 6      | 7      | 8      | 9      | 10     |
| Eigenvalue | 0.9084 | 0.7923 | 0.2149 | 0.0491 | 0.0151 |
| Difference | 0.1161 | 0.5774 | 0.1659 | 0.0339 |        |
| Proportion | 0.0908 | 0.0792 | 0.0215 | 0.0049 | 0.0015 |
| Cumulative | 0.8929 | 0.9721 | 0.9936 | 0.9985 | 1.0000 |

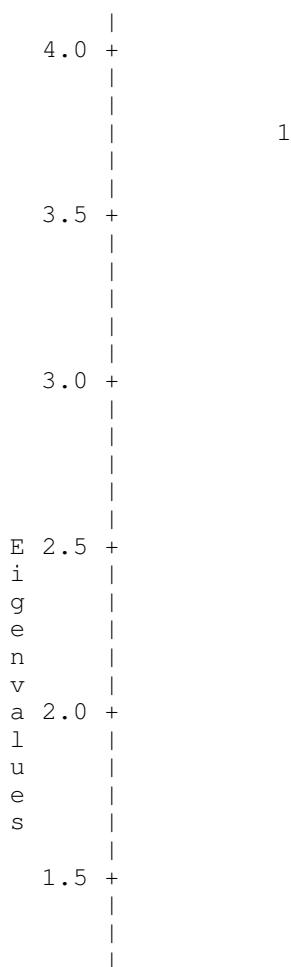
2 factors will be retained by the NFACTOR criterion.

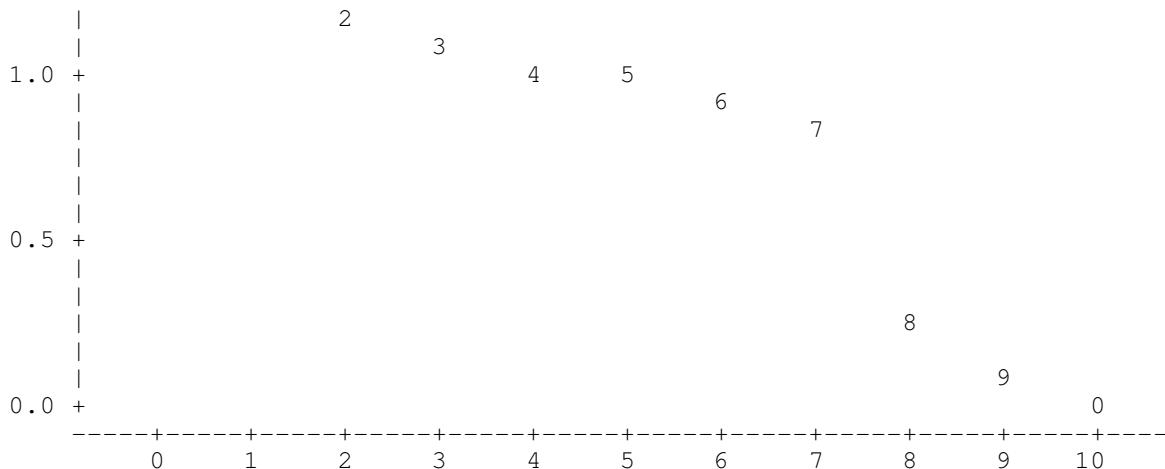
N2: 2 common factors: PCA

259

Initial Factor Method: Principal Components

Scree Plot of Eigenvalues





N2: 2 common factors: PCA

260

Initial Factor Method: Principal Components

#### Eigenvectors

1            2

|     |          |          |
|-----|----------|----------|
| X1  | 0.51044  | 0.04570  |
| X2  | 0.50566  | 0.07522  |
| X3  | -0.05659 | 0.31924  |
| X4  | 0.50454  | 0.00430  |
| X5  | -0.00621 | 0.22938  |
| X6  | -0.47090 | -0.01233 |
| X7  | -0.05333 | 0.50764  |
| X8  | -0.02622 | 0.47150  |
| X9  | -0.00117 | -0.42525 |
| X10 | -0.02597 | 0.42035  |

#### Factor Pattern

FACTOR1    FACTOR2

|     |          |          |
|-----|----------|----------|
| X1  | 0.98613  | 0.04939  |
| X2  | 0.97689  | 0.08129  |
| X3  | -0.10932 | 0.34501  |
| X4  | 0.97473  | 0.00465  |
| X5  | -0.01199 | 0.24790  |
| X6  | -0.90973 | -0.01333 |
| X7  | -0.10302 | 0.54862  |
| X8  | -0.05066 | 0.50956  |
| X9  | -0.00226 | -0.45958 |
| X10 | -0.05017 | 0.45429  |

#### Variance explained by each factor

FACTOR1    FACTOR2  
3.732288    1.167954

Final Communality Estimates: Total = 4.900242

| X1       | X2       | X3       | X4       | X5       |
|----------|----------|----------|----------|----------|
| 0.974892 | 0.960928 | 0.130982 | 0.950127 | 0.061598 |
| X6       | X7       | X8       | X9       | X10      |
| 0.827792 | 0.311597 | 0.262220 | 0.211214 | 0.208892 |

N2: 2 common factors: PCA

261

## Initial Factor Method: Principal Components

## Residual Correlations With Uniqueness on the Diagonal

|     | X1       | X2       | X3       | X4       | X5        |
|-----|----------|----------|----------|----------|-----------|
| X1  | 0.02511  | 0.01428  | 0.00637  | 0.000538 | -0.000174 |
| X2  | 0.01428  | 0.03907  | 0.00414  | -0.00276 | 0.00970   |
| X3  | 0.00637  | 0.00414  | 0.86902  | 0.00642  | -0.12165  |
| X4  | 0.00538  | -0.00276 | 0.00642  | 0.04987  | -0.01023  |
| X5  | -0.00174 | 0.00970  | -0.12165 | -0.01023 | 0.93840   |
| X6  | 0.04684  | 0.05366  | -0.05705 | 0.05350  | 0.02399   |
| X7  | 0.01251  | 0.00305  | -0.10430 | 0.02300  | -0.10424  |
| X8  | -0.00067 | 0.00320  | -0.18853 | -0.00088 | -0.09026  |
| X9  | 0.00990  | 0.01567  | 0.15568  | 0.01696  | 0.05688   |
| X10 | -0.01220 | -0.00679 | -0.10186 | -0.00795 | -0.13576  |
|     | X6       | X7       | X8       | X9       | X10       |
| X1  | 0.04684  | 0.01251  | -0.00067 | 0.00990  | -0.01220  |
| X2  | 0.05366  | 0.00305  | 0.00320  | 0.01567  | -0.00679  |
| X3  | -0.05705 | -0.10430 | -0.18853 | 0.15568  | -0.10186  |
| X4  | 0.05350  | 0.02300  | -0.00088 | 0.01696  | -0.00795  |
| X5  | 0.02399  | -0.10424 | -0.09026 | 0.05688  | -0.13576  |
| X6  | 0.17221  | 0.00309  | 0.01439  | -0.01897 | -0.01901  |
| X7  | 0.00309  | 0.68840  | -0.19484 | 0.19872  | -0.27772  |
| X8  | 0.01439  | -0.19484 | 0.73778  | 0.24461  | -0.15243  |
| X9  | -0.01897 | 0.19872  | 0.24461  | 0.78879  | 0.12973   |
| X10 | -0.01901 | -0.27772 | -0.15243 | 0.12973  | 0.79111   |

Root Mean Square Off-diagonal Residuals: Over-all = 0.09496552

|  | X1       | X2       | X3       | X4       | X5       |
|--|----------|----------|----------|----------|----------|
|  | 0.017870 | 0.019759 | 0.104978 | 0.020885 | 0.079060 |
|  | X6       | X7       | X8       | X9       | X10      |
|  | 0.037570 | 0.140251 | 0.135376 | 0.126762 | 0.127636 |

## Partial Correlations Controlling Factors

|     | X1       | X2       | X3       | X4       | X5       |
|-----|----------|----------|----------|----------|----------|
| X1  | 1.00000  | 0.45597  | 0.04315  | 0.15197  | -0.01132 |
| X2  | 0.45597  | 1.00000  | 0.02249  | -0.06261 | 0.05064  |
| X3  | 0.04315  | 0.02249  | 1.00000  | 0.03084  | -0.13471 |
| X4  | 0.15197  | -0.06261 | 0.03084  | 1.00000  | -0.04731 |
| X5  | -0.01132 | 0.05064  | -0.13471 | -0.04731 | 1.00000  |
| X6  | 0.71234  | 0.65421  | -0.14746 | 0.57732  | 0.05967  |
| X7  | 0.09512  | 0.01857  | -0.13485 | 0.12412  | -0.12969 |
| X8  | -0.00493 | 0.01883  | -0.23545 | -0.00461 | -0.10848 |
| X9  | 0.07032  | 0.08926  | 0.18804  | 0.08550  | 0.06611  |
| X10 | -0.08654 | -0.03865 | -0.12284 | -0.04001 | -0.15756 |

N2: 2 common factors: PCA

262

## Initial Factor Method: Principal Components

## Partial Correlations Controlling Factors

|    | X6       | X7       | X8       | X9       | X10      |
|----|----------|----------|----------|----------|----------|
| X1 | 0.71234  | 0.09512  | -0.00493 | 0.07032  | -0.08654 |
| X2 | 0.65421  | 0.01857  | 0.01883  | 0.08926  | -0.03865 |
| X3 | -0.14746 | -0.13485 | -0.23545 | 0.18804  | -0.12284 |
| X4 | 0.57732  | 0.12412  | -0.00461 | 0.08550  | -0.04001 |
| X5 | 0.05967  | -0.12969 | -0.10848 | 0.06611  | -0.15756 |
| X6 | 1.00000  | 0.00897  | 0.04036  | -0.05146 | -0.05151 |
| X7 | 0.00897  | 1.00000  | -0.27340 | 0.26967  | -0.37633 |

|     |          |          |          |         |          |
|-----|----------|----------|----------|---------|----------|
| X8  | 0.04036  | -0.27340 | 1.00000  | 0.32065 | -0.19952 |
| X9  | -0.05146 | 0.26967  | 0.32065  | 1.00000 | 0.16422  |
| X10 | -0.05151 | -0.37633 | -0.19952 | 0.16422 | 1.00000  |

Root Mean Square Off-diagonal Partial: Over-all = 0.22404901

|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| X1       | X2       | X3       | X4       | X5       |
| 0.290963 | 0.269371 | 0.136332 | 0.207589 | 0.096852 |

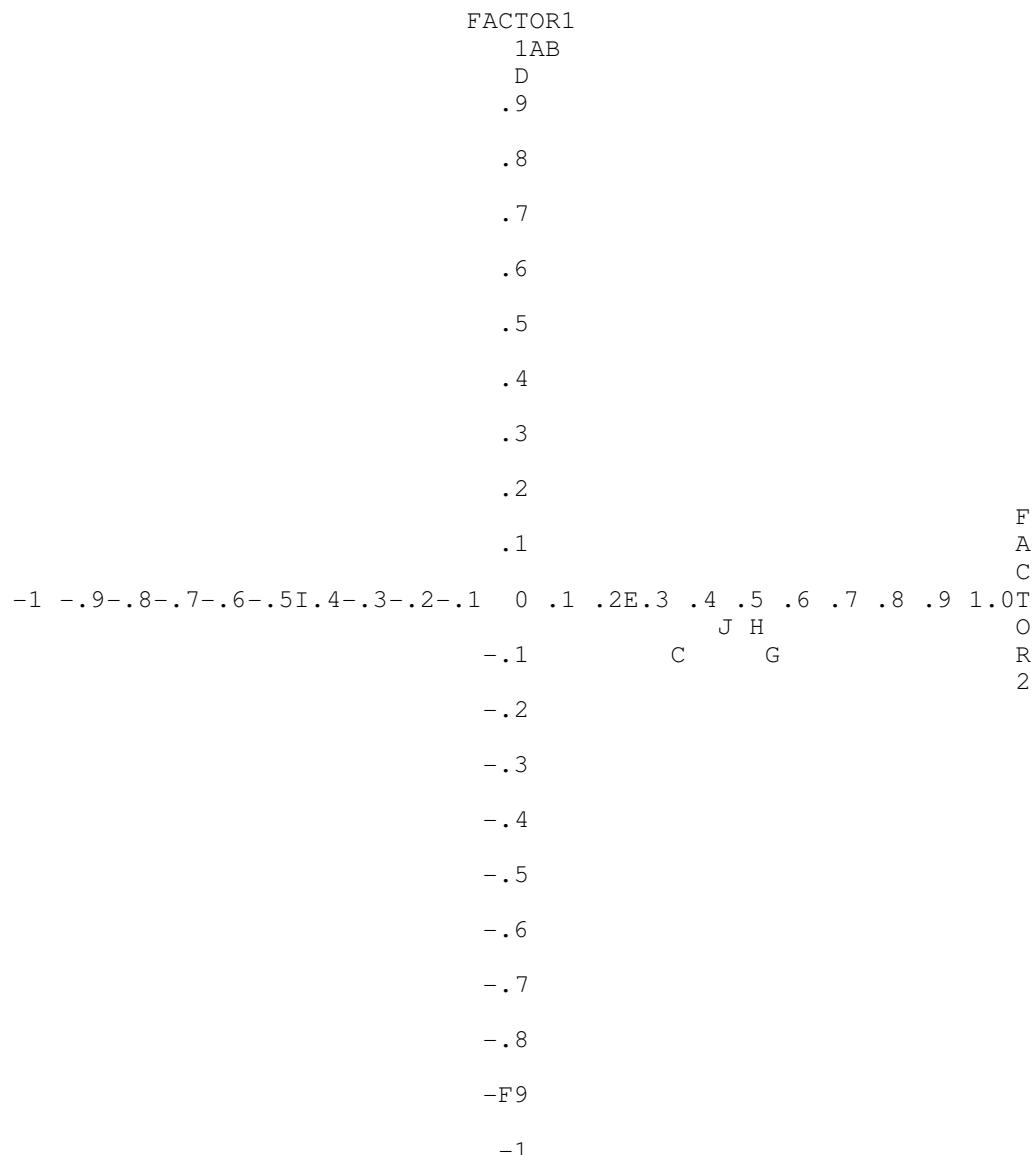
|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| X6       | X7       | X8       | X9       | X10      |
| 0.380210 | 0.196916 | 0.178452 | 0.171630 | 0.170476 |

N2: 2 common factors: PCA

263

Initial Factor Method: Principal Components

Plot of Factor Pattern for FACTOR1 and FACTOR2



|    |    |    |    |    |    |    |    |     |    |
|----|----|----|----|----|----|----|----|-----|----|
| X1 | =A | X2 | =B | X3 | =C | X4 | =D | X5  | =E |
| X6 | =F | X7 | =G | X8 | =H | X9 | =I | X10 | =J |

N2: 2 common factors: PCA

264

Rotation Method: Varimax

Orthogonal Transformation Matrix

|  | 1 | 2 |
|--|---|---|
|--|---|---|

|   |         |          |
|---|---------|----------|
| 1 | 0.99690 | -0.07864 |
| 2 | 0.07864 | 0.99690  |

## Rotated Factor Pattern

|  | FACTOR1 | FACTOR2 |
|--|---------|---------|
|--|---------|---------|

|     |          |          |
|-----|----------|----------|
| X1  | 0.98696  | -0.02831 |
| X2  | 0.98026  | 0.00422  |
| X3  | -0.08185 | 0.35254  |
| X4  | 0.97208  | -0.07202 |
| X5  | 0.00754  | 0.24808  |
| X6  | -0.90796 | 0.05825  |
| X7  | -0.05956 | 0.55502  |
| X8  | -0.01043 | 0.51197  |
| X9  | -0.03839 | -0.45797 |
| X10 | -0.01429 | 0.45682  |

## Variance explained by each factor

|  | FACTOR1  | FACTOR2  |
|--|----------|----------|
|  | 3.716430 | 1.183812 |

## Final Communality Estimates: Total = 4.900242

|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| X1       | X2       | X3       | X4       | X5       |
| 0.974892 | 0.960928 | 0.130982 | 0.950127 | 0.061598 |
| X6       | X7       | X8       | X9       | X10      |
| 0.827792 | 0.311597 | 0.262220 | 0.211214 | 0.208892 |

## Scoring Coefficients Estimated by Regression

## Squared Multiple Correlations of the Variables with each Factor

|                           | FACTOR1  | FACTOR2  |
|---------------------------|----------|----------|
| N2: 2 common factors: PCA | 1.000000 | 1.000000 |
|                           |          | 265      |

## Rotation Method: Varimax

## Standardized Scoring Coefficients

|  | FACTOR1 | FACTOR2 |
|--|---------|---------|
|--|---------|---------|

|     |          |          |
|-----|----------|----------|
| X1  | 0.26672  | 0.02138  |
| X2  | 0.26640  | 0.04880  |
| X3  | -0.00597 | 0.29678  |
| X4  | 0.26067  | -0.01657 |
| X5  | 0.01349  | 0.21185  |
| X6  | -0.24389 | 0.00779  |
| X7  | 0.00942  | 0.47044  |
| X8  | 0.02078  | 0.43600  |
| X9  | -0.03155 | -0.39222 |
| X10 | 0.01719  | 0.38881  |

|                           |     |
|---------------------------|-----|
| N2: 2 common factors: PCA | 266 |
|---------------------------|-----|

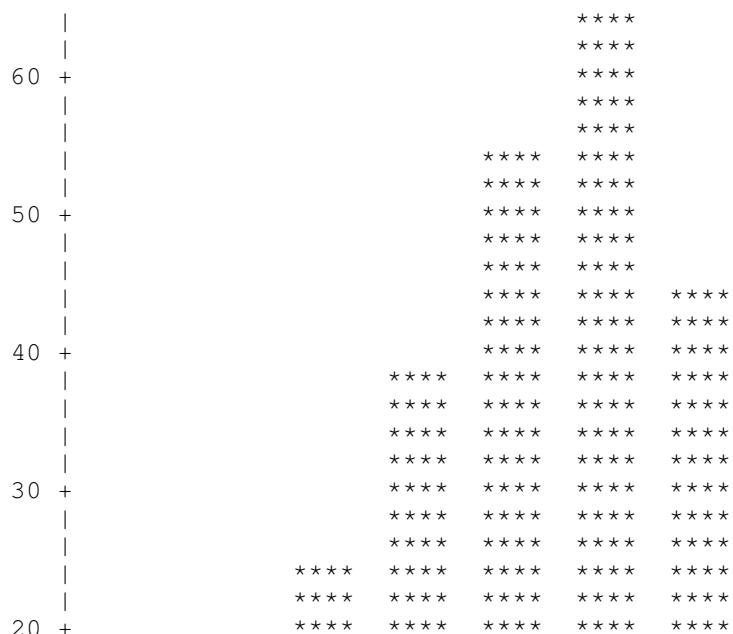
## Rotation Method: Varimax

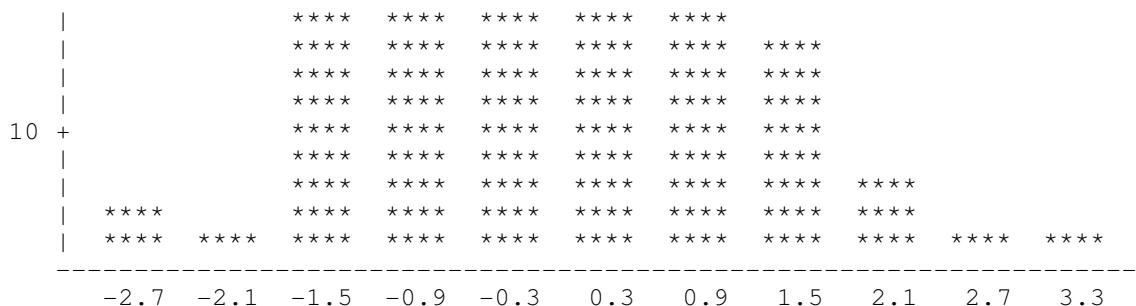
## Plot of Factor Pattern for FACTOR1 and FACTOR2

| FACTOR1 |
|---------|
| AB      |
| D       |

.9  
.8  
.7  
.6  
.5  
.4  
.3  
.2  
.1  
-1 -.9-.8-.7-.6-.5-.4-.3-.2-.1 0 .1 .2E.3 .4J.H .6 .7 .8 .9 1.0T  
I G O  
-1 C R  
-2  
-.2  
-.3  
-.4  
-.5  
-.6  
-.7  
-.8  
-.9F  
-1  
X1 =A X2 =B X3 =C X4 =D X5 =E  
X6 =F X7 =G X8 =H X9 =I X10 =J  
N2: 2 common factors: PCA 267

## Frequency

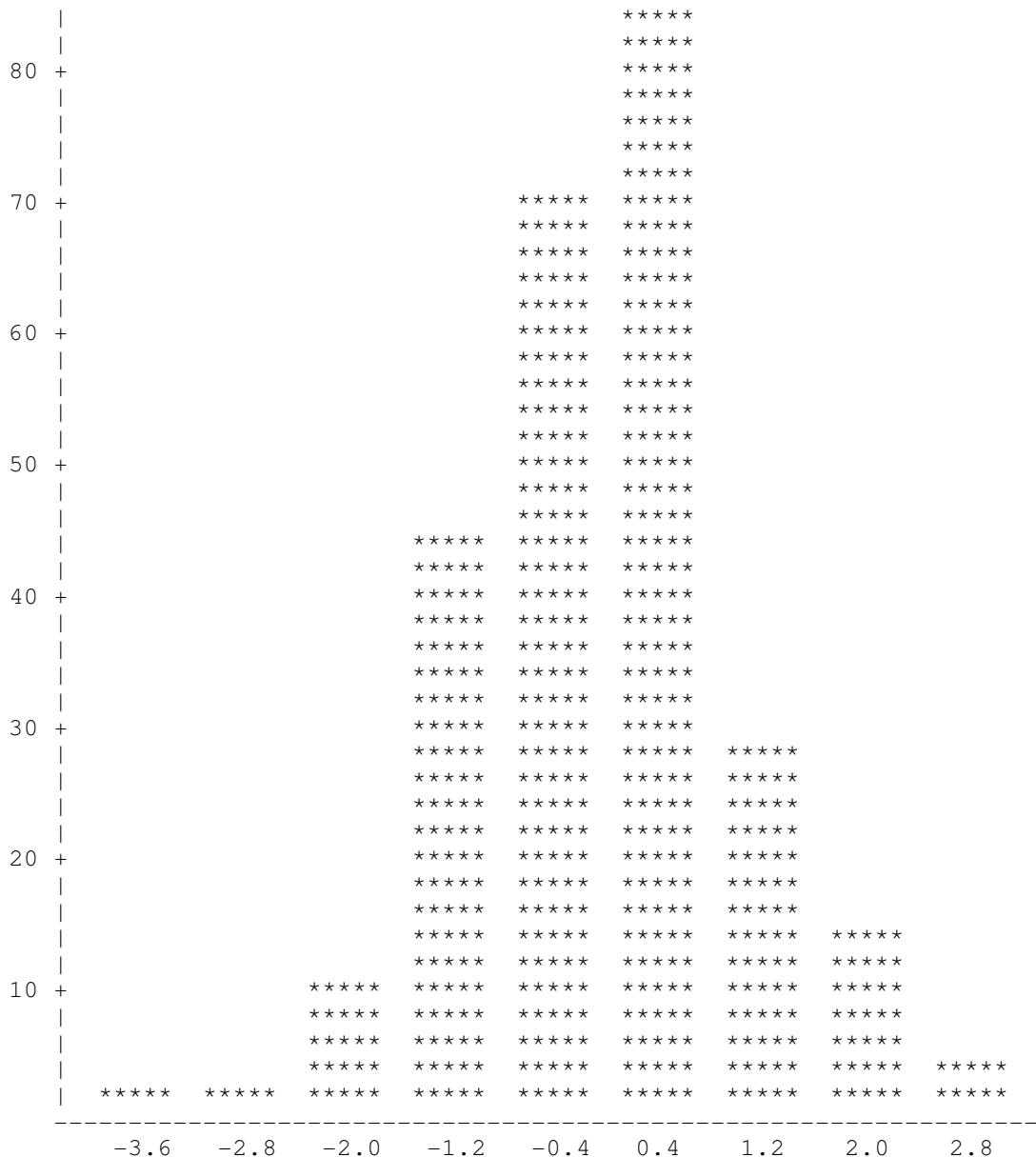




FACTOR1 Midpoint  
N2: 2 common factors: PCA

268

Frequency



FACTOR2 Midpoint  
N2: 2 common factors: ML

269

Initial Factor Method: Maximum Likelihood

Partial Correlations Controlling all other Variables

|     | X1       | X2       | X3       | X4       | X5       |
|-----|----------|----------|----------|----------|----------|
| X1  | 1.00000  | 0.76909  | -0.02199 | 0.53242  | -0.03024 |
| X2  | 0.76909  | 1.00000  | 0.04186  | 0.04588  | 0.10369  |
| X3  | -0.02199 | 0.04186  | 1.00000  | -0.06992 | -0.04105 |
| X4  | 0.53242  | 0.04588  | -0.06992 | 1.00000  | -0.07158 |
| X5  | -0.03024 | 0.10369  | -0.04105 | -0.07158 | 1.00000  |
| X6  | -0.19689 | -0.01540 | -0.07128 | -0.06917 | 0.04510  |
| X7  | 0.00524  | 0.02965  | 0.09605  | -0.03611 | 0.02001  |
| X8  | -0.01916 | 0.09740  | -0.02698 | -0.08328 | 0.01767  |
| X9  | -0.03680 | -0.03948 | 0.00962  | 0.09621  | -0.04472 |
| X10 | -0.05557 | 0.09566  | 0.05092  | -0.05673 | -0.03900 |
|     | X6       | X7       | X8       | X9       | X10      |
| X1  | -0.19689 | 0.00524  | -0.01916 | -0.03680 | -0.05557 |
| X2  | -0.01540 | 0.02965  | 0.09740  | -0.03948 | 0.09566  |
| X3  | -0.07128 | 0.09605  | -0.02698 | 0.00962  | 0.05092  |
| X4  | -0.06917 | -0.03611 | -0.08328 | 0.09621  | -0.05673 |
| X5  | 0.04510  | 0.02001  | 0.01767  | -0.04472 | -0.03900 |
| X6  | 1.00000  | 0.06439  | 0.05045  | -0.03508 | -0.02740 |
| X7  | 0.06439  | 1.00000  | 0.08221  | -0.04906 | -0.04525 |
| X8  | 0.05045  | 0.08221  | 1.00000  | 0.03733  | 0.07355  |
| X9  | -0.03508 | -0.04906 | 0.03733  | 1.00000  | -0.07561 |
| X10 | -0.02740 | -0.04525 | 0.07355  | -0.07561 | 1.00000  |

Kaiser's Measure of Sampling Adequacy: Over-all MSA = 0.82711787

|  | X1       | X2       | X3       | X4       | X5       |
|--|----------|----------|----------|----------|----------|
|  | 0.741275 | 0.804052 | 0.588893 | 0.888261 | 0.270284 |
|  | X6       | X7       | X8       | X9       | X10      |
|  | 0.972810 | 0.607433 | 0.394391 | 0.350586 | 0.406057 |

Prior Communality Estimates: SMC

|  | X1       | X2       | X3       | X4       | X5       |
|--|----------|----------|----------|----------|----------|
|  | 0.976820 | 0.964939 | 0.031480 | 0.937335 | 0.024931 |
|  | X6       | X7       | X8       | X9       | X10      |
|  | 0.730369 | 0.032153 | 0.036022 | 0.025594 | 0.032692 |

Preliminary Eigenvalues: Total = 87.5173452 Average = 8.75173452

|                          | 1       | 2      | 3      | 4      | 5      |
|--------------------------|---------|--------|--------|--------|--------|
| Eigenvalue               | 87.7943 | 0.4227 | 0.1588 | 0.0816 | 0.0490 |
| Difference               | 87.3715 | 0.2639 | 0.0772 | 0.0326 | 0.0740 |
| Proportion               | 1.0032  | 0.0048 | 0.0018 | 0.0009 | 0.0006 |
| Cumulative               | 1.0032  | 1.0080 | 1.0098 | 1.0107 | 1.0113 |
| N2: 2 common factors: ML |         |        |        |        | 270    |

Initial Factor Method: Maximum Likelihood

|            | 6       | 7       | 8       | 9       | 10      |
|------------|---------|---------|---------|---------|---------|
| Eigenvalue | -0.0250 | -0.1097 | -0.1596 | -0.2104 | -0.4845 |
| Difference | 0.0848  | 0.0498  | 0.0509  | 0.2741  |         |
| Proportion | -0.0003 | -0.0013 | -0.0018 | -0.0024 | -0.0055 |
| Cumulative | 1.0110  | 1.0098  | 1.0079  | 1.0055  | 1.0000  |

2 factors will be retained by the NFACTOR criterion.

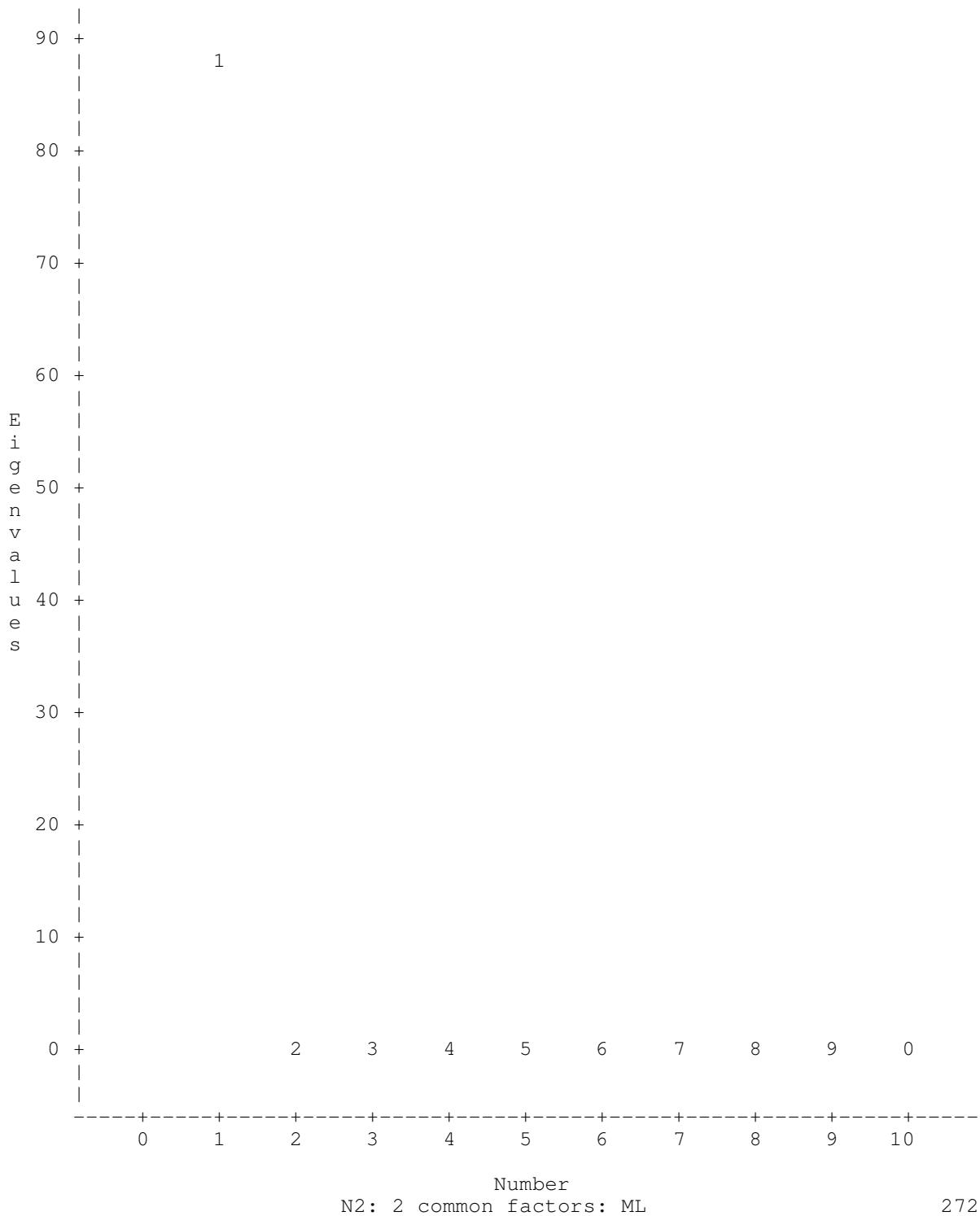
N2: 2 common factors: ML

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Initial Factor Method: Maximum Likelihood

Scree Plot of Eigenvalues

|



Initial Factor Method: Maximum Likelihood

| Iter | Criterion | Ridge | Change  | Communalities  |
|------|-----------|-------|---------|--|
| 1    | 0.05143   | 0.000 | 0.03002 | 0.99271 0.97555 0.01528 0.94985 0.03164<br>0.73430 0.04407 0.06604 0.04096 0.03153 |
| 2    | 0.05105   | 0.000 | 0.00894 | 0.99200 0.97713 0.01785 0.95134 0.03878<br>0.73423 0.03513 0.06538 0.03910 0.03935 |
| 3    | 0.05105   | 0.000 | 0.00148 | 0.99191 0.97736 0.01809 0.95144 0.03949<br>0.73403 0.03365 0.06513 0.03874 0.04020 |
| 4    | 0.05105   | 0.000 | 0.00020 | 0.99189 0.97739 0.01810 0.95144 0.03959  |

0.73401 0.03345 0.06510 0.03863 0.04032

Convergence criterion satisfied.

Significance tests based on 250 observations:

Test of H0: No common factors.  
vs HA: At least one common factor.

Chi-square = 1832.121 df = 45 Prob>chi\*\*2 = 0.0001

Test of H0: 2 Factors are sufficient.  
vs HA: More factors are needed.

Chi-square = 12.430 df = 26 Prob>chi\*\*2 = 0.9885

Chi-square without Bartlett's correction = 12.710783587  
Akaike's Information Criterion = -39.28921641  
Schwarz's Bayesian Criterion = -130.8472003  
Tucker and Lewis's Reliability Coefficient = 1.0131420898

#### Squared Canonical Correlations

| FACTOR1  | FACTOR2  |
|----------|----------|
| 0.994695 | 0.407269 |

#### Eigenvectors

|  | 1 | 2 |
|--|---|---|
|--|---|---|

|     |          |          |
|-----|----------|----------|
| X1  | 0.99857  | -0.00982 |
| X2  | 0.04467  | 0.62731  |
| X3  | -0.00174 | 0.13760  |
| X4  | 0.02787  | -0.58490 |
| X5  | -0.00045 | 0.20808  |
| X6  | -0.00893 | 0.16316  |
| X7  | -0.00034 | 0.18397  |
| X8  | -0.00015 | 0.25601  |
| X9  | -0.00006 | -0.20173 |
| X10 | -0.00020 | 0.18802  |

N2: 2 common factors: ML

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Initial Factor Method: Maximum Likelihood

#### Eigenvalues of the Weighted Reduced Correlation Matrix:

Total = 188.188962 Average = 18.8188962

|            | 1        | 2       | 3       | 4       | 5       |
|------------|----------|---------|---------|---------|---------|
| Eigenvalue | 187.5019 | 0.6871  | 0.1696  | 0.0940  | 0.0883  |
| Difference | 186.8148 | 0.5175  | 0.0756  | 0.0057  | 0.0600  |
| Proportion | 0.9963   | 0.0037  | 0.0009  | 0.0005  | 0.0005  |
| Cumulative | 0.9963   | 1.0000  | 1.0009  | 1.0014  | 1.0019  |
|            | 6        | 7       | 8       | 9       | 10      |
| Eigenvalue | 0.0283   | -0.0086 | -0.0632 | -0.1245 | -0.1838 |
| Difference | 0.0369   | 0.0546  | 0.0613  | 0.0594  |         |
| Proportion | 0.0002   | -0.0000 | -0.0003 | -0.0007 | -0.0010 |
| Cumulative | 1.0020   | 1.0020  | 1.0016  | 1.0010  | 1.0000  |

#### Factor Pattern

| FACTOR1 | FACTOR2 |
|---------|---------|
|---------|---------|

|    |          |          |
|----|----------|----------|
| X1 | 0.99592  | -0.00627 |
| X2 | 0.98613  | 0.07021  |
| X3 | -0.08385 | 0.10523  |
| X4 | 0.97016  | -0.10111 |
| X5 | 0.00061  | 0.19901  |

|     |          |          |
|-----|----------|----------|
| X6  | -0.85347 | 0.07480  |
| X7  | -0.06251 | 0.17181  |
| X8  | -0.02389 | 0.25404  |
| X9  | -0.01384 | -0.19602 |
| X10 | -0.03631 | 0.19753  |

Variance explained by each factor

|            | FACTOR1   | FACTOR2  |
|------------|-----------|----------|
| Weighted   | 187.50186 | 0.687106 |
| Unweighted | 3.646960  | 0.242963 |

Final Communality Estimates and Variable Weights  
 Total Communality: Weighted = 188.18896 Unweighted = 3.889923

|             | X1        | X2        | X3       | X4        | X5       |
|-------------|-----------|-----------|----------|-----------|----------|
| Communality | 0.991894  | 0.977386  | 0.018104 | 0.951444  | 0.039607 |
| Weight      | 123.36976 | 44.218885 | 1.018436 | 20.594738 | 1.041226 |

|             | X6       | X7       | X8       | X9       | X10      |
|-------------|----------|----------|----------|----------|----------|
| Communality | 0.734003 | 0.033428 | 0.065106 | 0.038616 | 0.040336 |
| Weight      | 3.759480 | 1.034606 | 1.069635 | 1.040179 | 1.042016 |

N2: 2 common factors: ML

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Initial Factor Method: Maximum Likelihood

Residual Correlations With Uniqueness on the Diagonal

|     | X1       | X2       | X3       | X4       | X5       |
|-----|----------|----------|----------|----------|----------|
| X1  | 0.00811  | -0.00003 | -0.00022 | -0.00002 | -0.00068 |
| X2  | -0.00003 | 0.02261  | 0.00069  | 0.00021  | 0.00356  |
| X3  | -0.00022 | 0.00069  | 0.98190  | -0.00655 | -0.05570 |
| X4  | -0.00002 | 0.00021  | -0.00655 | 0.04856  | -0.00124 |
| X5  | -0.00068 | 0.00356  | -0.05570 | -0.00124 | 0.96039  |
| X6  | -0.00048 | 0.00025  | -0.04162 | 0.00226  | 0.01723  |
| X7  | 0.00135  | -0.00341 | 0.07292  | 0.00315  | -0.00116 |
| X8  | -0.00007 | 0.00086  | -0.03592 | 0.00097  | -0.01387 |
| X9  | -0.00247 | 0.00352  | 0.01684  | 0.00623  | -0.01800 |
| X10 | -0.00183 | 0.00307  | 0.03653  | 0.00047  | -0.06183 |
|     | X6       | X7       | X8       | X9       | X10      |
| X1  | -0.00048 | 0.00135  | -0.00007 | -0.00247 | -0.00183 |
| X2  | 0.00025  | -0.00341 | 0.00086  | 0.00352  | 0.00307  |
| X3  | -0.04162 | 0.07292  | -0.03592 | 0.01684  | 0.03653  |
| X4  | 0.00226  | 0.00315  | 0.00097  | 0.00623  | 0.00047  |
| X5  | 0.01723  | -0.00116 | -0.01387 | -0.01800 | -0.06183 |
| X6  | 0.26600  | 0.02329  | 0.01429  | -0.00794 | -0.02520 |
| X7  | 0.02329  | 0.96657  | 0.04479  | -0.02037 | -0.05953 |
| X8  | 0.01429  | 0.04479  | 0.93489  | 0.06001  | 0.03056  |
| X9  | -0.00794 | -0.02037 | 0.06001  | 0.96138  | -0.04072 |
| X10 | -0.02520 | -0.05953 | 0.03056  | -0.04072 | 0.95966  |

Root Mean Square Off-diagonal Residuals: Over-all = 0.02644068

|  | X1       | X2       | X3       | X4       | X5       |
|--|----------|----------|----------|----------|----------|
|  | 0.001154 | 0.002296 | 0.038158 | 0.003325 | 0.029353 |
|  | X6       | X7       | X8       | X9       | X10      |
|  | 0.019662 | 0.036286 | 0.030239 | 0.026671 | 0.036425 |

Partial Correlations Controlling Factors

|    | X1      | X2       | X3       | X4       | X5       |
|----|---------|----------|----------|----------|----------|
| X1 | 1.00000 | -0.00205 | -0.00251 | -0.00092 | -0.00767 |

|     |          |          |          |          |          |
|-----|----------|----------|----------|----------|----------|
| X2  | -0.00205 | 1.00000  | 0.00465  | 0.00641  | 0.02417  |
| X3  | -0.00251 | 0.00465  | 1.00000  | -0.02998 | -0.05736 |
| X4  | -0.00092 | 0.00641  | -0.02998 | 1.00000  | -0.00573 |
| X5  | -0.00767 | 0.02417  | -0.05736 | -0.00573 | 1.00000  |
| X6  | -0.01031 | 0.00321  | -0.08145 | 0.01990  | 0.03408  |
| X7  | 0.01521  | -0.02309 | 0.07485  | 0.01454  | -0.00120 |
| X8  | -0.00084 | 0.00588  | -0.03749 | 0.00455  | -0.01464 |
| X9  | -0.02797 | 0.02387  | 0.01733  | 0.02885  | -0.01873 |
| X10 | -0.02071 | 0.02083  | 0.03763  | 0.00217  | -0.06440 |

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Initial Factor Method: Maximum Likelihood

## Partial Correlations Controlling Factors

|     | X6       | X7       | X8       | X9       | X10      |
|-----|----------|----------|----------|----------|----------|
| X1  | -0.01031 | 0.01521  | -0.00084 | -0.02797 | -0.02071 |
| X2  | 0.00321  | -0.02309 | 0.00588  | 0.02387  | 0.02083  |
| X3  | -0.08145 | 0.07485  | -0.03749 | 0.01733  | 0.03763  |
| X4  | 0.01990  | 0.01454  | 0.00455  | 0.02885  | 0.00217  |
| X5  | 0.03408  | -0.00120 | -0.01464 | -0.01873 | -0.06440 |
| X6  | 1.00000  | 0.04594  | 0.02865  | -0.01570 | -0.04987 |
| X7  | 0.04594  | 1.00000  | 0.04712  | -0.02113 | -0.06181 |
| X8  | 0.02865  | 0.04712  | 1.00000  | 0.06330  | 0.03226  |
| X9  | -0.01570 | -0.02113 | 0.06330  | 1.00000  | -0.04239 |
| X10 | -0.04987 | -0.06181 | 0.03226  | -0.04239 | 1.00000  |

Root Mean Square Off-diagonal Partials: Over-all = 0.03325567

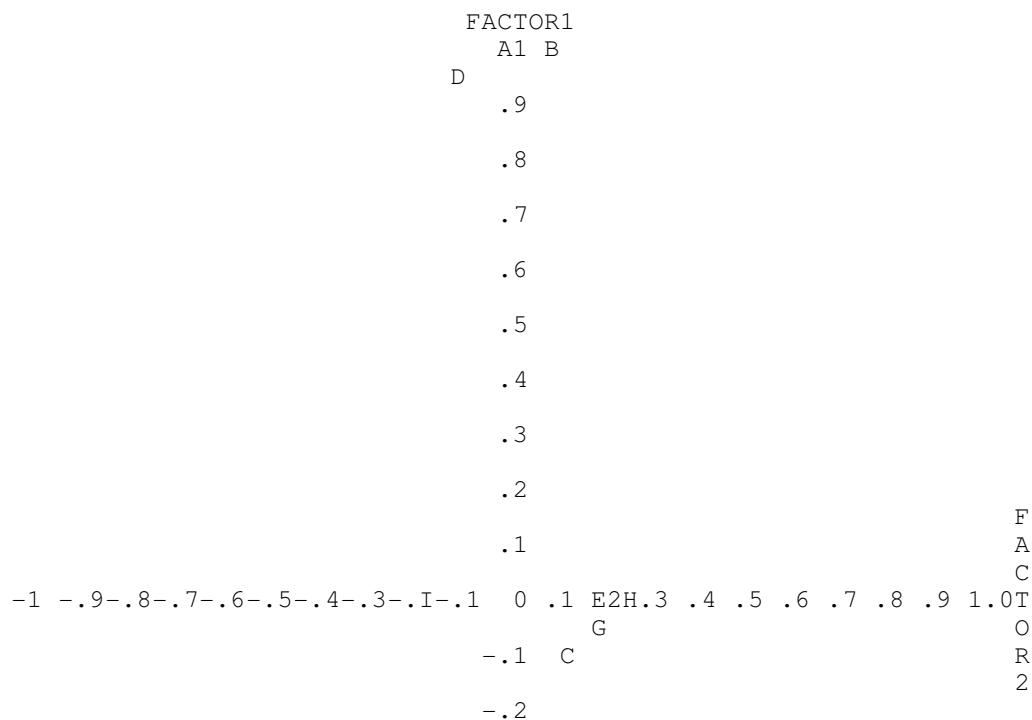
| X1       | X2       | X3       | X4       | X5       |
|----------|----------|----------|----------|----------|
| 0.013417 | 0.015751 | 0.046638 | 0.016463 | 0.033069 |
| X6       | X7       | X8       | X9       | X10      |
| 0.039402 | 0.041066 | 0.032938 | 0.032202 | 0.041603 |

N2: 2 common factors: ML

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### Initial Factor Method: Maximum Likelihood

### Plot of Factor Pattern for FACTOR1 and FACTOR2



-.3  
-.4  
-.5  
-.6  
-.7  
-.8  
F  
-.9  
-1

|    |    |    |    |    |    |    |    |     |    |
|----|----|----|----|----|----|----|----|-----|----|
| X1 | =A | X2 | =B | X3 | =C | X4 | =D | X5  | =E |
| X6 | =F | X7 | =G | X8 | =H | X9 | =I | X10 | =G |

N2: 2 common factors: ML

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Rotation Method: Varimax

## Orthogonal Transformation Matrix

|   | 1       | 2        |
|---|---------|----------|
| 1 | 0.99907 | -0.04301 |
| 2 | 0.04301 | 0.99907  |

## Rotated Factor Pattern

|     | FACTOR1  | FACTOR2  |
|-----|----------|----------|
| X1  | 0.99473  | -0.04910 |
| X2  | 0.98824  | 0.02773  |
| X3  | -0.07924 | 0.10874  |
| X4  | 0.96492  | -0.14275 |
| X5  | 0.00917  | 0.19880  |
| X6  | -0.84946 | 0.11144  |
| X7  | -0.05507 | 0.17434  |
| X8  | -0.01294 | 0.25483  |
| X9  | -0.02226 | -0.19524 |
| X10 | -0.02778 | 0.19891  |

## Variance explained by each factor

|            | FACTOR1   | FACTOR2  |
|------------|-----------|----------|
| Weighted   | 187.15624 | 1.032722 |
| Unweighted | 3.629583  | 0.260340 |

Final Communality Estimates and Variable Weights  
 Total Communality: Weighted = 188.18896      Unweighted = 3.889923

|             | X1        | X2        | X3       | X4        | X5       |
|-------------|-----------|-----------|----------|-----------|----------|
| Communality | 0.991894  | 0.977386  | 0.018104 | 0.951444  | 0.039607 |
| Weight      | 123.36976 | 44.218885 | 1.018436 | 20.594738 | 1.041226 |
|             | X6        | X7        | X8       | X9        | X10      |
| Communality | 0.734003  | 0.033428  | 0.065106 | 0.038616  | 0.040336 |
| Weight      | 3.759480  | 1.034606  | 1.069635 | 1.040179  | 1.042016 |

## Scoring Coefficients Estimated by Regression

## Squared Multiple Correlations of the Variables with each Factor

|                          | FACTOR1  | FACTOR2  |
|--------------------------|----------|----------|
| N2: 2 common factors: ML | 0.993608 | 0.408356 |

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Rotation Method: Varimax

Standardized Scoring Coefficients

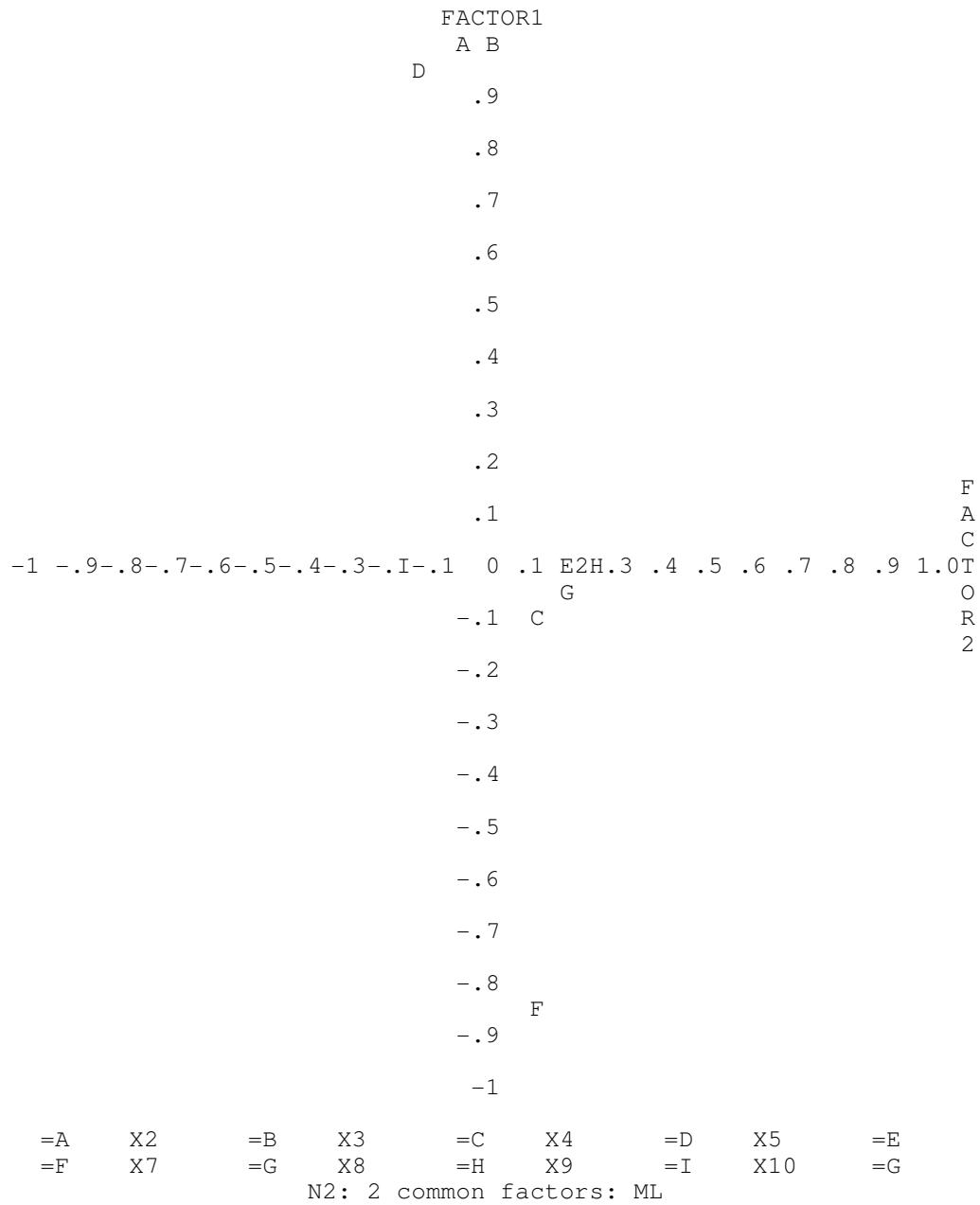
|     | FACTOR1  | FACTOR2  |
|-----|----------|----------|
| X1  | 0.63149  | -0.48594 |
| X2  | 0.31026  | 1.82849  |
| X3  | 0.00228  | 0.06348  |
| X4  | 0.05281  | -1.23771 |
| X5  | 0.00529  | 0.12271  |
| X6  | -0.00984 | 0.16726  |
| X7  | 0.00419  | 0.10528  |
| X8  | 0.00679  | 0.16092  |
| X9  | -0.00527 | -0.12074 |
| X10 | 0.00505  | 0.12190  |

N2: 2 common factors: ML

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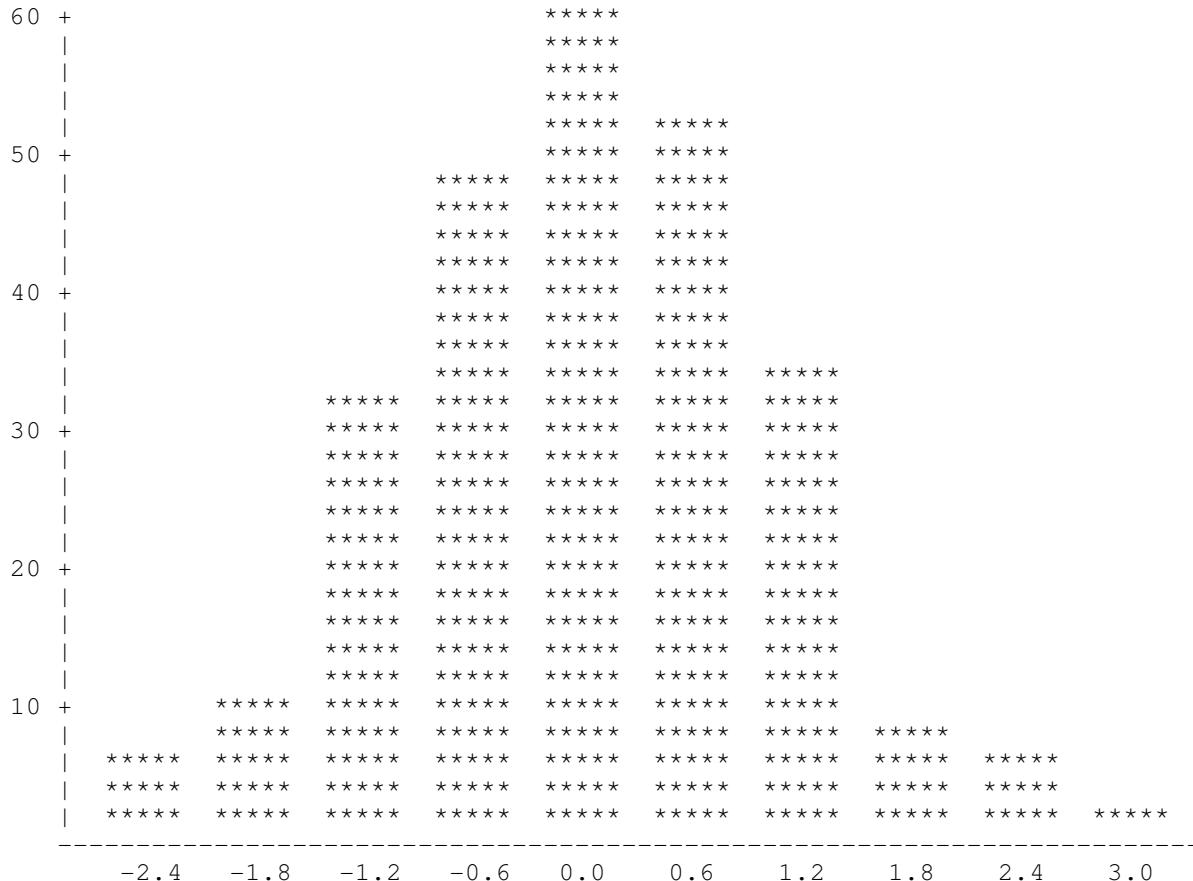
Rotation Method: Varimax

Plot of Factor Pattern for FACTOR1 and FACTOR2



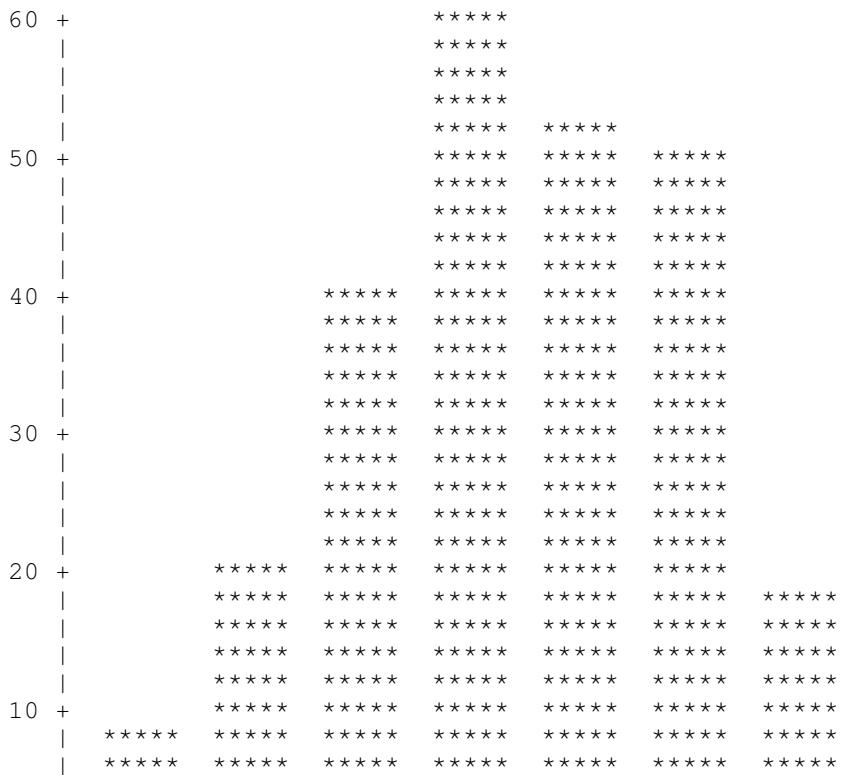
X1 =A X2 =B X3 =C X4 =D X5 =E  
X6 =F X7 =G X8 =H X9 =I X10 =G

Frequency



281

Frequency



|   |       |       |       |       |       |       |       |       |       |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| * | ***** | ***** | ***** | ***** | ***** | ***** | ***** | ***** | ***** |
| * | ***** | ***** | ***** | ***** | ***** | ***** | ***** | ***** | ***** |

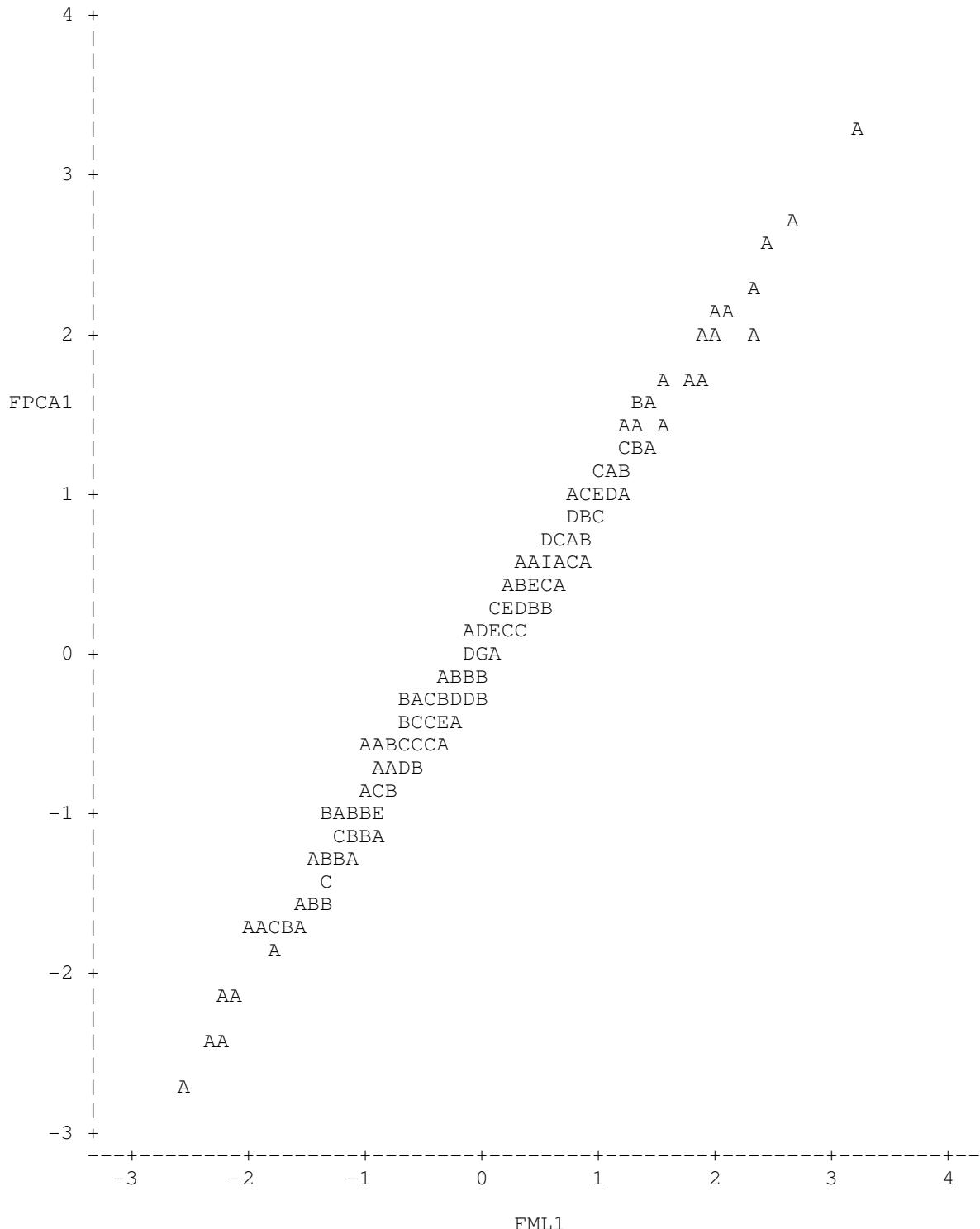
-1.4 -1.0 -0.6 -0.2 0.2 0.6 1.0 1.4 1.8

FACTOR2 Midpoint

N2: Comparing factors by method

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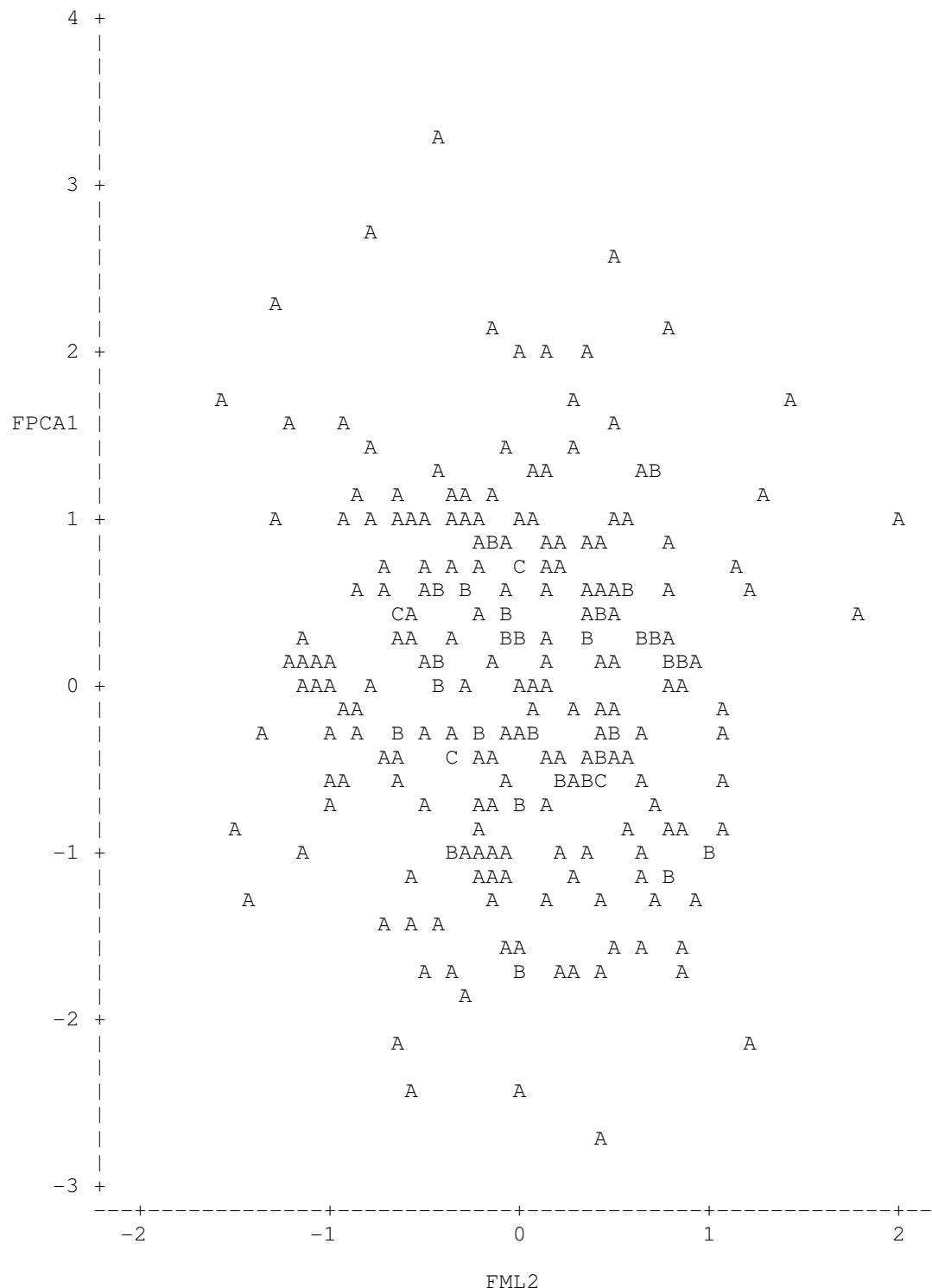
Plot of FPCA1\*FML1. Legend: A = 1 obs, B = 2 obs, etc.



N2: Comparing factors by method

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Plot of FPCA1\*FML2. Legend: A = 1 obs, B = 2 obs, etc.

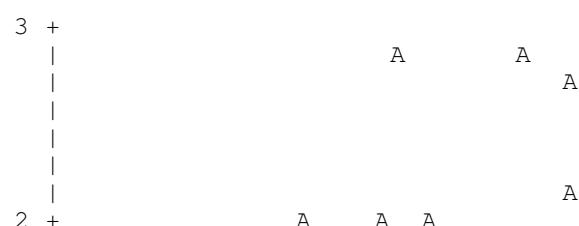


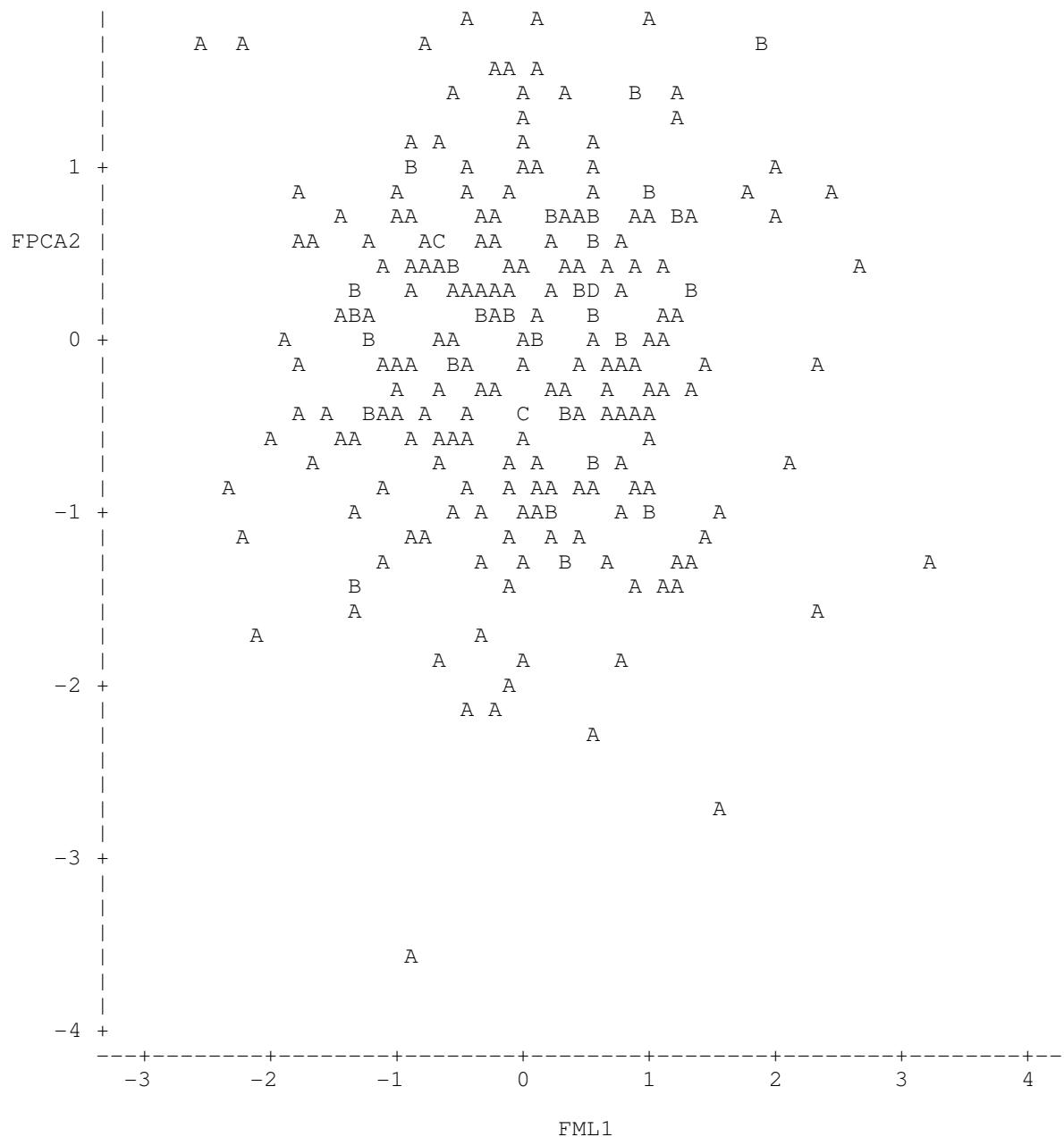
FML2

N2: Comparing factors by method

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Plot of FPCA2\*FML1. Legend: A = 1 obs, B = 2 obs, etc.

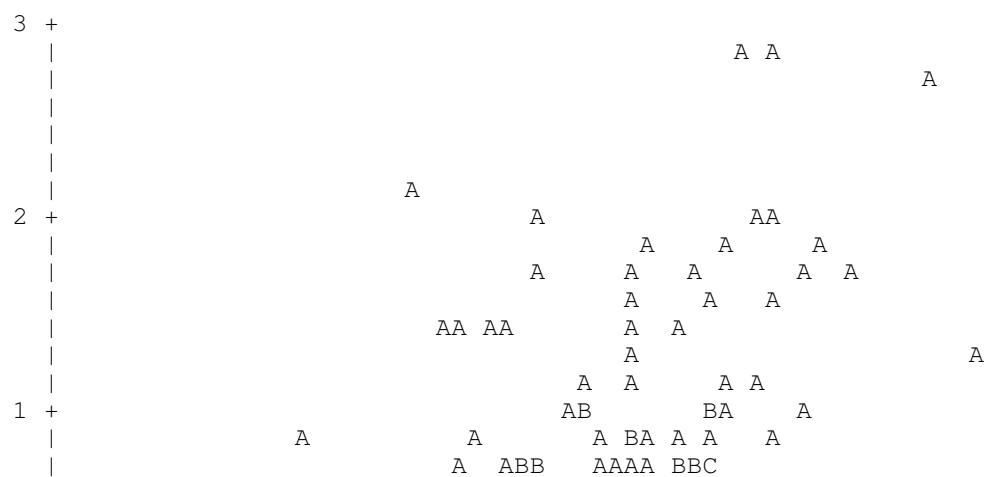


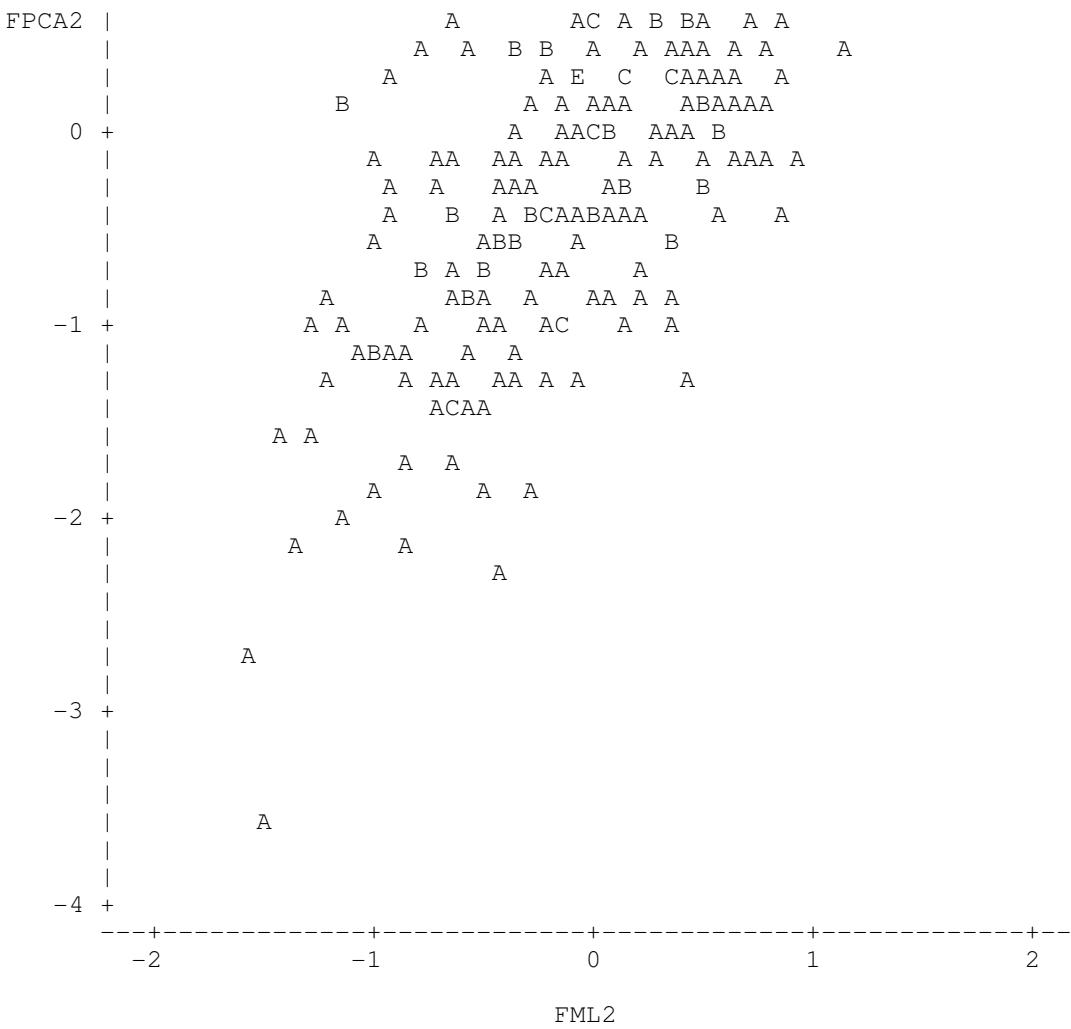


N2: Comparing factors by method

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Plot of FPCA2\*FML2. Legend: A = 1 obs, B = 2 obs, etc.





N3: 2 common factors: PCA

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Initial Factor Method: Principal Components

## Partial Correlations Controlling all other Variables

|     | X1       | X2       | X3       | X4       | X5       |
|-----|----------|----------|----------|----------|----------|
| X1  | 1.00000  | 0.10454  | 0.47844  | 0.06015  | 0.84974  |
| X2  | 0.10454  | 1.00000  | -0.32100 | -0.05067 | 0.02850  |
| X3  | 0.47844  | -0.32100 | 1.00000  | -0.06992 | -0.04105 |
| X4  | 0.06015  | -0.05067 | -0.06992 | 1.00000  | -0.07158 |
| X5  | 0.84974  | 0.02850  | -0.04105 | -0.07158 | 1.00000  |
| X6  | -0.00632 | 0.02539  | -0.07128 | -0.06917 | 0.04510  |
| X7  | -0.07861 | -0.87483 | 0.09605  | -0.03611 | 0.02001  |
| X8  | -0.01100 | 0.09017  | -0.02698 | -0.08328 | 0.01767  |
| X9  | 0.03049  | -0.05163 | 0.00962  | 0.09621  | -0.04472 |
| X10 | -0.00446 | 0.00484  | 0.05092  | -0.05673 | -0.03900 |
|     | X6       | X7       | X8       | X9       | X10      |
| X1  | -0.00632 | -0.07861 | -0.01100 | 0.03049  | -0.00446 |
| X2  | 0.02539  | -0.87483 | 0.09017  | -0.05163 | 0.00484  |
| X3  | -0.07128 | 0.09605  | -0.02698 | 0.00962  | 0.05092  |
| X4  | -0.06917 | -0.03611 | -0.08328 | 0.09621  | -0.05673 |
| X5  | 0.04510  | 0.02001  | 0.01767  | -0.04472 | -0.03900 |
| X6  | 1.00000  | 0.06439  | 0.05045  | -0.03508 | -0.02740 |
| X7  | 0.06439  | 1.00000  | 0.08221  | -0.04906 | -0.04525 |
| X8  | 0.05045  | 0.08221  | 1.00000  | 0.03733  | 0.07355  |
| X9  | -0.03508 | -0.04906 | 0.03733  | 1.00000  | -0.07561 |

|     |          |          |         |          |         |
|-----|----------|----------|---------|----------|---------|
| X10 | -0.02740 | -0.04525 | 0.07355 | -0.07561 | 1.00000 |
|-----|----------|----------|---------|----------|---------|

Kaiser's Measure of Sampling Adequacy: Over-all MSA = 0.64013829

|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| X1       | X2       | X3       | X4       | X5       |
| 0.573446 | 0.602177 | 0.809422 | 0.606662 | 0.628844 |
| X6       | X7       | X8       | X9       | X10      |
| 0.400163 | 0.623330 | 0.577202 | 0.493121 | 0.688368 |

Prior Communality Estimates: ONE

Eigenvalues of the Correlation Matrix: Total = 10 Average = 1

|            | 1      | 2      | 3      | 4      | 5      |
|------------|--------|--------|--------|--------|--------|
| Eigenvalue | 2.7514 | 2.0907 | 1.2164 | 1.0268 | 0.9982 |
| Difference | 0.6607 | 0.8742 | 0.1896 | 0.0286 | 0.1298 |
| Proportion | 0.2751 | 0.2091 | 0.1216 | 0.1027 | 0.0998 |
| Cumulative | 0.2751 | 0.4842 | 0.6059 | 0.7085 | 0.8084 |
|            | 6      | 7      | 8      | 9      | 10     |
| Eigenvalue | 0.8684 | 0.8299 | 0.1348 | 0.0462 | 0.0372 |
| Difference | 0.0385 | 0.6951 | 0.0886 | 0.0090 |        |
| Proportion | 0.0868 | 0.0830 | 0.0135 | 0.0046 | 0.0037 |
| Cumulative | 0.8952 | 0.9782 | 0.9917 | 0.9963 | 1.0000 |

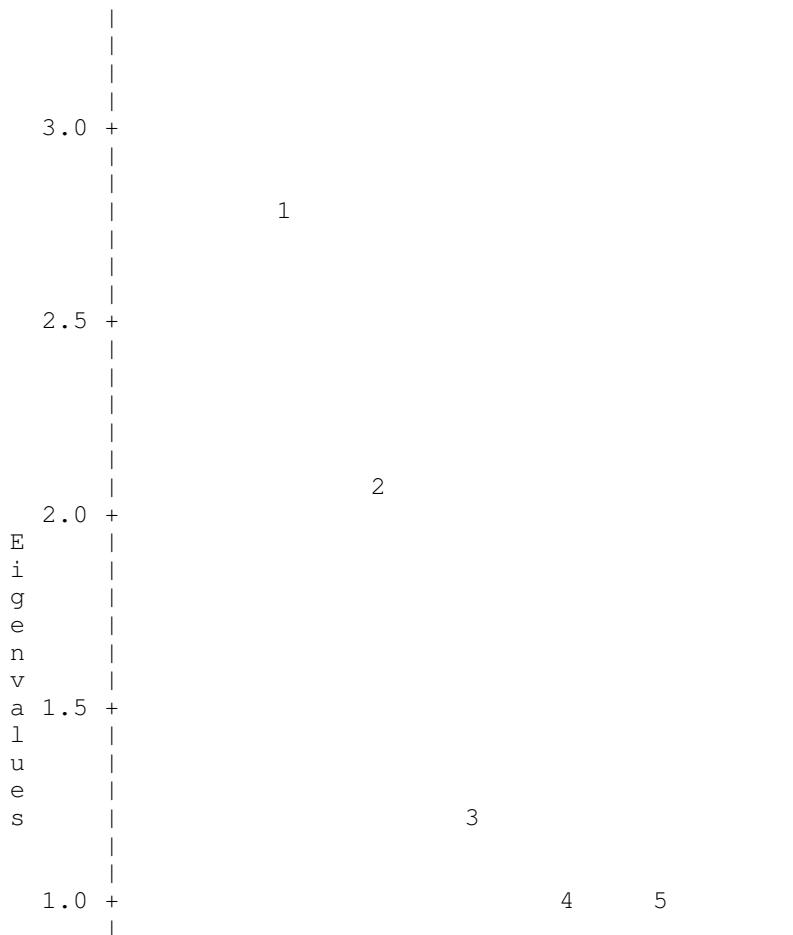
2 factors will be retained by the NFACTOR criterion.

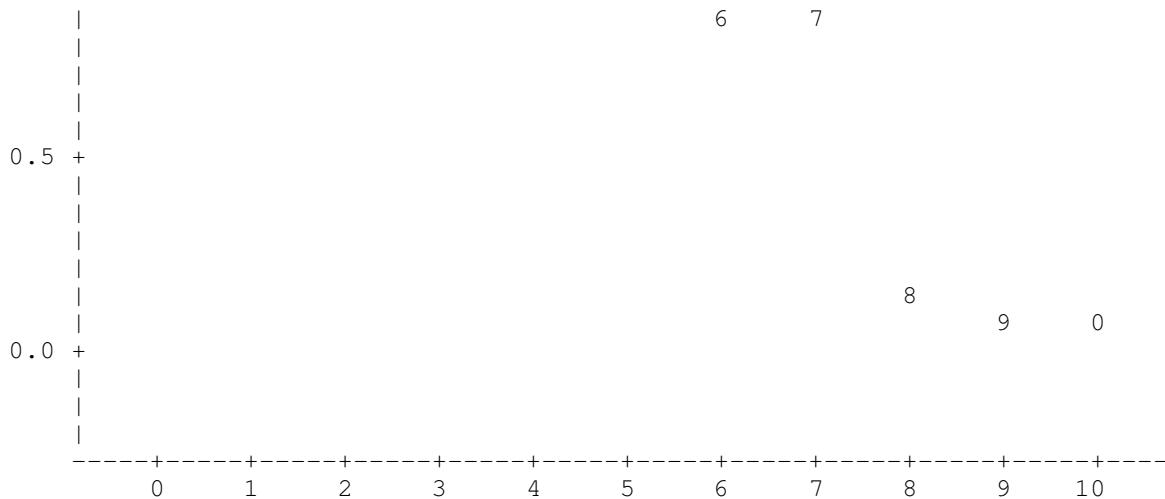
N3: 2 common factors: PCA

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Initial Factor Method: Principal Components

Scree Plot of Eigenvalues





Initial Factor Method: Principal Components

#### Eigenvectors

|     | 1        | 2        |
|-----|----------|----------|
| X1  | 0.39603  | 0.50307  |
| X2  | -0.42413 | 0.47320  |
| X3  | 0.57362  | 0.01754  |
| X4  | -0.08215 | -0.10472 |
| X5  | 0.37453  | 0.51792  |
| X6  | 0.00806  | 0.00759  |
| X7  | 0.41445  | -0.47804 |
| X8  | -0.08145 | 0.07313  |
| X9  | 0.01437  | -0.07198 |
| X10 | -0.09243 | 0.06623  |

#### Factor Pattern

|     | FACTOR1  | FACTOR2  |
|-----|----------|----------|
| X1  | 0.65691  | 0.72739  |
| X2  | -0.70352 | 0.68420  |
| X3  | 0.95148  | 0.02536  |
| X4  | -0.13627 | -0.15142 |
| X5  | 0.62124  | 0.74887  |
| X6  | 0.01338  | 0.01097  |
| X7  | 0.68745  | -0.69121 |
| X8  | -0.13511 | 0.10574  |
| X9  | 0.02383  | -0.10408 |
| X10 | -0.15332 | 0.09576  |

#### Variance explained by each factor

| FACTOR1  | FACTOR2  |
|----------|----------|
| 2.751385 | 2.090690 |

Final Communality Estimates: Total = 4.842076

| X1       | X2       | X3       | X4       | X5       |
|----------|----------|----------|----------|----------|
| 0.960636 | 0.963068 | 0.905955 | 0.041497 | 0.946746 |
|          |          |          |          |          |
| X6       | X7       | X8       | X9       | X10      |
| 0.000299 | 0.950359 | 0.029436 | 0.011401 | 0.032679 |

N3: 2 common factors: PCA

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## Initial Factor Method: Principal Components

## Residual Correlations With Uniqueness on the Diagonal

|     | X1       | X2       | X3       | X4       | X5       |
|-----|----------|----------|----------|----------|----------|
| X1  | 0.03936  | -0.00112 | -0.01403 | 0.10000  | -0.00651 |
| X2  | -0.00112 | 0.03693  | 0.01921  | 0.01969  | -0.00986 |
| X3  | -0.01403 | 0.01921  | 0.09404  | 0.03268  | -0.04133 |
| X4  | 0.10000  | 0.01969  | 0.03268  | 0.95850  | 0.07919  |
| X5  | -0.00651 | -0.00986 | -0.04133 | 0.07919  | 0.05325  |
| X6  | -0.01527 | -0.00625 | -0.03374 | -0.07532 | 0.00364  |
| X7  | 0.00060  | -0.00453 | -0.02942 | -0.03698 | 0.01365  |
| X8  | -0.01362 | -0.06284 | 0.03492  | -0.09054 | -0.00750 |
| X9  | 0.04503  | 0.03956  | 0.00112  | 0.09475  | 0.03048  |
| X10 | -0.00817 | -0.07185 | 0.07345  | -0.06794 | -0.02089 |
|     | X6       | X7       | X8       | X9       | X10      |
| X1  | -0.01527 | 0.00060  | -0.01362 | 0.04503  | -0.00817 |
| X2  | -0.00625 | -0.00453 | -0.06284 | 0.03956  | -0.07185 |
| X3  | -0.03374 | -0.02942 | 0.03492  | 0.00112  | 0.07345  |
| X4  | -0.07532 | -0.03698 | -0.09054 | 0.09475  | -0.06794 |
| X5  | 0.00364  | 0.01365  | -0.00750 | 0.03048  | -0.02089 |
| X6  | 0.99970  | 0.02562  | 0.06156  | -0.04408 | -0.02345 |
| X7  | 0.02562  | 0.04964  | 0.08921  | -0.05597 | 0.06647  |
| X8  | 0.06156  | 0.08921  | 0.97056  | 0.02477  | 0.05076  |
| X9  | -0.04408 | -0.05597 | 0.02477  | 0.98860  | -0.06532 |
| X10 | -0.02345 | 0.06647  | 0.05076  | -0.06532 | 0.96732  |

Root Mean Square Off-diagonal Residuals: Over-all = 0.04769531

| X1       | X2       | X3       | X4       | X5       |
|----------|----------|----------|----------|----------|
| 0.037644 | 0.035888 | 0.036455 | 0.071925 | 0.032898 |
| X6       | X7       | X8       | X9       | X10      |
| 0.039490 | 0.045468 | 0.056319 | 0.051050 | 0.055265 |

## Partial Correlations Controlling Factors

|     | X1       | X2       | X3       | X4       | X5       |
|-----|----------|----------|----------|----------|----------|
| X1  | 1.00000  | -0.02941 | -0.23055 | 0.51482  | -0.14226 |
| X2  | -0.02941 | 1.00000  | 0.32590  | 0.10463  | -0.22225 |
| X3  | -0.23055 | 0.32590  | 1.00000  | 0.10885  | -0.58395 |
| X4  | 0.51482  | 0.10463  | 0.10885  | 1.00000  | 0.35053  |
| X5  | -0.14226 | -0.22225 | -0.58395 | 0.35053  | 1.00000  |
| X6  | -0.07700 | -0.03251 | -0.11003 | -0.07694 | 0.01577  |
| X7  | 0.01356  | -0.10588 | -0.43055 | -0.16951 | 0.26543  |
| X8  | -0.06968 | -0.33192 | 0.11560  | -0.09387 | -0.03300 |
| X9  | 0.22824  | 0.20704  | 0.00369  | 0.09733  | 0.13284  |
| X10 | -0.04186 | -0.38016 | 0.24351  | -0.07056 | -0.09205 |

N3: 2 common factors: PCA

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## Initial Factor Method: Principal Components

## Partial Correlations Controlling Factors

|    | X6       | X7       | X8       | X9       | X10      |
|----|----------|----------|----------|----------|----------|
| X1 | -0.07700 | 0.01356  | -0.06968 | 0.22824  | -0.04186 |
| X2 | -0.03251 | -0.10588 | -0.33192 | 0.20704  | -0.38016 |
| X3 | -0.11003 | -0.43055 | 0.11560  | 0.00369  | 0.24351  |
| X4 | -0.07694 | -0.16951 | -0.09387 | 0.09733  | -0.07056 |
| X5 | 0.01577  | 0.26543  | -0.03300 | 0.13284  | -0.09205 |
| X6 | 1.00000  | 0.11503  | 0.06249  | -0.04434 | -0.02384 |

|     |          |          |         |          |          |
|-----|----------|----------|---------|----------|----------|
| X7  | 0.11503  | 1.00000  | 0.40643 | -0.25265 | 0.30333  |
| X8  | 0.06249  | 0.40643  | 1.00000 | 0.02529  | 0.05239  |
| X9  | -0.04434 | -0.25265 | 0.02529 | 1.00000  | -0.06679 |
| X10 | -0.02384 | 0.30333  | 0.05239 | -0.06679 | 1.00000  |

Root Mean Square Off-diagonal Partial: Over-all = 0.21759975

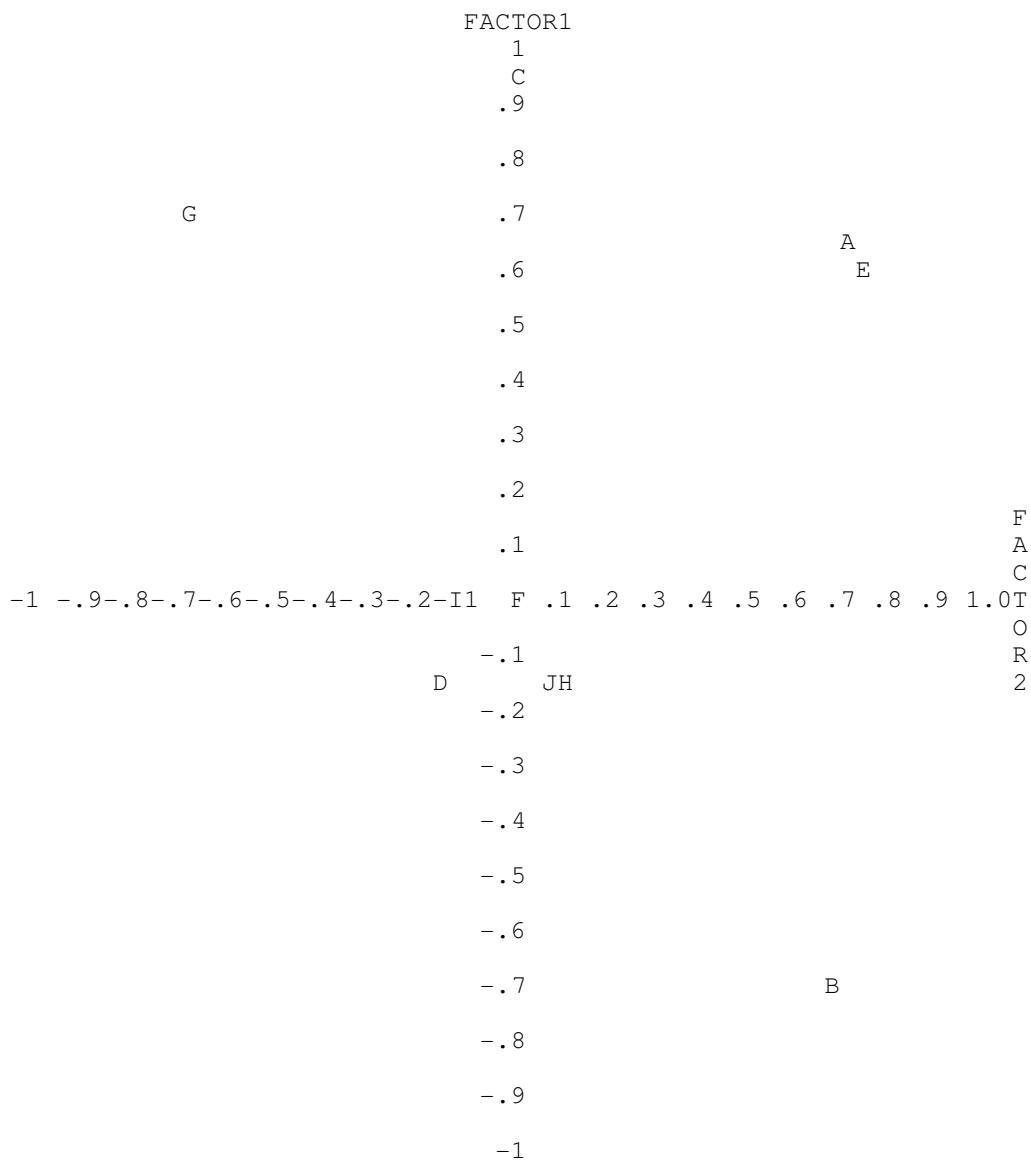
|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| X1       | X2       | X3       | X4       | X5       |
| 0.211900 | 0.230275 | 0.294839 | 0.228187 | 0.264871 |
| X6       | X7       | X8       | X9       | X10      |
| 0.070657 | 0.264620 | 0.185820 | 0.146437 | 0.188209 |

N3: 2 common factors: PCA

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Initial Factor Method: Principal Components

Plot of Factor Pattern for FACTOR1 and FACTOR2



|    |    |    |    |    |    |    |    |     |    |
|----|----|----|----|----|----|----|----|-----|----|
| X1 | =A | X2 | =B | X3 | =C | X4 | =D | X5  | =E |
| X6 | =F | X7 | =G | X8 | =H | X9 | =I | X10 | =J |

N3: 2 common factors: PCA

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Rotation Method: Varimax

## Orthogonal Transformation Matrix

|   | 1        | 2       |
|---|----------|---------|
| 1 | 0.73019  | 0.68325 |
| 2 | -0.68325 | 0.73019 |

## Rotated Factor Pattern

|     | FACTOR1  | FACTOR2  |
|-----|----------|----------|
| X1  | -0.01732 | 0.97997  |
| X2  | -0.98118 | 0.01892  |
| X3  | 0.67743  | 0.66861  |
| X4  | 0.00395  | -0.20367 |
| X5  | -0.05804 | 0.97128  |
| X6  | 0.00227  | 0.01715  |
| X7  | 0.97423  | -0.03501 |
| X8  | -0.17090 | -0.01510 |
| X9  | 0.08851  | -0.05972 |
| X10 | -0.17739 | -0.03483 |

## Variance explained by each factor

| FACTOR1  | FACTOR2  |
|----------|----------|
| 2.442956 | 2.399119 |

## Final Communality Estimates: Total = 4.842076

| X1       | X2       | X3       | X4       | X5       |
|----------|----------|----------|----------|----------|
| 0.960636 | 0.963068 | 0.905955 | 0.041497 | 0.946746 |
| X6       | X7       | X8       | X9       | X10      |
| 0.000299 | 0.950359 | 0.029436 | 0.011401 | 0.032679 |

## Scoring Coefficients Estimated by Regression

## Squared Multiple Correlations of the Variables with each Factor

| FACTOR1                   | FACTOR2  |
|---------------------------|----------|
| 1.000000                  | 1.000000 |
| N3: 2 common factors: PCA |          |

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## Rotation Method: Varimax

## Standardized Scoring Coefficients

|     | FACTOR1  | FACTOR2  |
|-----|----------|----------|
| X1  | -0.06338 | 0.41718  |
| X2  | -0.41031 | 0.06426  |
| X3  | 0.24423  | 0.24514  |
| X4  | 0.01332  | -0.08672 |
| X5  | -0.07986 | 0.41582  |
| X6  | -0.00004 | 0.00715  |
| X7  | 0.40833  | -0.07070 |
| X8  | -0.07041 | 0.00338  |
| X9  | 0.04034  | -0.03043 |
| X10 | -0.07199 | -0.00463 |

N3: 2 common factors: PCA

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## Rotation Method: Varimax

## Plot of Factor Pattern for FACTOR1 and FACTOR2

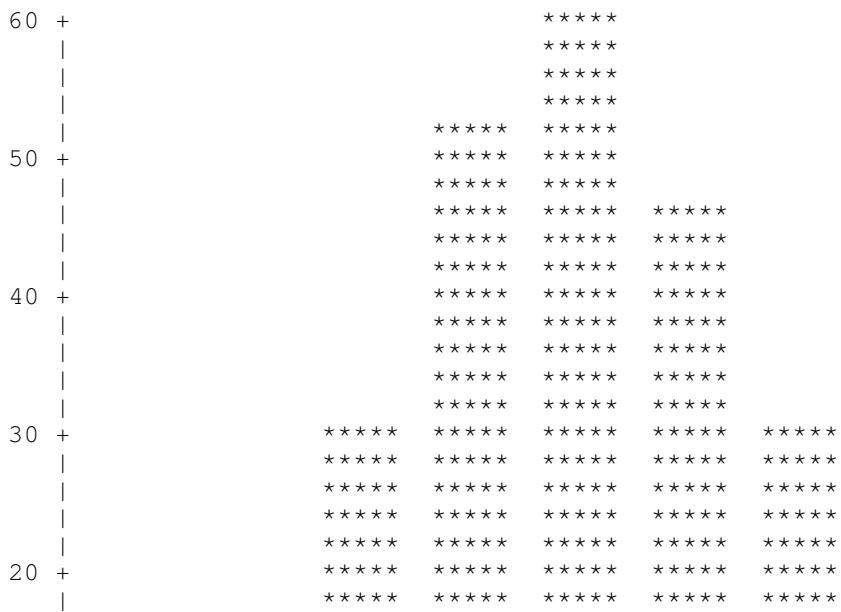
| FACTOR1 |
|---------|
| 1       |

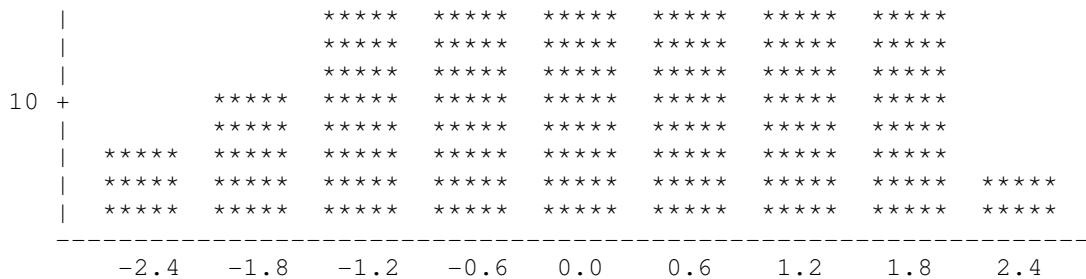
G  
.9  
  
.8  
  
.7  
  
.6  
  
.5  
  
.4  
  
.3  
  
.2  
  
I.1  
  
-1 -.9-.8-.7-.6-.5-.4-.3-D2-.1 F .1 .2 .3 .4 .5 .6 .7 .8 .9 A.0T  
- .1  
H  
J.2  
  
- .3  
  
- .4  
  
- .5  
  
- .6  
  
- .7  
  
- .8  
  
- .9  
  
-B

|    |    |    |    |    |    |    |    |     |    |
|----|----|----|----|----|----|----|----|-----|----|
| X1 | =A | X2 | =B | X3 | =C | X4 | =D | X5  | =E |
| X6 | =F | X7 | =G | X8 | =H | X9 | =I | X10 | =J |

N3: 2 common factors: PCA 295

## Frequency

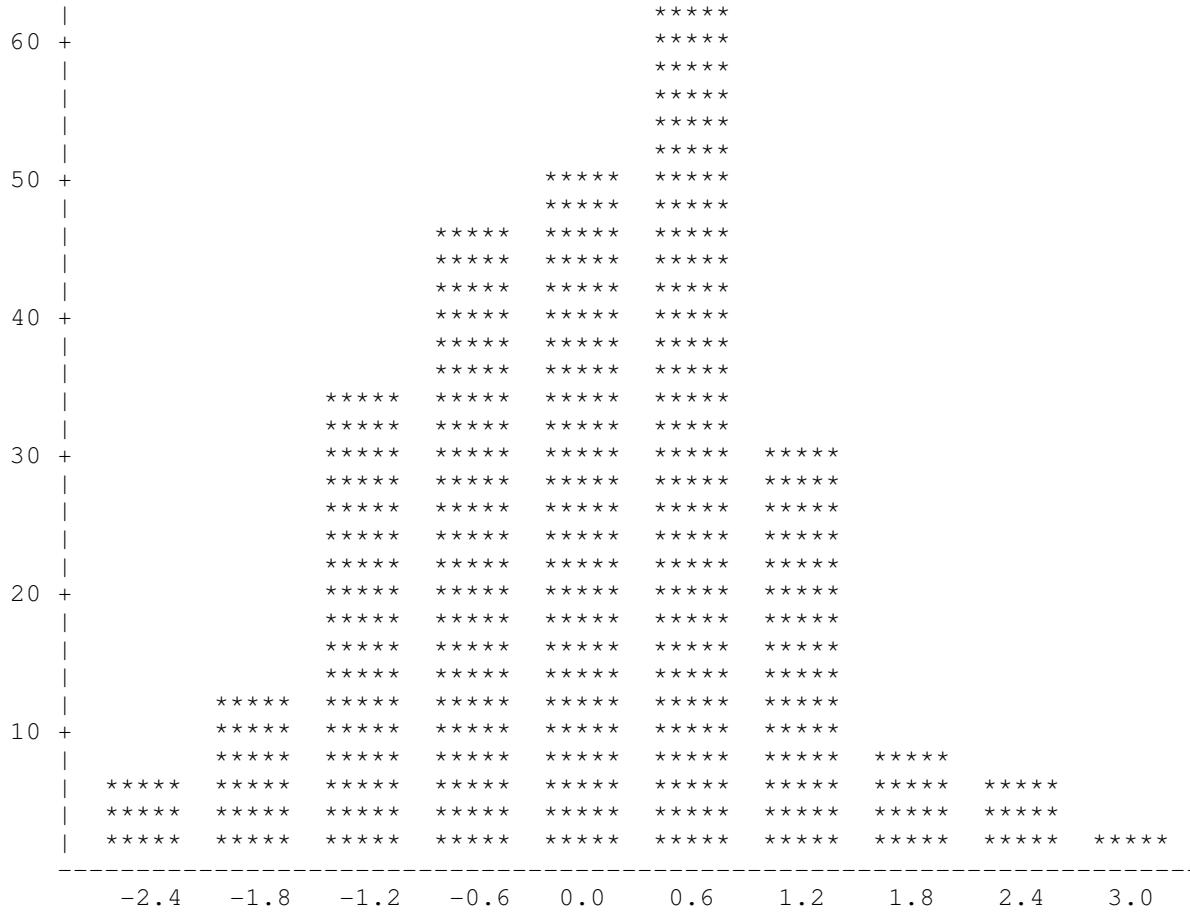




FACTOR1 Midpoint  
N3: 2 common factors: PCA

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Frequency



FACTOR2 Midpoint  
N3: 2 common factors: ML

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Initial Factor Method: Maximum Likelihood

Partial Correlations Controlling all other Variables

|     | X1       | X2       | X3       | X4       | X5       |
|-----|----------|----------|----------|----------|----------|
| X1  | 1.00000  | 0.10454  | 0.47844  | 0.06015  | 0.84974  |
| X2  | 0.10454  | 1.00000  | -0.32100 | -0.05067 | 0.02850  |
| X3  | 0.47844  | -0.32100 | 1.00000  | -0.06992 | -0.04105 |
| X4  | 0.06015  | -0.05067 | -0.06992 | 1.00000  | -0.07158 |
| X5  | 0.84974  | 0.02850  | -0.04105 | -0.07158 | 1.00000  |
| X6  | -0.00632 | 0.02539  | -0.07128 | -0.06917 | 0.04510  |
| X7  | -0.07861 | -0.87483 | 0.09605  | -0.03611 | 0.02001  |
| X8  | -0.01100 | 0.09017  | -0.02698 | -0.08328 | 0.01767  |
| X9  | 0.03049  | -0.05163 | 0.00962  | 0.09621  | -0.04472 |
| X10 | -0.00446 | 0.00484  | 0.05092  | -0.05673 | -0.03900 |

|     | X6       | X7       | X8       | X9       | X10      |
|-----|----------|----------|----------|----------|----------|
| X1  | -0.00632 | -0.07861 | -0.01100 | 0.03049  | -0.00446 |
| X2  | 0.02539  | -0.87483 | 0.09017  | -0.05163 | 0.00484  |
| X3  | -0.07128 | 0.09605  | -0.02698 | 0.00962  | 0.05092  |
| X4  | -0.06917 | -0.03611 | -0.08328 | 0.09621  | -0.05673 |
| X5  | 0.04510  | 0.02001  | 0.01767  | -0.04472 | -0.03900 |
| X6  | 1.00000  | 0.06439  | 0.05045  | -0.03508 | -0.02740 |
| X7  | 0.06439  | 1.00000  | 0.08221  | -0.04906 | -0.04525 |
| X8  | 0.05045  | 0.08221  | 1.00000  | 0.03733  | 0.07355  |
| X9  | -0.03508 | -0.04906 | 0.03733  | 1.00000  | -0.07561 |
| X10 | -0.02740 | -0.04525 | 0.07355  | -0.07561 | 1.00000  |

Kaiser's Measure of Sampling Adequacy: Over-all MSA = 0.64013829

| X1       | X2       | X3       | X4       | X5       |
|----------|----------|----------|----------|----------|
| 0.573446 | 0.602177 | 0.809422 | 0.606662 | 0.628844 |
| X6       | X7       | X8       | X9       | X10      |
| 0.400163 | 0.623330 | 0.577202 | 0.493121 | 0.688368 |

Prior Communalities Estimates: SMC

| X1       | X2       | X3       | X4       | X5       |
|----------|----------|----------|----------|----------|
| 0.920717 | 0.933288 | 0.829046 | 0.049254 | 0.898109 |
| X6       | X7       | X8       | X9       | X10      |
| 0.022770 | 0.926041 | 0.036022 | 0.025594 | 0.032692 |

Preliminary Eigenvalues: Total = 51.9602188 Average = 5.19602188

|                          | 1       | 2       | 3      | 4      | 5      |
|--------------------------|---------|---------|--------|--------|--------|
| Eigenvalue               | 29.6859 | 23.0972 | 0.2983 | 0.1511 | 0.0403 |
| Difference               | 6.5887  | 22.7989 | 0.1472 | 0.1108 | 0.1038 |
| Proportion               | 0.5713  | 0.4445  | 0.0057 | 0.0029 | 0.0008 |
| Cumulative               | 0.5713  | 1.0158  | 1.0216 | 1.0245 | 1.0253 |
| N3: 2 common factors: ML |         |         |        |        | 298    |

Initial Factor Method: Maximum Likelihood

|            | 6       | 7       | 8       | 9       | 10      |
|------------|---------|---------|---------|---------|---------|
| Eigenvalue | -0.0635 | -0.0992 | -0.1636 | -0.4728 | -0.5135 |
| Difference | 0.0357  | 0.0644  | 0.3092  | 0.0407  |         |
| Proportion | -0.0012 | -0.0019 | -0.0031 | -0.0091 | -0.0099 |
| Cumulative | 1.0240  | 1.0221  | 1.0190  | 1.0099  | 1.0000  |

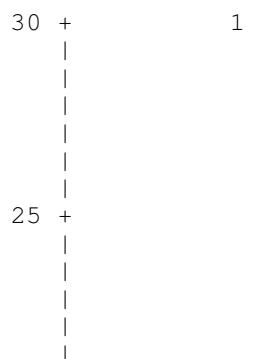
2 factors will be retained by the NFACTOR criterion.

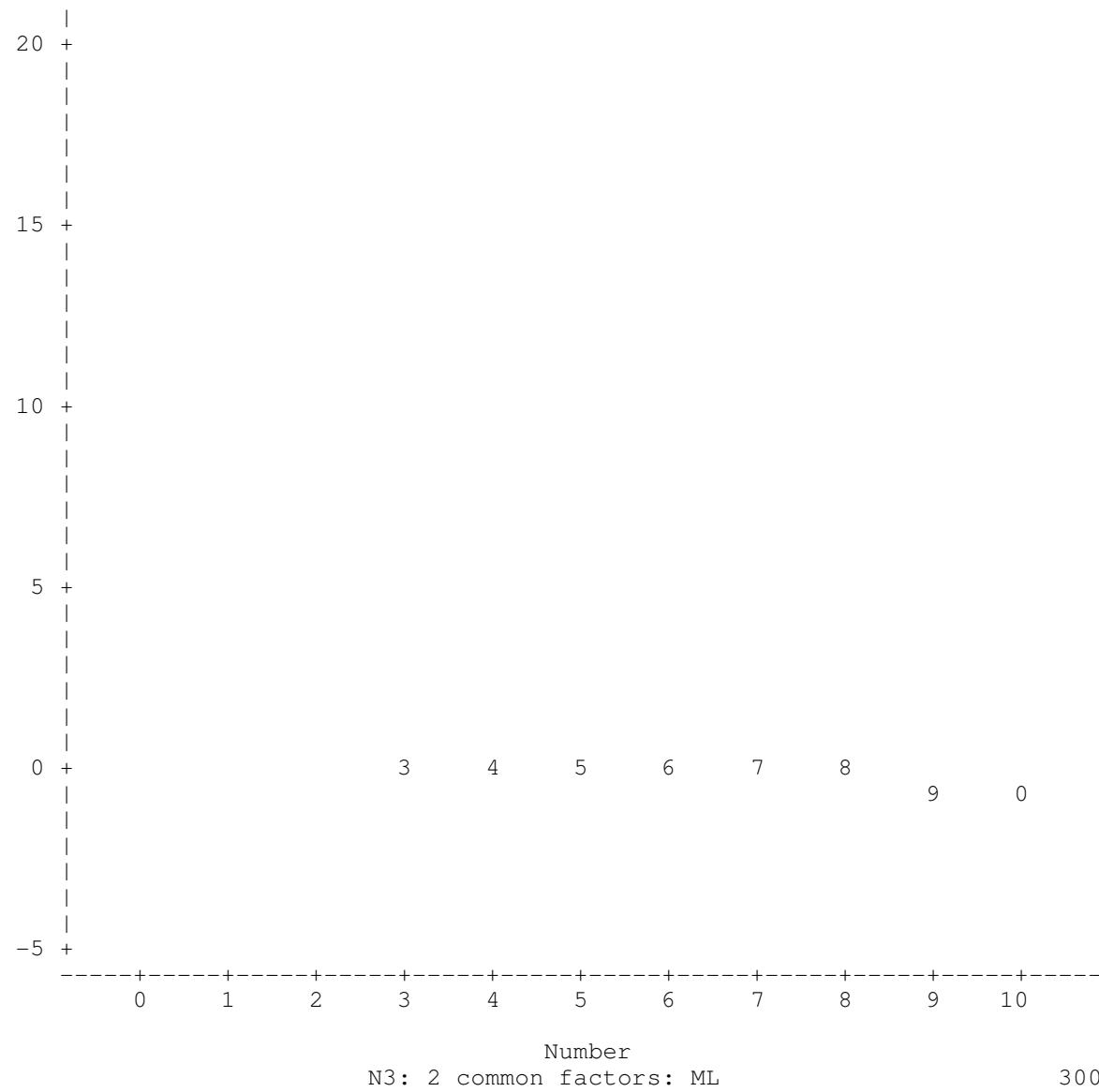
N3: 2 common factors: ML

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Initial Factor Method: Maximum Likelihood

Scree Plot of Eigenvalues





Initial Factor Method: Maximum Likelihood

| Iter | Criterion | Ridge | Change  | Communalities  |
|------|-----------|-------|---------|--|
| 1    | 0.09764   | 0.000 | 0.07928 | 1.00000 0.98217 0.82814 0.01589 0.88973<br>0.00175 0.93609 0.01164 0.00385 0.01374 |
| 2    | 0.09345   | 0.000 | 0.00685 | 1.00000 0.98493 0.83186 0.01033 0.89658<br>0.00012 0.93811 0.01094 0.00227 0.01236 |
| 3    | 0.09345   | 0.000 | 0.00010 | 1.00000 0.98494 0.83183 0.01031 0.89658<br>0.00011 0.93811 0.01104 0.00230 0.01235 |

Convergence criterion satisfied.

Significance tests based on 250 observations:

Test of H0: No common factors.  
vs HA: At least one common factor.

Chi-square = 1647.259 df = 45 Prob>chi\*\*2 = 0.0001

Test of H0: 2 Factors are sufficient.  
vs HA: More factors are needed.

Chi-square = 22.755 df = 26 Prob>chi\*\*2 = 0.6468

Chi-square without Bartlett's correction = 23.268770071  
 Akaike's Information Criterion = -28.73122993  
 Schwarz's Bayesian Criterion = -120.2892138  
 Tucker and Lewis's Reliability Coefficient = 1.0035054824

#### Squared Canonical Correlations

| FACTOR1  | FACTOR2  |
|----------|----------|
| 1.000000 | 0.988105 |

#### Eigenvectors

|  | 1 | 2 |
|--|---|---|
|--|---|---|

|     |         |          |
|-----|---------|----------|
| X1  | 1.00000 | 0.00000  |
| X2  | 0.00000 | 0.99839  |
| X3  | 0.00000 | -0.02428 |
| X4  | 0.00000 | 0.00264  |
| X5  | 0.00000 | -0.00025 |
| X6  | 0.00000 | -0.00373 |
| X7  | 0.00000 | -0.05105 |
| X8  | 0.00000 | 0.00129  |
| X9  | 0.00000 | -0.00063 |
| X10 | 0.00000 | 0.00124  |

N3: 2 common factors: ML

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Initial Factor Method: Maximum Likelihood

Eigenvalues of the Weighted Reduced Correlation Matrix:  
 Total = 83.0682439 Average = 9.22980488

|            | 1       | 2       | 3       | 4       | 5       |
|------------|---------|---------|---------|---------|---------|
| Eigenvalue | .       | 83.0682 | 0.3189  | 0.1476  | 0.0325  |
| Difference | .       | 82.7494 | 0.1713  | 0.1151  | 0.0477  |
| Proportion | .       | 1.0000  | 0.0038  | 0.0018  | 0.0004  |
| Cumulative | .       | 1.0000  | 1.0038  | 1.0056  | 1.0060  |
|            | 6       | 7       | 8       | 9       | 10      |
| Eigenvalue | -0.0152 | -0.0463 | -0.0861 | -0.1536 | -0.1978 |
| Difference | 0.0311  | 0.0398  | 0.0675  | 0.0442  |         |
| Proportion | -0.0002 | -0.0006 | -0.0010 | -0.0018 | -0.0024 |
| Cumulative | 1.0058  | 1.0053  | 1.0042  | 1.0024  | 1.0000  |

#### Factor Pattern

|  | FACTOR1 | FACTOR2 |
|--|---------|---------|
|--|---------|---------|

|     |          |          |
|-----|----------|----------|
| X1  | 1.00000  | 0.00000  |
| X2  | 0.03442  | 0.99185  |
| X3  | 0.62946  | -0.66002 |
| X4  | -0.09966 | 0.01950  |
| X5  | 0.94631  | 0.03284  |
| X6  | 0.00149  | -0.01049 |
| X7  | -0.05058 | -0.96724 |
| X8  | -0.02546 | 0.10195  |
| X9  | -0.01503 | -0.04550 |
| X10 | -0.03923 | 0.10399  |

Variance explained by each factor

|            | FACTOR1   | FACTOR2   |
|------------|-----------|-----------|
| Weighted   | 11.147643 | 83.068244 |
| Unweighted | 2.307808  | 2.379772  |

Final Communality Estimates and Variable Weights  
 Total Communality: Weighted = 94.215887 Unweighted = 4.687580

|             | X1       | X2        | X3       | X4       | X5       |
|-------------|----------|-----------|----------|----------|----------|
| Communality | 1.000000 | 0.984941  | 0.831834 | 0.010312 | 0.896582 |
| Weight      | .        | 66.405803 | 5.946515 | 1.010419 | 9.669498 |
|             | X6       | X7        | X8       | X9       | X10      |
| Communality | 0.000112 | 0.938109  | 0.011041 | 0.002296 | 0.012352 |
| Weight      | 1.000112 | 16.157568 | 1.011164 | 1.002301 | 1.012507 |

N3: 2 common factors: ML

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Initial Factor Method: Maximum Likelihood

## Residual Correlations With Uniqueness on the Diagonal

|     | X1       | X2       | X3       | X4       | X5       |
|-----|----------|----------|----------|----------|----------|
| X1  | 0.00000  | 0.00000  | 0.00000  | 0.00000  | 0.00000  |
| X2  | 0.00000  | 0.01506  | 0.00015  | -0.00396 | 0.00034  |
| X3  | 0.00000  | 0.00015  | 0.16817  | -0.02522 | -0.00523 |
| X4  | 0.00000  | -0.00396 | -0.02522 | 0.98969  | -0.02519 |
| X5  | 0.00000  | 0.00034  | -0.00523 | -0.02519 | 0.10342  |
| X6  | 0.00000  | 0.00221  | -0.02860 | -0.07845 | 0.01910  |
| X7  | 0.00000  | -0.00000 | 0.00060  | -0.01218 | 0.00272  |
| X8  | 0.00000  | 0.00432  | -0.00764 | -0.09267 | 0.00849  |
| X9  | 0.00000  | -0.00277 | 0.00059  | 0.10665  | -0.01694 |
| X10 | 0.00000  | -0.00025 | 0.02332  | -0.06749 | -0.01072 |
|     | X6       | X7       | X8       | X9       | X10      |
| X1  | 0.00000  | 0.00000  | 0.00000  | 0.00000  | 0.00000  |
| X2  | 0.00221  | -0.00000 | 0.00432  | -0.00277 | -0.00025 |
| X3  | -0.02860 | 0.00060  | -0.00764 | 0.00059  | 0.02332  |
| X4  | -0.07845 | -0.01218 | -0.09267 | 0.10665  | -0.06749 |
| X5  | 0.01910  | 0.00272  | 0.00849  | -0.01694 | -0.01072 |
| X6  | 0.99989  | 0.01716  | 0.06202  | -0.04536 | -0.02330 |
| X7  | 0.01716  | 0.06189  | 0.02056  | -0.01241 | -0.00653 |
| X8  | 0.06202  | 0.02056  | 0.98896  | 0.01480  | 0.07000  |
| X9  | -0.04536 | -0.01241 | 0.01480  | 0.99770  | -0.07480 |
| X10 | -0.02330 | -0.00653 | 0.07000  | -0.07480 | 0.98765  |

Root Mean Square Off-diagonal Residuals: Over-all = 0.03415791

|          | X1       | X2       | X3       | X4       | X5       |
|----------|----------|----------|----------|----------|----------|
| 0.000000 | 0.000000 | 0.002287 | 0.015217 | 0.059725 | 0.012945 |
|          | X6       | X7       | X8       | X9       | X10      |
| 0.039557 | 0.039557 | 0.010904 | 0.044876 | 0.046779 | 0.042549 |

## Partial Correlations Controlling Factors

|     | X1      | X2       | X3       | X4       | X5       |
|-----|---------|----------|----------|----------|----------|
| X1  | 0.00000 | 0.00000  | 0.00000  | 0.00000  | 0.00000  |
| X2  | 0.00000 | 1.00000  | 0.00289  | -0.03241 | 0.00854  |
| X3  | 0.00000 | 0.00289  | 1.00000  | -0.06182 | -0.03965 |
| X4  | 0.00000 | -0.03241 | -0.06182 | 1.00000  | -0.07873 |
| X5  | 0.00000 | 0.00854  | -0.03965 | -0.07873 | 1.00000  |
| X6  | 0.00000 | 0.01799  | -0.06974 | -0.07886 | 0.05939  |
| X7  | 0.00000 | -0.00004 | 0.00588  | -0.04920 | 0.03402  |
| X8  | 0.00000 | 0.03539  | -0.01872 | -0.09367 | 0.02656  |
| X9  | 0.00000 | -0.02261 | 0.00144  | 0.10733  | -0.05275 |
| X10 | 0.00000 | -0.00208 | 0.05721  | -0.06826 | -0.03354 |

N3: 2 common factors: ML

303

Initial Factor Method: Maximum Likelihood

## Partial Correlations Controlling Factors

|     | X6       | X7       | X8       | X9       | X10      |
|-----|----------|----------|----------|----------|----------|
| X1  | 0.00000  | 0.00000  | 0.00000  | 0.00000  | 0.00000  |
| X2  | 0.01799  | -0.00004 | 0.03539  | -0.02261 | -0.00208 |
| X3  | -0.06974 | 0.00588  | -0.01872 | 0.00144  | 0.05721  |
| X4  | -0.07886 | -0.04920 | -0.09367 | 0.10733  | -0.06826 |
| X5  | 0.05939  | 0.03402  | 0.02656  | -0.05275 | -0.03354 |
| X6  | 1.00000  | 0.06898  | 0.06237  | -0.04542 | -0.02344 |
| X7  | 0.06898  | 1.00000  | 0.08311  | -0.04996 | -0.02642 |
| X8  | 0.06237  | 0.08311  | 1.00000  | 0.01490  | 0.07083  |
| X9  | -0.04542 | -0.04996 | 0.01490  | 1.00000  | -0.07535 |
| X10 | -0.02344 | -0.02642 | 0.07083  | -0.07535 | 1.00000  |

Root Mean Square Off-diagonal Partialis: Over-all = 0.04678705

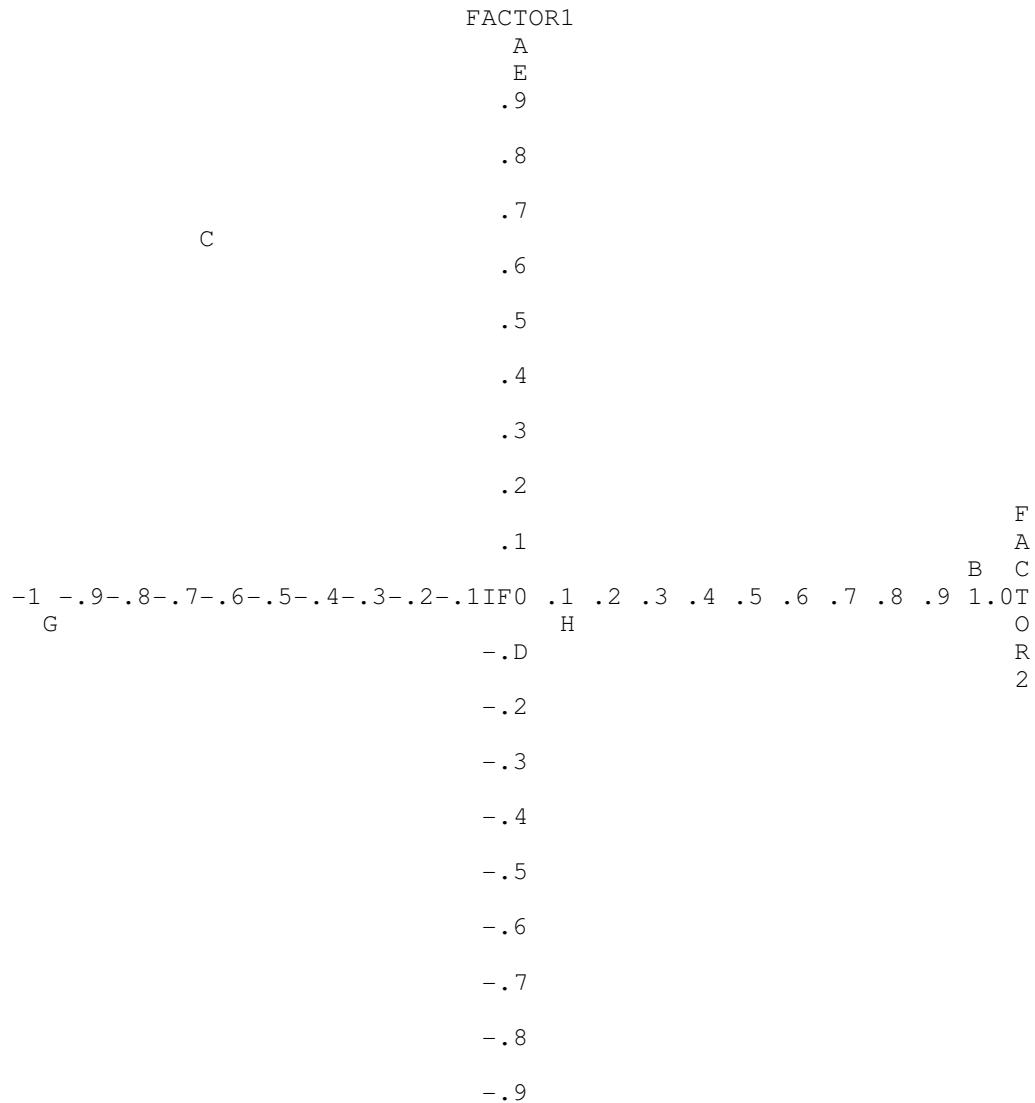
| X1       | X2       | X3       | X4       | X5       |
|----------|----------|----------|----------|----------|
| 0.000000 | 0.018924 | 0.039337 | 0.070444 | 0.043641 |
| X6       | X7       | X8       | X9       | X10      |
| 0.053949 | 0.045304 | 0.054892 | 0.052991 | 0.048310 |

N3: 2 common factors: ML

304

Initial Factor Method: Maximum Likelihood

Plot of Factor Pattern for FACTOR1 and FACTOR2



-1

|    |    |    |    |    |    |    |    |     |    |
|----|----|----|----|----|----|----|----|-----|----|
| X1 | =A | X2 | =B | X3 | =C | X4 | =D | X5  | =E |
| X6 | =F | X7 | =G | X8 | =H | X9 | =I | X10 | =H |

N3: 2 common factors: ML

305

Rotation Method: Varimax

## Orthogonal Transformation Matrix

1 2

|   |          |          |
|---|----------|----------|
| 1 | -0.01848 | 0.99983  |
| 2 | -0.99983 | -0.01848 |

## Rotated Factor Pattern

FACTOR1 FACTOR2

|     |          |          |
|-----|----------|----------|
| X1  | -0.01848 | 0.99983  |
| X2  | -0.99231 | 0.01608  |
| X3  | 0.64827  | 0.64154  |
| X4  | -0.01765 | -0.10000 |
| X5  | -0.05032 | 0.94554  |
| X6  | 0.01046  | 0.00169  |
| X7  | 0.96801  | -0.03270 |
| X8  | -0.10146 | -0.02734 |
| X9  | 0.04577  | -0.01418 |
| X10 | -0.10324 | -0.04115 |

## Variance explained by each factor

|            |           |           |
|------------|-----------|-----------|
|            | FACTOR1   | FACTOR2   |
| Weighted   | 83.076176 | 11.139711 |
| Unweighted | 2.368320  | 2.319261  |

Final Communality Estimates and Variable Weights  
 Total Communality: Weighted = 94.215887 Unweighted = 4.687580

|             |          |           |          |          |          |
|-------------|----------|-----------|----------|----------|----------|
|             | X1       | X2        | X3       | X4       | X5       |
| Communality | 1.000000 | 0.984941  | 0.831834 | 0.010312 | 0.896582 |
| Weight      | .        | 66.405803 | 5.946515 | 1.010419 | 9.669498 |
|             | X6       | X7        | X8       | X9       | X10      |
| Communality | 0.000112 | 0.938109  | 0.011041 | 0.002296 | 0.012352 |
| Weight      | 1.000112 | 16.157568 | 1.011164 | 1.002301 | 1.012507 |

## Scoring Coefficients Estimated by Regression

## Squared Multiple Correlations of the Variables with each Factor

|                          |          |          |
|--------------------------|----------|----------|
|                          | FACTOR1  | FACTOR2  |
|                          | 0.988109 | 0.999996 |
| N3: 2 common factors: ML |          |          |

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Rotation Method: Varimax

## Standardized Scoring Coefficients

FACTOR1 FACTOR2

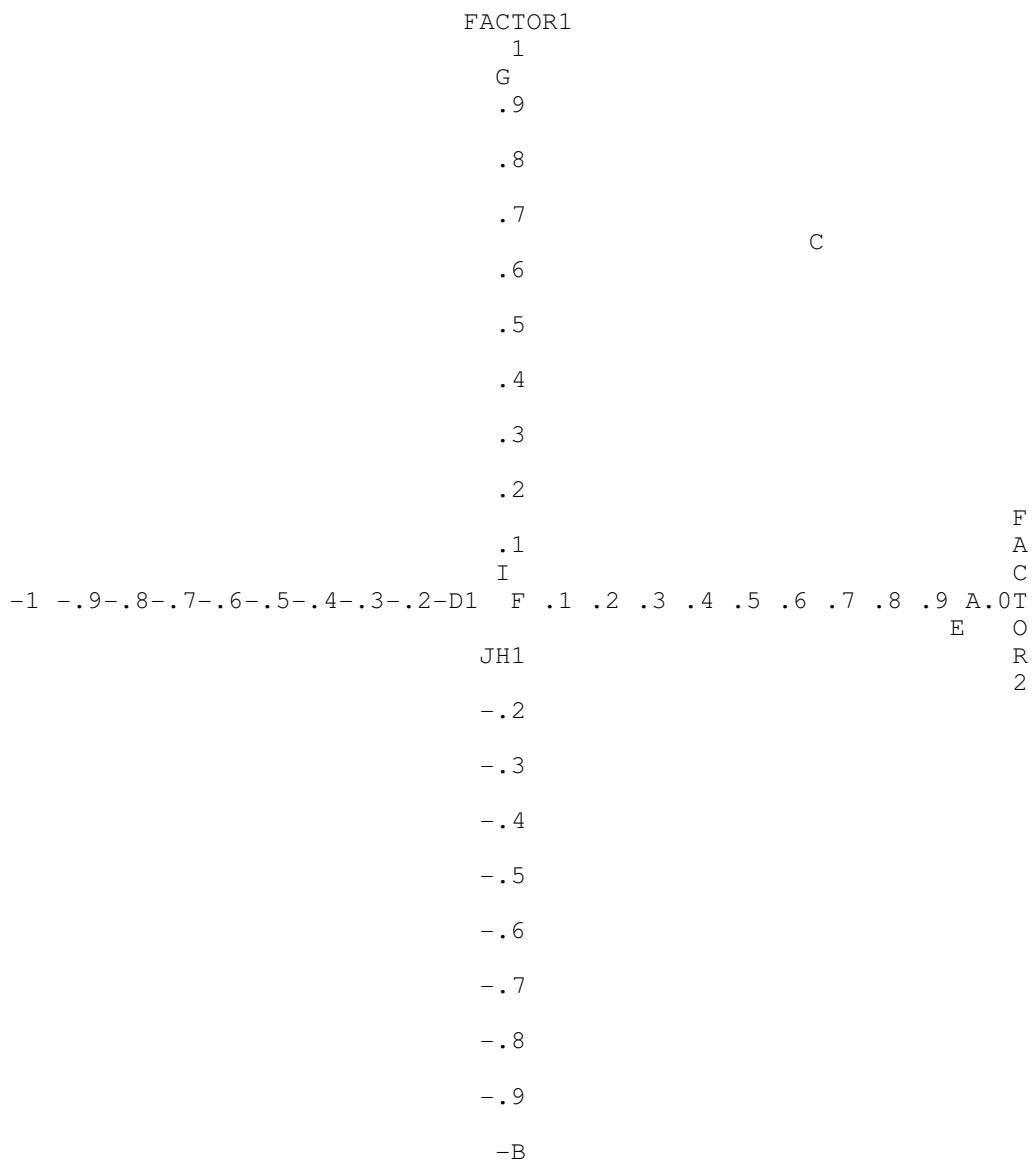
|    |          |          |
|----|----------|----------|
| X1 | -0.00802 | 1.00002  |
| X2 | -0.78333 | -0.01448 |
| X3 | 0.04668  | 0.00086  |
| X4 | -0.00023 | -0.00000 |
| X5 | -0.00378 | -0.00007 |
| X6 | 0.00012  | 0.00000  |
| X7 | 0.18587  | 0.00344  |
| X8 | -0.00123 | -0.00002 |

X9            0.00054    0.00001  
 X10          -0.00125   -0.00002  
 N3: 2 common factors: ML

307

Rotation Method: Varimax

Plot of Factor Pattern for FACTOR1 and FACTOR2



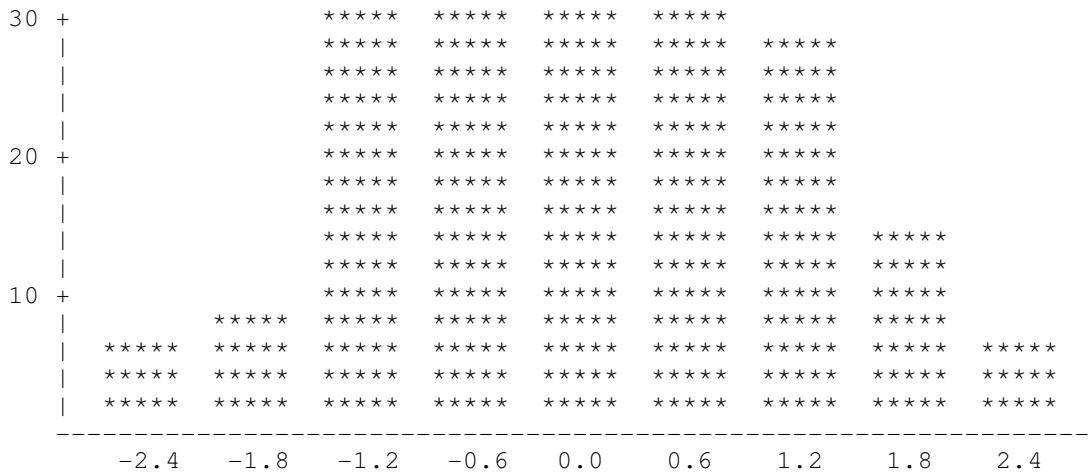
X1        =A      X2        =B      X3        =C      X4        =D      X5        =E  
 X6        =F      X7        =G      X8        =H      X9        =I      X10     =J

N3: 2 common factors: ML

308

Frequency

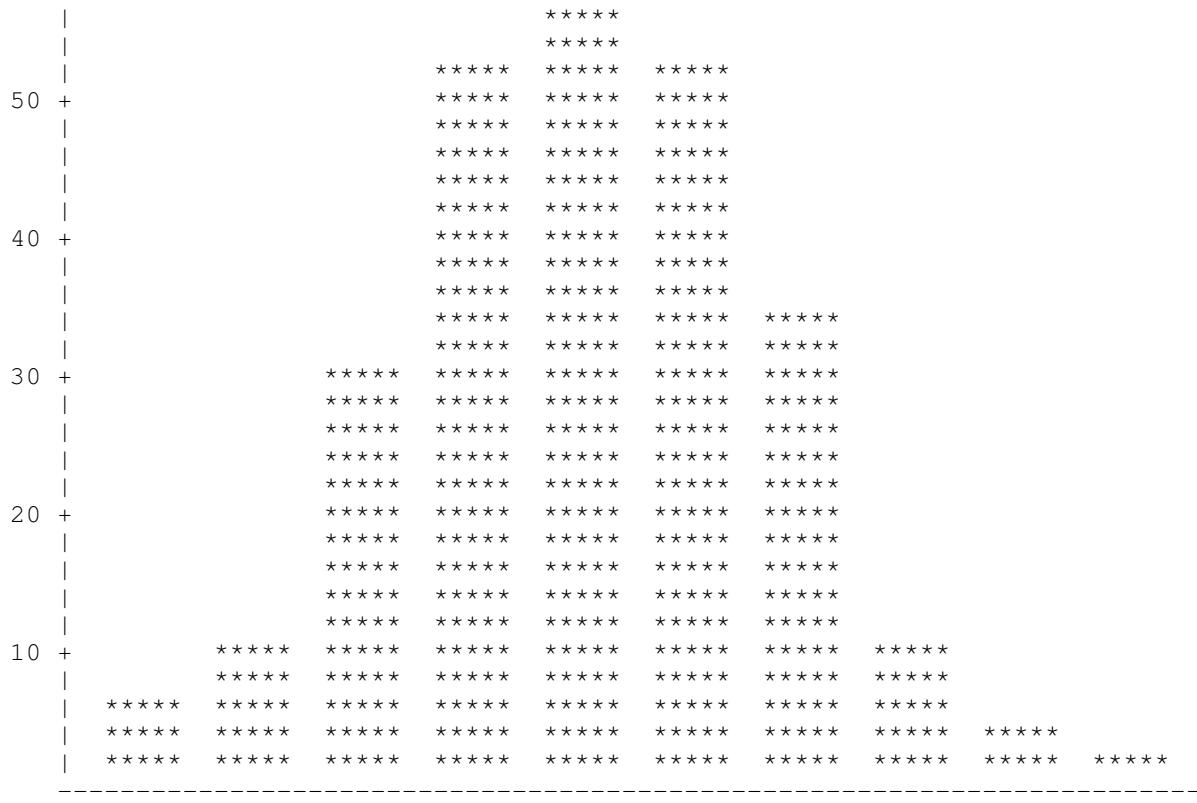




FACTOR1 Midpoint  
N3: 2 common factors: ML

309

Frequency

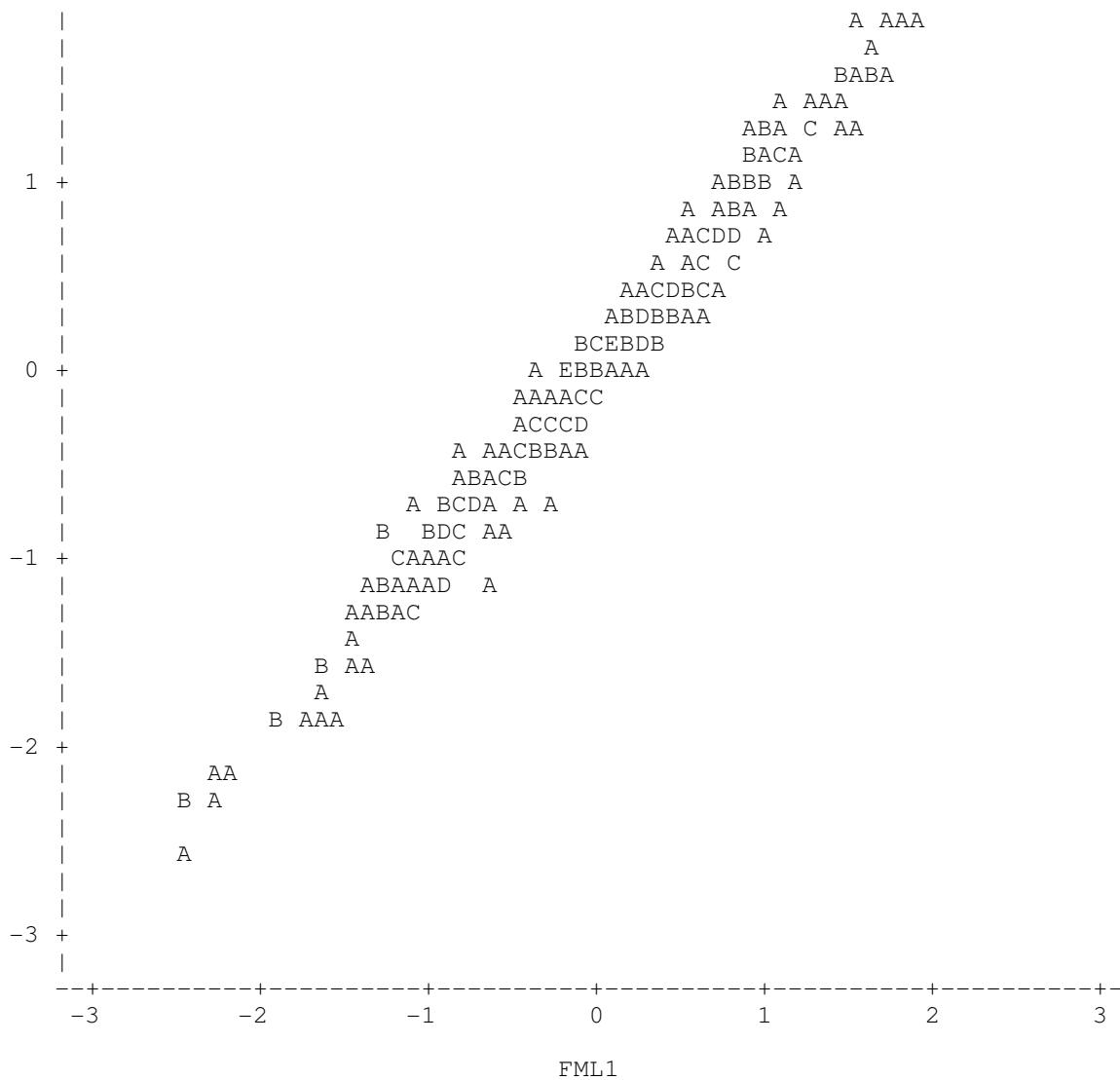


FACTOR2 Midpoint  
N3: Comparing factors by method

310

Plot of FPCA1\*FML1. Legend: A = 1 obs, B = 2 obs, etc.



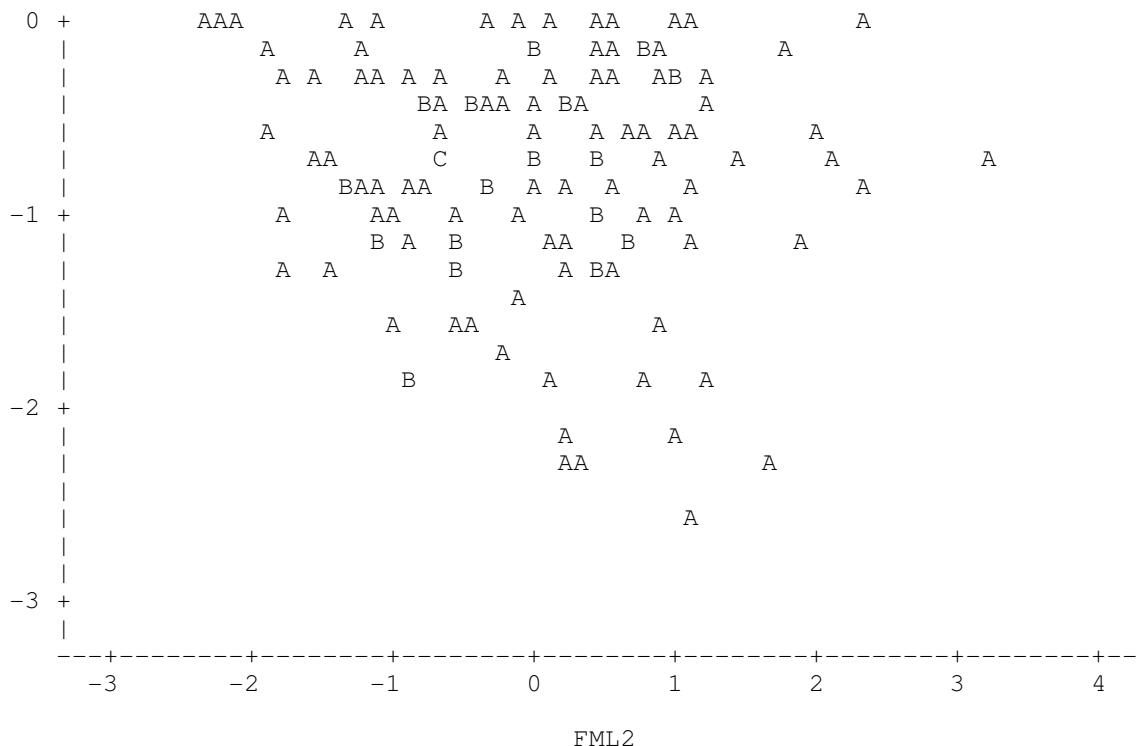


N3: Comparing factors by method

311

Plot of FPCA1\*FML2. Legend: A = 1 obs, B = 2 obs, etc.

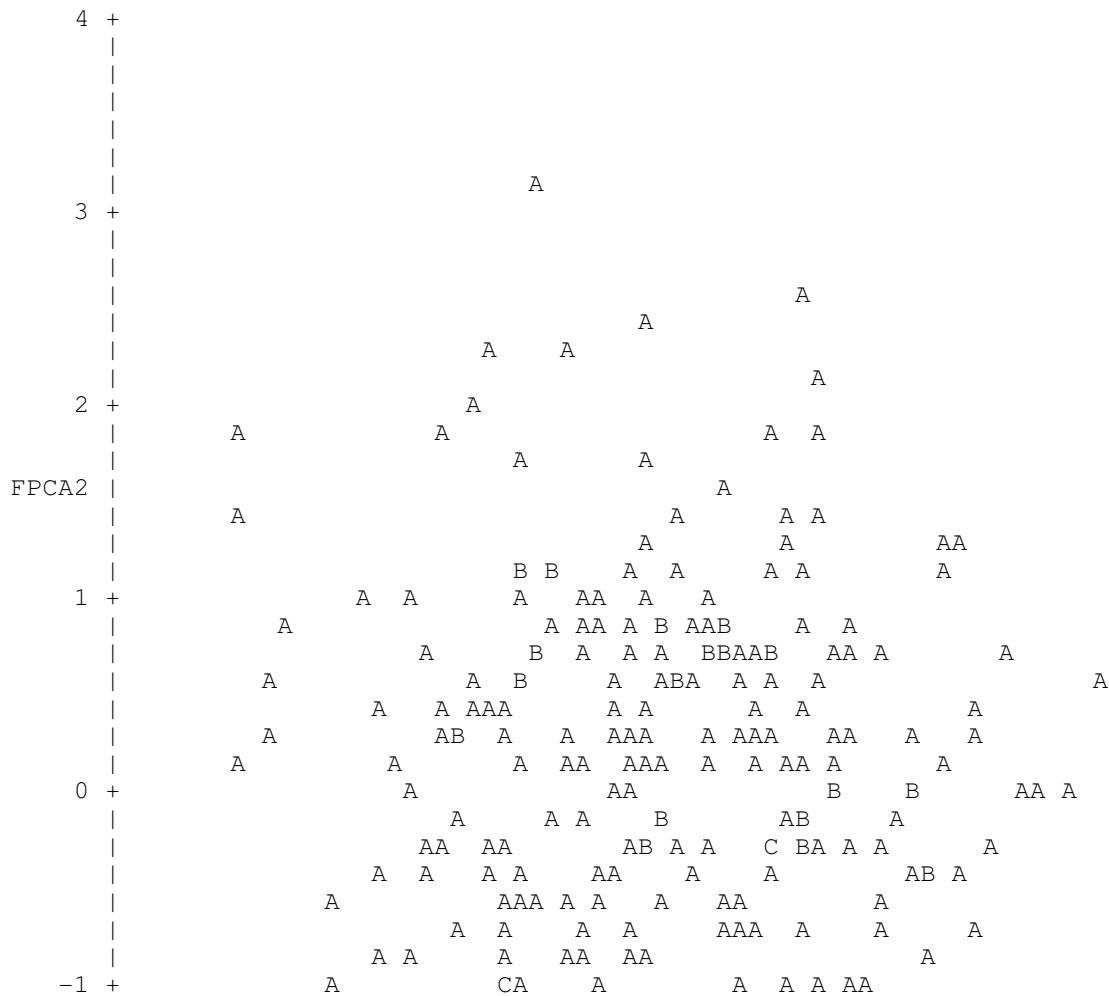


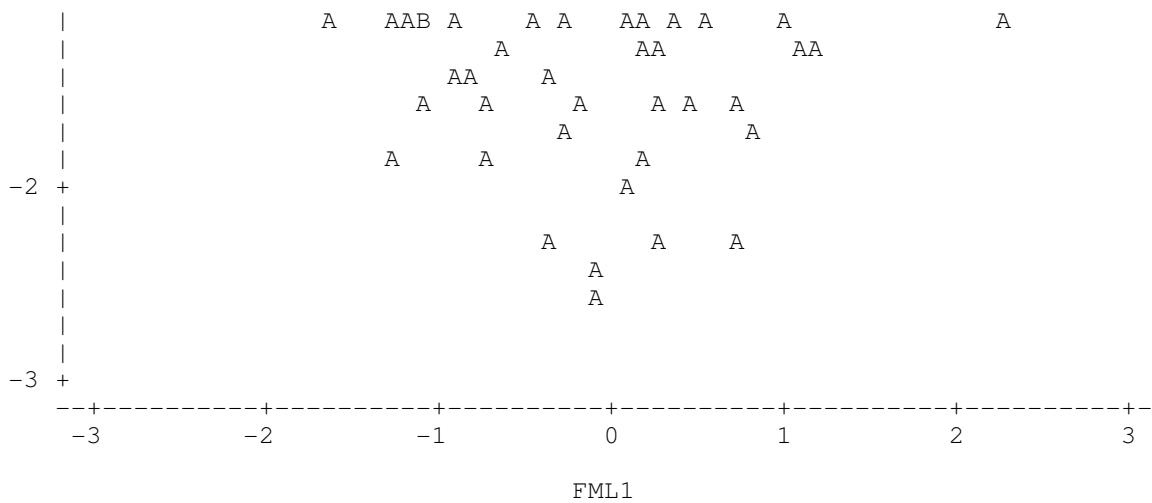


### N3: Comparing factors by method

312

Plot of FPCA2\*FML1. Legend: A = 1 obs, B = 2 obs, etc.

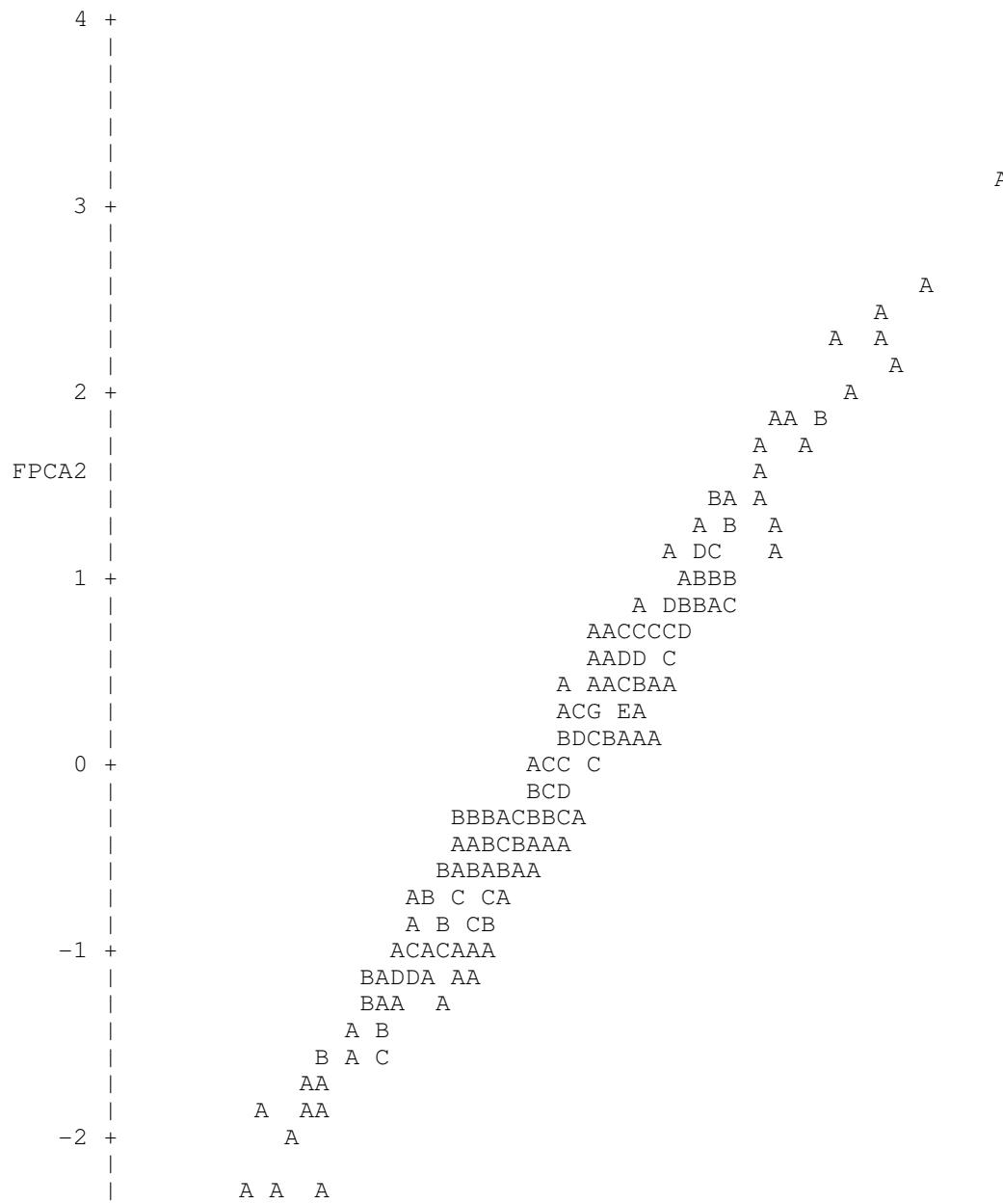


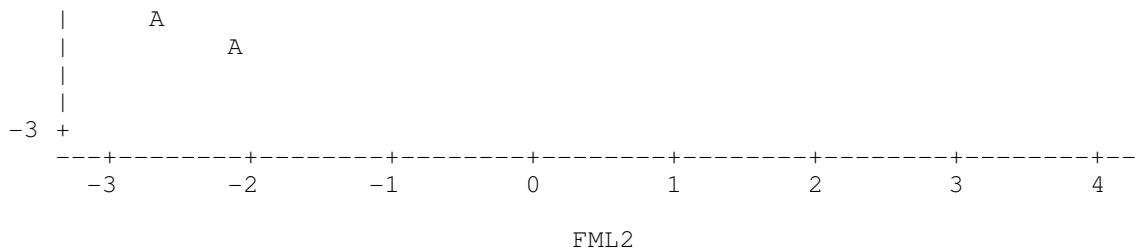


N3: Comparing factors by method

313

Plot of FPCA2\*FML2. Legend: A = 1 obs, B = 2 obs, etc.





N1: up to 10 common factors: PCA 314  
09:13 Wednesday, March 24, 1999

Initial Factor Method: Principal Components

Prior Communalities Estimates: ONE

Eigenvalues of the Correlation Matrix: Total = 10 Average = 1

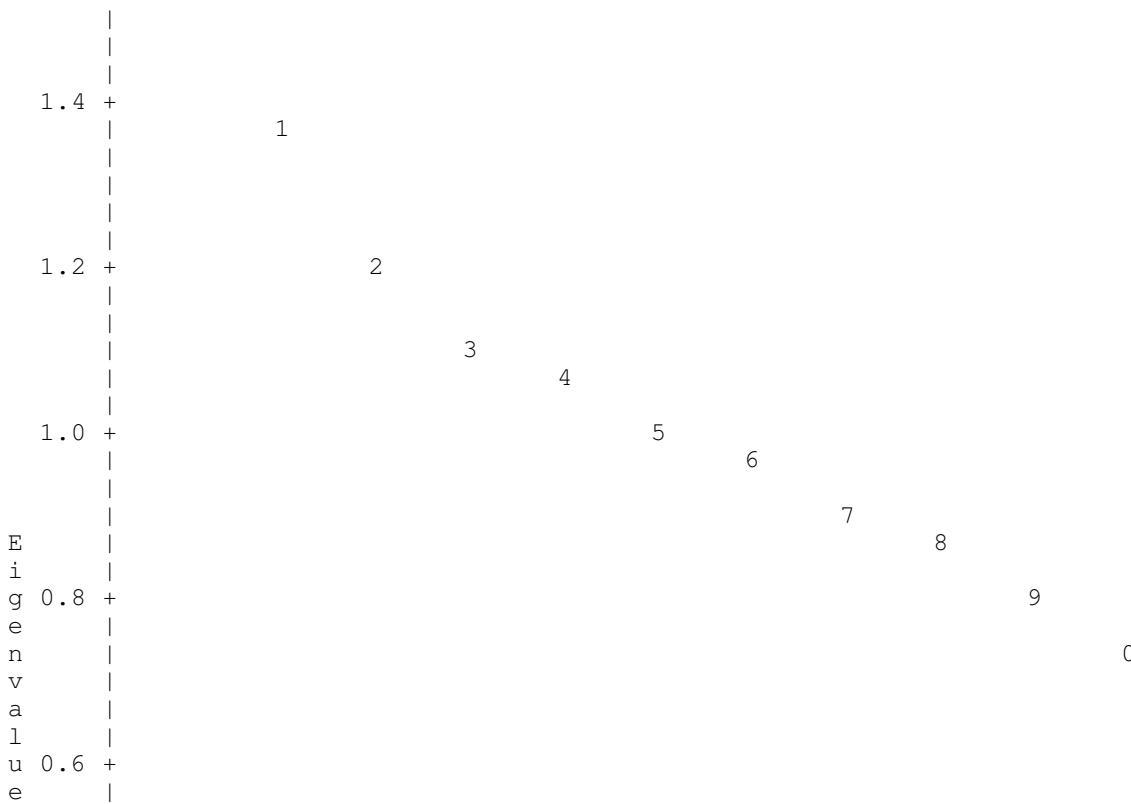
|            | 1      | 2      | 3      | 4      | 5      |
|------------|--------|--------|--------|--------|--------|
| Eigenvalue | 1.3738 | 1.1869 | 1.1034 | 1.0613 | 1.0016 |
| Difference | 0.1869 | 0.0835 | 0.0421 | 0.0597 | 0.0231 |
| Proportion | 0.1374 | 0.1187 | 0.1103 | 0.1061 | 0.1002 |
| Cumulative | 0.1374 | 0.2561 | 0.3664 | 0.4725 | 0.5727 |
|            | 6      | 7      | 8      | 9      | 10     |
| Eigenvalue | 0.9786 | 0.9103 | 0.8632 | 0.7907 | 0.7303 |
| Difference | 0.0682 | 0.0471 | 0.0725 | 0.0604 |        |
| Proportion | 0.0979 | 0.0910 | 0.0863 | 0.0791 | 0.0730 |
| Cumulative | 0.6706 | 0.7616 | 0.8479 | 0.9270 | 1.0000 |

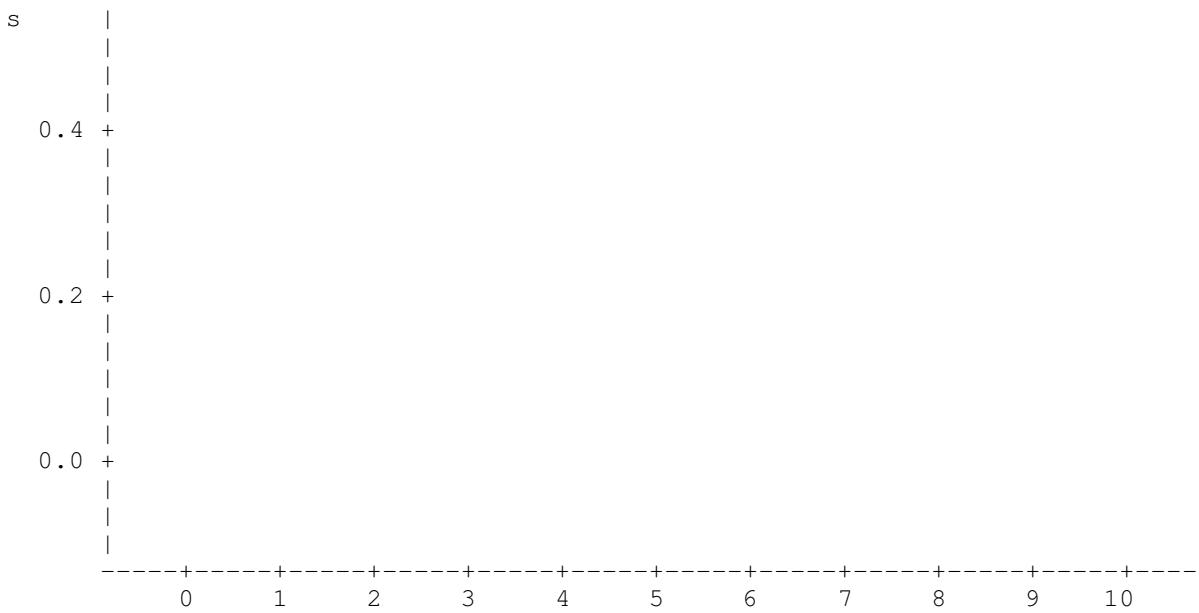
5 factors will be retained by the MINEIGEN criterion.

N1: up to 10 common factors: PCA 315  
09:13 Wednesday, March 24, 1999

Initial Factor Method: Principal Components

Scree Plot of Eigenvalues





Number  
N1: up to 10 common factors: PCA 316  
09:13 Wednesday, March 24, 1999

Initial Factor Method: Principal Components

#### Factor Pattern

|     | FACTOR1  | FACTOR2  | FACTOR3  | FACTOR4  | FACTOR5  |
|-----|----------|----------|----------|----------|----------|
| X1  | 0.01069  | -0.55305 | -0.40019 | -0.15921 | 0.14023  |
| X2  | 0.42347  | 0.14703  | -0.36907 | 0.49179  | -0.22300 |
| X3  | 0.18727  | 0.60340  | 0.07144  | -0.37765 | -0.13234 |
| X4  | -0.50072 | 0.26748  | 0.04539  | 0.49230  | -0.20677 |
| X5  | 0.36978  | -0.28765 | 0.06093  | 0.32570  | -0.55251 |
| X6  | 0.30057  | -0.39337 | 0.44624  | 0.04906  | 0.19676  |
| X7  | 0.40083  | 0.21142  | 0.55749  | -0.06373 | -0.07260 |
| X8  | 0.47888  | 0.08219  | 0.06660  | 0.37809  | 0.55829  |
| X9  | -0.41039 | 0.13374  | 0.15624  | 0.38725  | 0.39408  |
| X10 | 0.35083  | 0.34196  | -0.50730 | -0.06017 | 0.23607  |

#### Variance explained by each factor

| FACTOR1  | FACTOR2  | FACTOR3  | FACTOR4  | FACTOR5  |
|----------|----------|----------|----------|----------|
| 1.373807 | 1.186870 | 1.103371 | 1.061275 | 1.001623 |

#### Final Communality Estimates: Total = 5.726946

| X1       | X2       | X3       | X4       | X5       |
|----------|----------|----------|----------|----------|
| 0.511143 | 0.628743 | 0.564396 | 0.609444 | 0.634541 |
| X6       | X7       | X8       | X9       | X10      |
| 0.485338 | 0.525488 | 0.695161 | 0.515973 | 0.556721 |

N1: up to 10 common factors: ML 317  
09:13 Wednesday, March 24, 1999

Initial Factor Method: Maximum Likelihood

#### Prior Communality Estimates: SMC

| X1       | X2       | X3       | X4       | X5       |
|----------|----------|----------|----------|----------|
| 0.026854 | 0.037483 | 0.031480 | 0.049254 | 0.024931 |
| X6       | X7       | X8       | X9       | X10      |

0.022770 0.032153 0.036022 0.025594 0.032692

Preliminary Eigenvalues: Total = 0.33036742 Average = 0.03303674

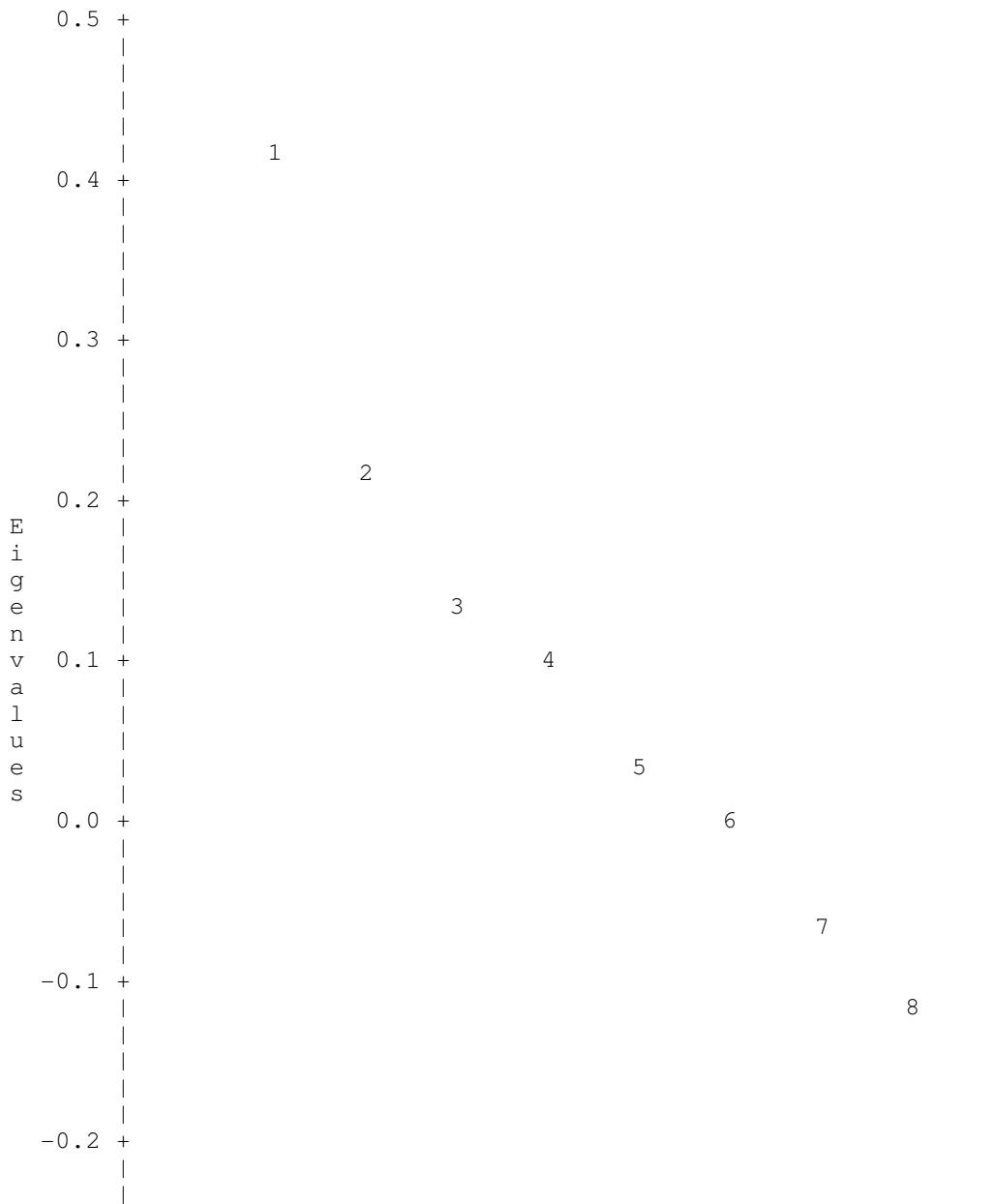
|            | 1      | 2       | 3       | 4       | 5       |
|------------|--------|---------|---------|---------|---------|
| Eigenvalue | 0.4232 | 0.2238  | 0.1381  | 0.1011  | 0.0335  |
| Difference | 0.1995 | 0.0857  | 0.0370  | 0.0676  | 0.0253  |
| Proportion | 1.2811 | 0.6773  | 0.4179  | 0.3060  | 0.1014  |
| Cumulative | 1.2811 | 1.9584  | 2.3763  | 2.6823  | 2.7837  |
|            | 6      | 7       | 8       | 9       | 10      |
| Eigenvalue | 0.0082 | -0.0602 | -0.1117 | -0.1836 | -0.2420 |
| Difference | 0.0684 | 0.0515  | 0.0718  | 0.0584  |         |
| Proportion | 0.0248 | -0.1823 | -0.3382 | -0.5556 | -0.7324 |
| Cumulative | 2.8085 | 2.6262  | 2.2880  | 1.7324  | 1.0000  |

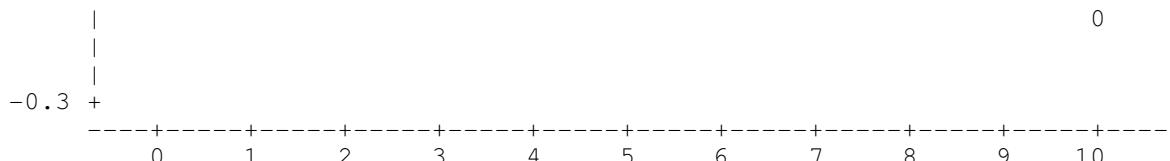
1 factors will be retained by the PROPORTION criterion.

N1: up to 10 common factors: ML 318  
09:13 Wednesday, March 24, 1999

Initial Factor Method: Maximum Likelihood

Scree Plot of Eigenvalues





Number  
N1: up to 10 common factors: ML 319  
09:13 Wednesday, March 24, 1999

Initial Factor Method: Maximum Likelihood

| Iter | Criterion | Ridge | Change  | Communalities  |
|------|-----------|-------|---------|--|
| 1    | 0.09606   | 0.000 | 0.04390 | 0.00006 0.05459 0.00894 0.09077 0.03916<br>0.02399 0.04763 0.07992 0.05164 0.03538 |
| 2    | 0.09605   | 0.000 | 0.00275 | 0.00028 0.05203 0.00845 0.09291 0.04054<br>0.02674 0.04663 0.07909 0.05071 0.03544 |
| 3    | 0.09605   | 0.000 | 0.00089 | 0.00032 0.05150 0.00831 0.09380 0.04060<br>0.02700 0.04654 0.07879 0.05102 0.03503 |

Convergence criterion satisfied.

Significance tests based on 250 observations:

Test of H0: No common factors.  
vs HA: At least one common factor.

Chi-square = 40.041 df = 45 Prob>chi\*\*2 = 0.6816

Test of H0: 1 Factors are sufficient.  
vs HA: More factors are needed.

Chi-square = 23.452 df = 35 Prob>chi\*\*2 = 0.9316

Chi-square without Bartlett's correction = 23.916227045  
Akaike's Information Criterion = -46.08377296  
Schwarz's Bayesian Criterion = -169.3349051  
Tucker and Lewis's Reliability Coefficient = 0

#### Squared Canonical Correlations

FACTOR1  
0.315526

Eigenvalues of the Weighted Reduced Correlation Matrix:  
Total = 0.4609746 Average = 0.04609746

|            | 1      | 2       | 3       | 4       | 5       |
|------------|--------|---------|---------|---------|---------|
| Eigenvalue | 0.4610 | 0.2189  | 0.1440  | 0.1251  | 0.0620  |
| Difference | 0.2421 | 0.0749  | 0.0189  | 0.0631  | 0.0526  |
| Proportion | 1.0000 | 0.4748  | 0.3124  | 0.2715  | 0.1345  |
| Cumulative | 1.0000 | 1.4748  | 1.7872  | 2.0586  | 2.1931  |
|            | 6      | 7       | 8       | 9       | 10      |
| Eigenvalue | 0.0094 | -0.0489 | -0.1026 | -0.1749 | -0.2330 |
| Difference | 0.0583 | 0.0537  | 0.0723  | 0.0581  |         |
| Proportion | 0.0204 | -0.1060 | -0.2226 | -0.3794 | -0.5055 |
| Cumulative | 2.2135 | 2.1075  | 1.8849  | 1.5055  | 1.0000  |

N1: up to 10 common factors: ML 320  
09:13 Wednesday, March 24, 1999

Initial Factor Method: Maximum Likelihood

Factor Pattern

## FACTOR1

|     |          |
|-----|----------|
| X1  | 0.01816  |
| X2  | 0.22658  |
| X3  | 0.09100  |
| X4  | -0.30654 |
| X5  | 0.20157  |
| X6  | 0.16455  |
| X7  | 0.21569  |
| X8  | 0.28052  |
| X9  | -0.22605 |
| X10 | 0.18699  |

Variance explained by each factor

|            |          |
|------------|----------|
|            | FACTOR1  |
| Weighted   | 0.460976 |
| Unweighted | 0.432903 |

Final Communality Estimates and Variable Weights  
 Total Communality: Weighted = 0.460976 Unweighted = 0.432903

|             |          |          |          |          |          |
|-------------|----------|----------|----------|----------|----------|
| Communality | 0.000330 | 0.051340 | 0.008282 | 0.093965 | 0.040629 |
| Weight      | 1.000317 | 1.054294 | 1.008376 | 1.103515 | 1.042316 |

|             |          |          |          |          |          |
|-------------|----------|----------|----------|----------|----------|
| Communality | 0.027076 | 0.046524 | 0.078694 | 0.051100 | 0.034965 |
| Weight      | 1.027748 | 1.048815 | 1.085530 | 1.053759 | 1.036305 |

N1: 2 common factors: PCA

321

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Initial Factor Method: Principal Components

Partial Correlations Controlling all other Variables

|     | X1       | X2       | X3       | X4       | X5       |
|-----|----------|----------|----------|----------|----------|
| X1  | 1.00000  | 0.05044  | -0.08561 | -0.11348 | -0.01617 |
| X2  | 0.05044  | 1.00000  | 0.04186  | 0.04588  | 0.10369  |
| X3  | -0.08561 | 0.04186  | 1.00000  | -0.06992 | -0.04105 |
| X4  | -0.11348 | 0.04588  | -0.06992 | 1.00000  | -0.07158 |
| X5  | -0.01617 | 0.10369  | -0.04105 | -0.07158 | 1.00000  |
| X6  | -0.00723 | -0.01540 | -0.07128 | -0.06917 | 0.04510  |
| X7  | -0.05919 | 0.02965  | 0.09605  | -0.03611 | 0.02001  |
| X8  | -0.03111 | 0.09740  | -0.02698 | -0.08328 | 0.01767  |
| X9  | -0.00821 | -0.03948 | 0.00962  | 0.09621  | -0.04472 |
| X10 | -0.04615 | 0.09566  | 0.05092  | -0.05673 | -0.03900 |
|     | X6       | X7       | X8       | X9       | X10      |
| X1  | -0.00723 | -0.05919 | -0.03111 | -0.00821 | -0.04615 |
| X2  | -0.01540 | 0.02965  | 0.09740  | -0.03948 | 0.09566  |
| X3  | -0.07128 | 0.09605  | -0.02698 | 0.00962  | 0.05092  |
| X4  | -0.06917 | -0.03611 | -0.08328 | 0.09621  | -0.05673 |
| X5  | 0.04510  | 0.02001  | 0.01767  | -0.04472 | -0.03900 |
| X6  | 1.00000  | 0.06439  | 0.05045  | -0.03508 | -0.02740 |
| X7  | 0.06439  | 1.00000  | 0.08221  | -0.04906 | -0.04525 |
| X8  | 0.05045  | 0.08221  | 1.00000  | 0.03733  | 0.07355  |
| X9  | -0.03508 | -0.04906 | 0.03733  | 1.00000  | -0.07561 |
| X10 | -0.02740 | -0.04525 | 0.07355  | -0.07561 | 1.00000  |

Kaiser's Measure of Sampling Adequacy: Over-all MSA = 0.51104148

|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| X1       | X2       | X3       | X4       | X5       |
| 0.451727 | 0.500065 | 0.477013 | 0.503047 | 0.527286 |

|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| X6       | X7       | X8       | X9       | X10      |
| 0.545676 | 0.531277 | 0.532336 | 0.545915 | 0.509660 |

## Prior Communality Estimates: ONE

Eigenvalues of the Correlation Matrix: Total = 10 Average = 1

|            | 1      | 2      | 3      | 4      | 5      |
|------------|--------|--------|--------|--------|--------|
| Eigenvalue | 1.3738 | 1.1869 | 1.1034 | 1.0613 | 1.0016 |
| Difference | 0.1869 | 0.0835 | 0.0421 | 0.0597 | 0.0231 |
| Proportion | 0.1374 | 0.1187 | 0.1103 | 0.1061 | 0.1002 |
| Cumulative | 0.1374 | 0.2561 | 0.3664 | 0.4725 | 0.5727 |
|            | 6      | 7      | 8      | 9      | 10     |
| Eigenvalue | 0.9786 | 0.9103 | 0.8632 | 0.7907 | 0.7303 |
| Difference | 0.0682 | 0.0471 | 0.0725 | 0.0604 |        |
| Proportion | 0.0979 | 0.0910 | 0.0863 | 0.0791 | 0.0730 |
| Cumulative | 0.6706 | 0.7616 | 0.8479 | 0.9270 | 1.0000 |

2 factors will be retained by the NFACTOR criterion.

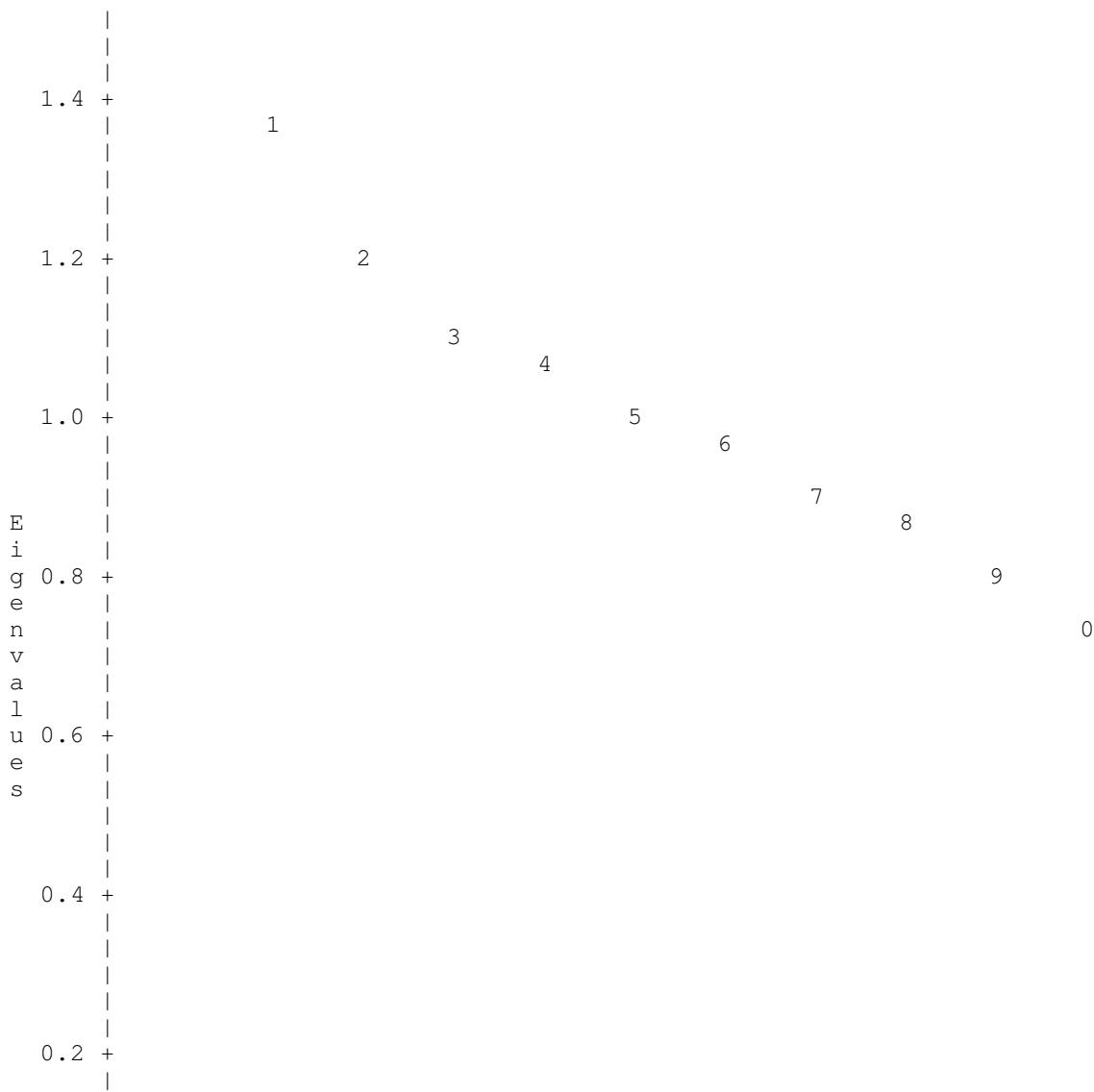
N1: 2 common factors: PCA

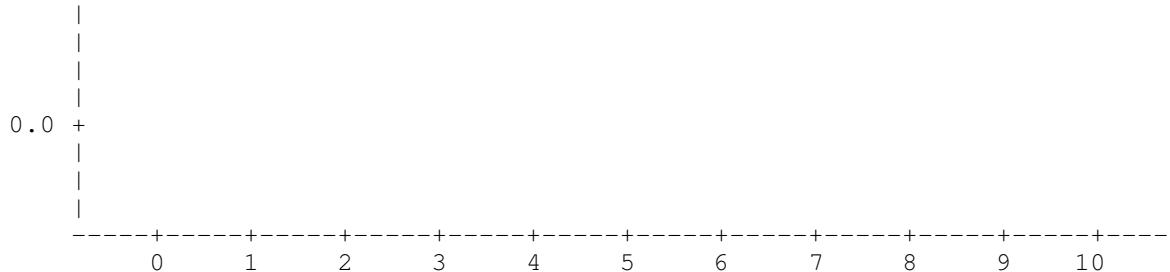
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Initial Factor Method: Principal Components

Scree Plot of Eigenvalues





Number  
N1: 2 common factors: PCA 323  
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Initial Factor Method: Principal Components

#### Eigenvectors

|     | 1        | 2        |
|-----|----------|----------|
| X1  | 0.00912  | -0.50765 |
| X2  | 0.36129  | 0.13496  |
| X3  | 0.15978  | 0.55386  |
| X4  | -0.42720 | 0.24552  |
| X5  | 0.31549  | -0.26403 |
| X6  | 0.25644  | -0.36108 |
| X7  | 0.34198  | 0.19406  |
| X8  | 0.40857  | 0.07545  |
| X9  | -0.35013 | 0.12276  |
| X10 | 0.29932  | 0.31388  |

#### Factor Pattern

|     | FACTOR1  | FACTOR2  |
|-----|----------|----------|
| X1  | 0.01069  | -0.55305 |
| X2  | 0.42347  | 0.14703  |
| X3  | 0.18727  | 0.60340  |
| X4  | -0.50072 | 0.26748  |
| X5  | 0.36978  | -0.28765 |
| X6  | 0.30057  | -0.39337 |
| X7  | 0.40083  | 0.21142  |
| X8  | 0.47888  | 0.08219  |
| X9  | -0.41039 | 0.13374  |
| X10 | 0.35083  | 0.34196  |

#### Variance explained by each factor

| FACTOR1  | FACTOR2  |
|----------|----------|
| 1.373807 | 1.186870 |

Final Communality Estimates: Total = 2.560678

|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| X1       | X2       | X3       | X4       | X5       |
| 0.305976 | 0.200943 | 0.399160 | 0.322265 | 0.219482 |
| X6       | X7       | X8       | X9       | X10      |
| 0.245083 | 0.205365 | 0.236085 | 0.186304 | 0.240014 |

N1: 2 common factors: PCA 324  
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Initial Factor Method: Principal Components

#### Residual Correlations With Uniqueness on the Diagonal

|    |    |    |    |    |
|----|----|----|----|----|
| X1 | X2 | X3 | X4 | X5 |
|----|----|----|----|----|

|     |          |          |          |          |          |
|-----|----------|----------|----------|----------|----------|
| X1  | 0.69402  | 0.11120  | 0.24732  | 0.05363  | -0.16436 |
| X2  | 0.11120  | 0.79906  | -0.12777 | 0.18467  | -0.01255 |
| X3  | 0.24732  | -0.12777 | 0.60084  | -0.12521 | 0.06951  |
| X4  | 0.05363  | 0.18467  | -0.12521 | 0.67773  | 0.18629  |
| X5  | -0.16436 | -0.01255 | 0.06951  | 0.18629  | 0.78052  |
| X6  | -0.21927 | -0.07759 | 0.11621  | 0.17692  | -0.16629 |
| X7  | 0.05065  | -0.16181 | -0.10639 | 0.09215  | -0.05441 |
| X8  | 0.01488  | -0.11032 | -0.14646 | 0.12966  | -0.11677 |
| X9  | 0.06333  | 0.10571  | -0.00647 | -0.13400 | 0.13320  |
| X10 | 0.14614  | -0.09731 | -0.21168 | 0.02265  | -0.05391 |

|     | X6       | X7       | X8       | X9       | X10      |
|-----|----------|----------|----------|----------|----------|
| X1  | -0.21927 | 0.05065  | 0.01488  | 0.06333  | 0.14614  |
| X2  | -0.07759 | -0.16181 | -0.11032 | 0.10571  | -0.09731 |
| X3  | 0.11621  | -0.10639 | -0.14646 | -0.00647 | -0.21168 |
| X4  | 0.17692  | 0.09215  | 0.12966  | -0.13400 | 0.02265  |
| X5  | -0.16629 | -0.05441 | -0.11677 | 0.13320  | -0.05391 |
| X6  | 0.75492  | 0.03256  | -0.05069 | 0.13105  | 0.00462  |
| X7  | 0.03256  | 0.79464  | -0.11940 | 0.08304  | -0.23624 |
| X8  | -0.05069 | -0.11940 | 0.76391  | 0.19608  | -0.11451 |
| X9  | 0.13105  | 0.08304  | 0.19608  | 0.81370  | 0.01930  |
| X10 | 0.00462  | -0.23624 | -0.11451 | 0.01930  | 0.75999  |

Root Mean Square Off-diagonal Residuals: Over-all = 0.12747853

|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| X1       | X2       | X3       | X4       | X5       |
| 0.141285 | 0.119242 | 0.144962 | 0.134344 | 0.120924 |
| X6       | X7       | X8       | X9       | X10      |
| 0.127970 | 0.119973 | 0.121415 | 0.112455 | 0.128395 |

#### Partial Correlations Controlling Factors

|     | X1       | X2       | X3       | X4       | X5       |
|-----|----------|----------|----------|----------|----------|
| X1  | 1.00000  | 0.14933  | 0.38299  | 0.07819  | -0.22331 |
| X2  | 0.14933  | 1.00000  | -0.18440 | 0.25094  | -0.01589 |
| X3  | 0.38299  | -0.18440 | 1.00000  | -0.19622 | 0.10150  |
| X4  | 0.07819  | 0.25094  | -0.19622 | 1.00000  | 0.25614  |
| X5  | -0.22331 | -0.01589 | 0.10150  | 0.25614  | 1.00000  |
| X6  | -0.30293 | -0.09991 | 0.17256  | 0.24734  | -0.21663 |
| X7  | 0.06820  | -0.20306 | -0.15397 | 0.12557  | -0.06909 |
| X8  | 0.02044  | -0.14120 | -0.21618 | 0.18020  | -0.15123 |
| X9  | 0.08427  | 0.13109  | -0.00926 | -0.18045 | 0.16715  |
| X10 | 0.20122  | -0.12487 | -0.31325 | 0.03156  | -0.06999 |

N1: 2 common factors: PCA

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Initial Factor Method: Principal Components

#### Partial Correlations Controlling Factors

|     | X6       | X7       | X8       | X9       | X10      |
|-----|----------|----------|----------|----------|----------|
| X1  | -0.30293 | 0.06820  | 0.02044  | 0.08427  | 0.20122  |
| X2  | -0.09991 | -0.20306 | -0.14120 | 0.13109  | -0.12487 |
| X3  | 0.17256  | -0.15397 | -0.21618 | -0.00926 | -0.31325 |
| X4  | 0.24734  | 0.12557  | 0.18020  | -0.18045 | 0.03156  |
| X5  | -0.21663 | -0.06909 | -0.15123 | 0.16715  | -0.06999 |
| X6  | 1.00000  | 0.04204  | -0.06675 | 0.16721  | 0.00610  |
| X7  | 0.04204  | 1.00000  | -0.15325 | 0.10327  | -0.30400 |
| X8  | -0.06675 | -0.15325 | 1.00000  | 0.24870  | -0.15028 |
| X9  | 0.16721  | 0.10327  | 0.24870  | 1.00000  | 0.02455  |
| X10 | 0.00610  | -0.30400 | -0.15028 | 0.02455  | 1.00000  |

Root Mean Square Off-diagonal Partial: Over-all = 0.17509329

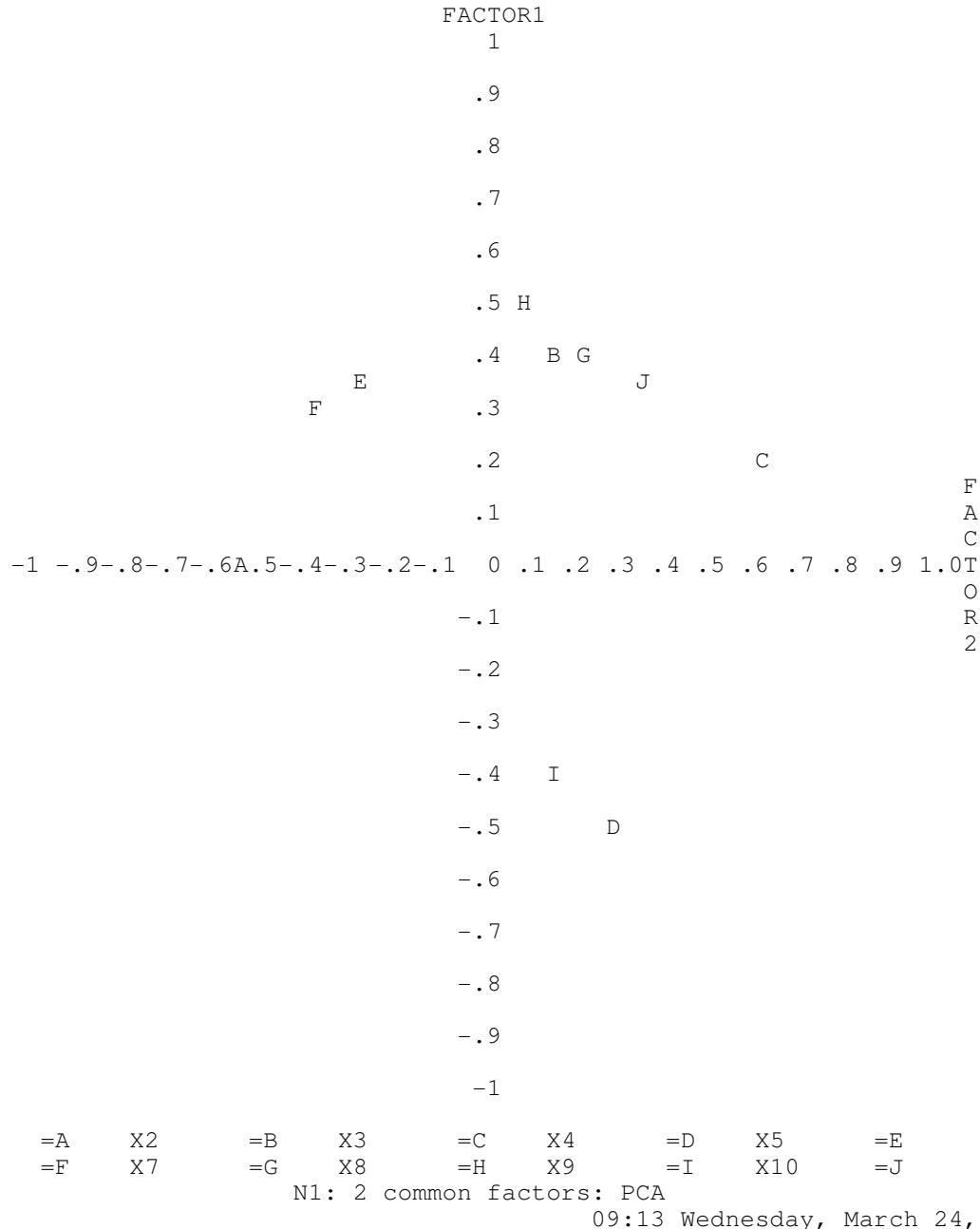
|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| X1       | X2       | X3       | X4       | X5       |
| 0.202591 | 0.157571 | 0.218051 | 0.187429 | 0.161051 |

|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| X6       | X7       | X8       | X9       | X10      |
| 0.174437 | 0.155802 | 0.161524 | 0.143740 | 0.175037 |

N1: 2 common factors: PCA 326  
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Initial Factor Method: Principal Components

Plot of Factor Pattern for FACTOR1 and FACTOR2



Rotation Method: Varimax

Orthogonal Transformation Matrix

|   |   |
|---|---|
| 1 | 2 |
|---|---|

|   |          |         |
|---|----------|---------|
| 1 | 0.72221  | 0.69168 |
| 2 | -0.69168 | 0.72221 |

## Rotated Factor Pattern

|     | FACTOR1  | FACTOR2  |
|-----|----------|----------|
| X1  | 0.39026  | -0.39202 |
| X2  | 0.20414  | 0.39909  |
| X3  | -0.28211 | 0.56531  |
| X4  | -0.54663 | -0.15316 |
| X5  | 0.46602  | 0.04803  |
| X6  | 0.48916  | -0.07620 |
| X7  | 0.14325  | 0.42994  |
| X8  | 0.28900  | 0.39059  |
| X9  | -0.38889 | -0.18727 |
| X10 | 0.01684  | 0.48962  |

Variance explained by each factor

| FACTOR1  | FACTOR2  |
|----------|----------|
| 1.284373 | 1.276305 |

Final Communality Estimates: Total = 2.560678

| X1       | X2       | X3       | X4       | X5       |
|----------|----------|----------|----------|----------|
| 0.305976 | 0.200943 | 0.399160 | 0.322265 | 0.219482 |
| X6       | X7       | X8       | X9       | X10      |
| 0.245083 | 0.205365 | 0.236085 | 0.186304 | 0.240014 |

## Scoring Coefficients Estimated by Regression

Squared Multiple Correlations of the Variables with each Factor

| FACTOR1                   | FACTOR2                         |
|---------------------------|---------------------------------|
| 1.000000                  | 1.000000                        |
| N1: 2 common factors: PCA | 328                             |
|                           | 09:13 Wednesday, March 24, 1999 |

Rotation Method: Varimax

## Standardized Scoring Coefficients

|                           | FACTOR1                         | FACTOR2  |
|---------------------------|---------------------------------|----------|
| X1                        | 0.32792                         | -0.33114 |
| X2                        | 0.13693                         | 0.30267  |
| X3                        | -0.25320                        | 0.46145  |
| X4                        | -0.41911                        | -0.08934 |
| X5                        | 0.36203                         | 0.01115  |
| X6                        | 0.38726                         | -0.08804 |
| X7                        | 0.08751                         | 0.33046  |
| X8                        | 0.20385                         | 0.29112  |
| X9                        | -0.29368                        | -0.12524 |
| X10                       | -0.01486                        | 0.38471  |
| N1: 2 common factors: PCA | 329                             |          |
|                           | 09:13 Wednesday, March 24, 1999 |          |

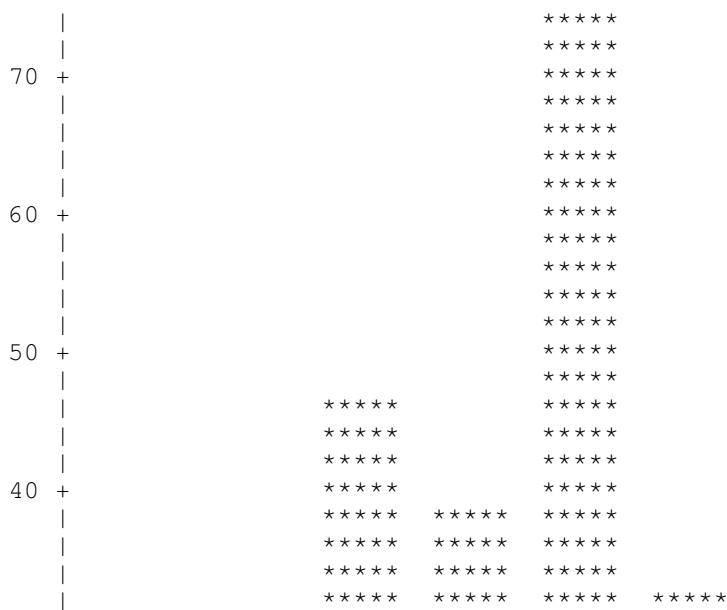
Rotation Method: Varimax

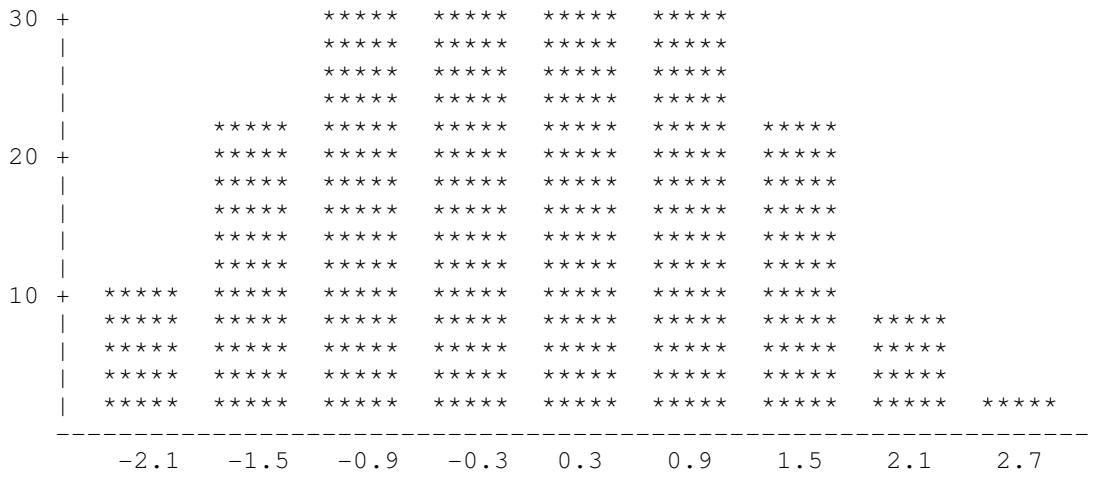
Plot of Factor Pattern for FACTOR1 and FACTOR2

| FACTOR1 |
|---------|
| 1       |

.9  
.8  
.7  
.6  
F .5  
E  
A .4  
.3 H  
.2 B  
G  
.1  
C  
-1 -.9-.8-.7-.6-.5-.4-.3-.2-.1 0 .1 .2 .3 .4 J5 .6 .7 .8 .9 1.0 T  
O  
- .1 R  
2  
-.2  
-.3 C  
I - .4  
D -.5  
-.6  
-.7  
-.8  
-.9  
-1  
X1 =A X2 =B X3 =C X4 =D X5 =E  
X6 =F X7 =G X8 =H X9 =I X10 =J  
N1: 2 common factors: PCA 330  
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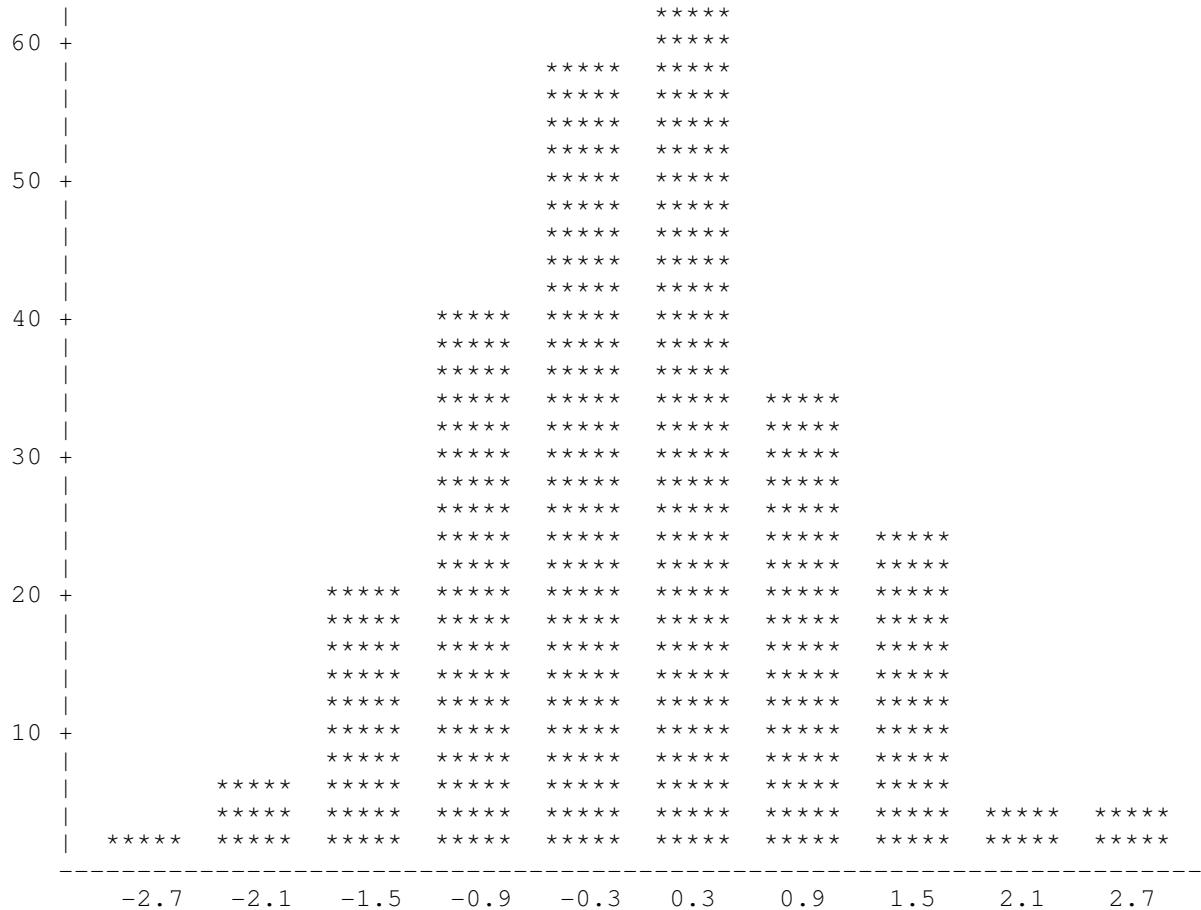
## Frequency





FACTOR1 Midpoint  
 N1: 2 common factors: PCA 331  
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### Frequency



FACTOR2 Midpoint  
 N1: 2 common factors: ML 332  
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Initial Factor Method: Maximum Likelihood

Partial Correlations Controlling all other Variables

|    | X1      | X2      | X3       | X4       | X5       |
|----|---------|---------|----------|----------|----------|
| X1 | 1.00000 | 0.05044 | -0.08561 | -0.11348 | -0.01617 |

|     |          |          |          |          |          |
|-----|----------|----------|----------|----------|----------|
| X2  | 0.05044  | 1.00000  | 0.04186  | 0.04588  | 0.10369  |
| X3  | -0.08561 | 0.04186  | 1.00000  | -0.06992 | -0.04105 |
| X4  | -0.11348 | 0.04588  | -0.06992 | 1.00000  | -0.07158 |
| X5  | -0.01617 | 0.10369  | -0.04105 | -0.07158 | 1.00000  |
| X6  | -0.00723 | -0.01540 | -0.07128 | -0.06917 | 0.04510  |
| X7  | -0.05919 | 0.02965  | 0.09605  | -0.03611 | 0.02001  |
| X8  | -0.03111 | 0.09740  | -0.02698 | -0.08328 | 0.01767  |
| X9  | -0.00821 | -0.03948 | 0.00962  | 0.09621  | -0.04472 |
| X10 | -0.04615 | 0.09566  | 0.05092  | -0.05673 | -0.03900 |

|     | X6       | X7       | X8       | X9       | X10      |
|-----|----------|----------|----------|----------|----------|
| X1  | -0.00723 | -0.05919 | -0.03111 | -0.00821 | -0.04615 |
| X2  | -0.01540 | 0.02965  | 0.09740  | -0.03948 | 0.09566  |
| X3  | -0.07128 | 0.09605  | -0.02698 | 0.00962  | 0.05092  |
| X4  | -0.06917 | -0.03611 | -0.08328 | 0.09621  | -0.05673 |
| X5  | 0.04510  | 0.02001  | 0.01767  | -0.04472 | -0.03900 |
| X6  | 1.00000  | 0.06439  | 0.05045  | -0.03508 | -0.02740 |
| X7  | 0.06439  | 1.00000  | 0.08221  | -0.04906 | -0.04525 |
| X8  | 0.05045  | 0.08221  | 1.00000  | 0.03733  | 0.07355  |
| X9  | -0.03508 | -0.04906 | 0.03733  | 1.00000  | -0.07561 |
| X10 | -0.02740 | -0.04525 | 0.07355  | -0.07561 | 1.00000  |

Kaiser's Measure of Sampling Adequacy: Over-all MSA = 0.51104148

|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| X1       | X2       | X3       | X4       | X5       |
| 0.451727 | 0.500065 | 0.477013 | 0.503047 | 0.527286 |
| X6       | X7       | X8       | X9       | X10      |
| 0.545676 | 0.531277 | 0.532336 | 0.545915 | 0.509660 |

Prior Communality Estimates: SMC

|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| X1       | X2       | X3       | X4       | X5       |
| 0.026854 | 0.037483 | 0.031480 | 0.049254 | 0.024931 |
| X6       | X7       | X8       | X9       | X10      |
| 0.022770 | 0.032153 | 0.036022 | 0.025594 | 0.032692 |

Preliminary Eigenvalues: Total = 0.33036742 Average = 0.03303674

|            | 1      | 2      | 3      | 4      | 5      |
|------------|--------|--------|--------|--------|--------|
| Eigenvalue | 0.4232 | 0.2238 | 0.1381 | 0.1011 | 0.0335 |
| Difference | 0.1995 | 0.0857 | 0.0370 | 0.0676 | 0.0253 |
| Proportion | 1.2811 | 0.6773 | 0.4179 | 0.3060 | 0.1014 |
| Cumulative | 1.2811 | 1.9584 | 2.3763 | 2.6823 | 2.7837 |

N1: 2 common factors: ML 333  
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Initial Factor Method: Maximum Likelihood

|            | 6      | 7       | 8       | 9       | 10      |
|------------|--------|---------|---------|---------|---------|
| Eigenvalue | 0.0082 | -0.0602 | -0.1117 | -0.1836 | -0.2420 |
| Difference | 0.0684 | 0.0515  | 0.0718  | 0.0584  |         |
| Proportion | 0.0248 | -0.1823 | -0.3382 | -0.5556 | -0.7324 |
| Cumulative | 2.8085 | 2.6262  | 2.2880  | 1.7324  | 1.0000  |

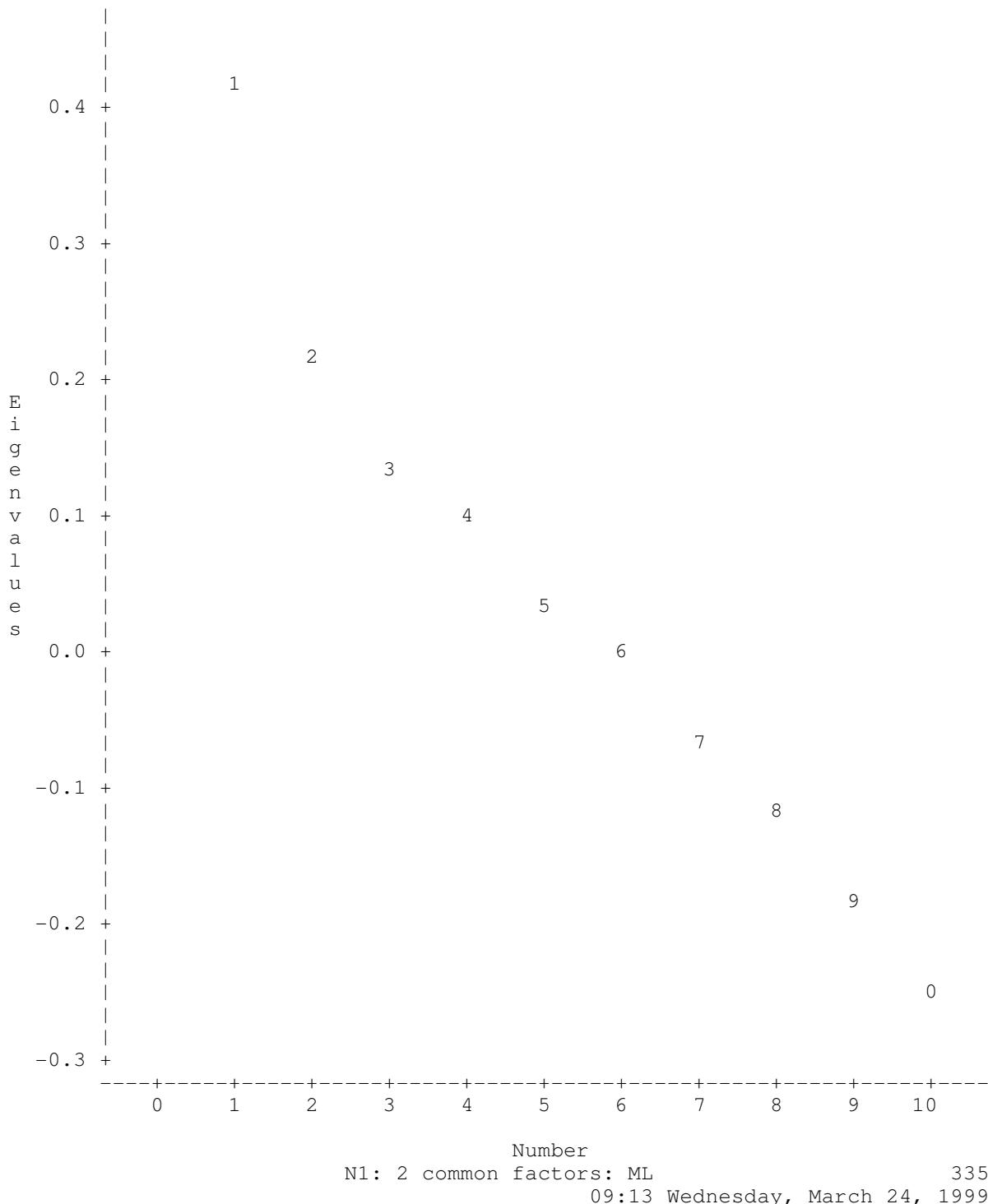
2 factors will be retained by the NFACT criterion.

N1: 2 common factors: ML 334  
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Initial Factor Method: Maximum Likelihood

Scree Plot of Eigenvalues





Initial Factor Method: Maximum Likelihood

| Iter | Criterion | Ridge | Change  | Communalities  |
|------|-----------|-------|---------|--|
| 1    | 0.06936   | 0.000 | 0.08199 | 0.06115 0.05816 0.11347 0.12248 0.05528<br>0.05546 0.05615 0.07834 0.05363 0.06056 |
| 2    | 0.06922   | 0.000 | 0.01371 | 0.06391 0.05168 0.12717 0.12338 0.05400<br>0.05663 0.06122 0.07334 0.05480 0.05693 |
| 3    | 0.06917   | 0.000 | 0.01131 | 0.06219 0.04942 0.13848 0.12280 0.05422<br>0.05634 0.06306 0.07173 0.05519 0.05362 |
| 4    | 0.06913   | 0.000 | 0.01037 | 0.05929 0.04832 0.14885 0.12094 0.05483<br>0.05690 0.06376 0.07080 0.05523 0.05177 |

|    |         |       |         |         |         |         |         |         |
|----|---------|-------|---------|---------|---------|---------|---------|---------|
| 5  | 0.06909 | 0.000 | 0.01096 | 0.05577 | 0.04772 | 0.15982 | 0.11877 | 0.05555 |
|    |         |       |         | 0.05765 | 0.06381 | 0.07025 | 0.05515 | 0.05039 |
| 6  | 0.06905 | 0.000 | 0.01233 | 0.05204 | 0.04727 | 0.17215 | 0.11658 | 0.05624 |
|    |         |       |         | 0.05833 | 0.06358 | 0.06987 | 0.05501 | 0.04904 |
| 7  | 0.06899 | 0.000 | 0.01442 | 0.04821 | 0.04686 | 0.18657 | 0.11450 | 0.05683 |
|    |         |       |         | 0.05876 | 0.06321 | 0.06958 | 0.05485 | 0.04753 |
| 8  | 0.06893 | 0.000 | 0.01748 | 0.04426 | 0.04645 | 0.20405 | 0.11260 | 0.05725 |
|    |         |       |         | 0.05886 | 0.06268 | 0.06940 | 0.05467 | 0.04579 |
| 9  | 0.06885 | 0.000 | 0.02213 | 0.04009 | 0.04602 | 0.22618 | 0.11089 | 0.05747 |
|    |         |       |         | 0.05852 | 0.06192 | 0.06932 | 0.05450 | 0.04377 |
| 10 | 0.06875 | 0.000 | 0.02966 | 0.03555 | 0.04560 | 0.25583 | 0.10941 | 0.05740 |
|    |         |       |         | 0.05763 | 0.06076 | 0.06942 | 0.05432 | 0.04143 |
| 11 | 0.06859 | 0.000 | 0.04278 | 0.03045 | 0.04522 | 0.29861 | 0.10814 | 0.05693 |
|    |         |       |         | 0.05597 | 0.05897 | 0.06978 | 0.05416 | 0.03875 |
| 12 | 0.06836 | 0.000 | 0.06790 | 0.02459 | 0.04492 | 0.36652 | 0.10708 | 0.05588 |
|    |         |       |         | 0.05323 | 0.05619 | 0.07051 | 0.05400 | 0.03570 |
| 13 | 0.06801 | 0.000 | 0.12197 | 0.01781 | 0.04477 | 0.48849 | 0.10610 | 0.05407 |
|    |         |       |         | 0.04903 | 0.05199 | 0.07174 | 0.05387 | 0.03241 |
| 14 | 0.06751 | 0.000 | 0.25840 | 0.01030 | 0.04485 | 0.74690 | 0.10477 | 0.05145 |
|    |         |       |         | 0.04322 | 0.04612 | 0.07337 | 0.05378 | 0.02927 |
| 15 | 0.06722 | 0.000 | 0.25310 | 0.00758 | 0.04497 | 1.00000 | 0.10389 | 0.05036 |
|    |         |       |         | 0.04075 | 0.04359 | 0.07390 | 0.05376 | 0.02846 |
| 16 | 0.06721 | 0.000 | 0.00276 | 0.00969 | 0.04605 | 1.00000 | 0.10258 | 0.05090 |
|    |         |       |         | 0.04263 | 0.04635 | 0.07583 | 0.05350 | 0.02977 |
| 17 | 0.06720 | 0.000 | 0.00048 | 0.00959 | 0.04636 | 1.00000 | 0.10209 | 0.05086 |
|    |         |       |         | 0.04261 | 0.04652 | 0.07630 | 0.05321 | 0.02973 |

Convergence criterion satisfied.

N1: 2 common factors: ML

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Initial Factor Method: Maximum Likelihood

Significance tests based on 250 observations:

Test of H0: No common factors.

vs HA: At least one common factor.

Chi-square = 40.041 df = 45 Prob>chi\*\*2 = 0.6816

Test of H0: 2 Factors are sufficient.

vs HA: More factors are needed.

Chi-square = 16.364 df = 26 Prob>chi\*\*2 = 0.9270

Chi-square without Bartlett's correction = 16.733978099

Akaike's Information Criterion = -35.2660219

Schwarz's Bayesian Criterion = -126.8240058

Tucker and Lewis's Reliability Coefficient = 0

Squared Canonical Correlations

| FACTOR1  | FACTOR2  |
|----------|----------|
| 1.000000 | 0.313442 |

## Eigenvectors

|     | 1        | 2        |
|-----|----------|----------|
| X1  | -0.08439 | 0.08839  |
| X2  | 0.04318  | 0.37533  |
| X3  | 0.99550  | -0.00879 |
| X4  | 0.00000  | -0.56278 |
| X5  | 0.00000  | 0.31704  |
| X6  | 0.00000  | 0.29148  |
| X7  | 0.00000  | 0.27932  |
| X8  | 0.00000  | 0.36617  |
| X9  | 0.00000  | -0.31079 |
| X10 | 0.00000  | 0.20087  |

## Eigenvalues of the Weighted Reduced Correlation Matrix:

Total = 0.4565397 Average = 0.05072663

| Eigenvalue                      | 1      | 2       | 3       | 4       | 5       |
|---------------------------------|--------|---------|---------|---------|---------|
| Difference                      | .      | 0.4565  | 0.1778  | 0.1463  | 0.0726  |
| Proportion                      | .      | 0.2787  | 0.0315  | 0.0737  | 0.0203  |
| Cumulative                      | .      | 1.0000  | 0.3894  | 0.3205  | 0.1591  |
| Eigenvalue                      | 0.0523 | -0.0377 | -0.0577 | -0.1455 | -0.2082 |
| Difference                      | 0.0900 | 0.0200  | 0.0878  | 0.0628  |         |
| Proportion                      | 0.1146 | -0.0825 | -0.1264 | -0.3186 | -0.4561 |
| Cumulative                      | 1.9837 | 1.9012  | 1.7748  | 1.4561  | 1.0000  |
| N1: 2 common factors: ML        |        |         |         |         | 337     |
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Initial Factor Method: Maximum Likelihood

## Factor Pattern

|     | FACTOR1  | FACTOR2  |
|-----|----------|----------|
| X1  | -0.08439 | 0.04949  |
| X2  | 0.04025  | 0.21171  |
| X3  | 1.00000  | -0.00000 |
| X4  | -0.05759 | -0.31413 |
| X5  | -0.03481 | 0.22282  |
| X6  | -0.06486 | 0.19591  |
| X7  | 0.09624  | 0.19310  |
| X8  | -0.00718 | 0.27628  |
| X9  | -0.00263 | -0.23050 |
| X10 | 0.06036  | 0.16159  |

## Variance explained by each factor

|            | FACTOR1  | FACTOR2  |
|------------|----------|----------|
| Weighted   | 0.031786 | 0.456540 |
| Unweighted | 1.030441 | 0.426839 |

Final Communality Estimates and Variable Weights  
 Total Communality: Weighted = 0.488326 Unweighted = 1.457280

|             | X1       | X2       | X3       | X4       | X5       |
|-------------|----------|----------|----------|----------|----------|
| Communality | 0.009570 | 0.046441 | 1.000000 | 0.101993 | 0.050862 |
| Weight      | 1.009685 | 1.048610 | .        | 1.113703 | 1.053590 |
|             | X6       | X7       | X8       | X9       | X10      |
| Communality | 0.042587 | 0.046549 | 0.076381 | 0.053139 | 0.029756 |
| Weight      | 1.044505 | 1.048786 | 1.082601 | 1.056203 | 1.030644 |

## Residual Correlations With Uniqueness on the Diagonal

X1 X2 X3 X4 X5

|     |          |          |         |          |          |
|-----|----------|----------|---------|----------|----------|
| X1  | 0.99043  | 0.02734  | 0.00000 | -0.08897 | -0.01528 |
| X2  | 0.02734  | 0.95356  | 0.00000 | 0.08078  | 0.05598  |
| X3  | 0.00000  | 0.00000  | 0.00000 | 0.00000  | 0.00000  |
| X4  | -0.08897 | 0.08078  | 0.00000 | 0.89801  | -0.00782 |
| X5  | -0.01528 | 0.05598  | 0.00000 | -0.00782 | 0.94914  |
| X6  | -0.01367 | -0.04702 | 0.00000 | -0.02099 | 0.01210  |
| X7  | -0.06342 | -0.00574 | 0.00000 | 0.01419  | -0.00668 |
| X8  | -0.03973 | 0.04636  | 0.00000 | -0.00177 | -0.02514 |
| X9  | -0.00384 | 0.00049  | 0.00000 | 0.03470  | -0.00575 |
| X10 | -0.04213 | 0.06489  | 0.00000 | -0.00731 | -0.05645 |

N1: 2 common factors: ML

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Initial Factor Method: Maximum Likelihood

## Residual Correlations With Uniqueness on the Diagonal

|     | X6       | X7       | X8       | X9       | X10      |
|-----|----------|----------|----------|----------|----------|
| X1  | -0.01367 | -0.06342 | -0.03973 | -0.00384 | -0.04213 |
| X2  | -0.04702 | -0.00574 | 0.04636  | 0.00049  | 0.06489  |
| X3  | 0.00000  | 0.00000  | 0.00000  | 0.00000  | 0.00000  |
| X4  | -0.02099 | 0.01419  | -0.00177 | 0.03470  | -0.00731 |
| X5  | 0.01210  | -0.00668 | -0.02514 | -0.00575 | -0.05645 |
| X6  | 0.95741  | 0.03828  | 0.00632  | 0.00008  | -0.05219 |
| X7  | 0.03828  | 0.95345  | 0.03727  | -0.00842 | -0.06034 |
| X8  | 0.00632  | 0.03727  | 0.92362  | 0.07421  | 0.03739  |
| X9  | 0.00008  | -0.00842 | 0.07421  | 0.94686  | -0.04153 |
| X10 | -0.05219 | -0.06034 | 0.03739  | -0.04153 | 0.97024  |

Root Mean Square Off-diagonal Residuals: Over-all = 0.03611822

| X1       | X2       | X3       | X4       | X5       |
|----------|----------|----------|----------|----------|
| 0.042785 | 0.045958 | 0.000000 | 0.042694 | 0.028811 |
| X6       | X7       | X8       | X9       | X10      |
| 0.028311 | 0.034750 | 0.037561 | 0.030830 | 0.045599 |

## Partial Correlations Controlling Factors

|     | X1       | X2       | X3       | X4       | X5       |
|-----|----------|----------|----------|----------|----------|
| X1  | 1.00000  | 0.02813  | 0.00000  | -0.09434 | -0.01576 |
| X2  | 0.02813  | 1.00000  | 0.00000  | 0.08729  | 0.05884  |
| X3  | 0.00000  | 0.00000  | 0.00000  | 0.00000  | 0.00000  |
| X4  | -0.09434 | 0.08729  | 0.00000  | 1.00000  | -0.00847 |
| X5  | -0.01576 | 0.05884  | 0.00000  | -0.00847 | 1.00000  |
| X6  | -0.01404 | -0.04921 | 0.00000  | -0.02264 | 0.01269  |
| X7  | -0.06527 | -0.00602 | 0.00000  | 0.01534  | -0.00702 |
| X8  | -0.04154 | 0.04940  | 0.00000  | -0.00194 | -0.02685 |
| X9  | -0.00397 | 0.00052  | 0.00000  | 0.03763  | -0.00607 |
| X10 | -0.04298 | 0.06747  | 0.00000  | -0.00784 | -0.05882 |
|     | X6       | X7       | X8       | X9       | X10      |
| X1  | -0.01404 | -0.06527 | -0.04154 | -0.00397 | -0.04298 |
| X2  | -0.04921 | -0.00602 | 0.04940  | 0.00052  | 0.06747  |
| X3  | 0.00000  | 0.00000  | 0.00000  | 0.00000  | 0.00000  |
| X4  | -0.02264 | 0.01534  | -0.00194 | 0.03763  | -0.00784 |
| X5  | 0.01269  | -0.00702 | -0.02685 | -0.00607 | -0.05882 |
| X6  | 1.00000  | 0.04007  | 0.00672  | 0.00009  | -0.05415 |
| X7  | 0.04007  | 1.00000  | 0.03972  | -0.00886 | -0.06273 |
| X8  | 0.00672  | 0.03972  | 1.00000  | 0.07935  | 0.03950  |
| X9  | 0.00009  | -0.00886 | 0.07935  | 1.00000  | -0.04333 |
| X10 | -0.05415 | -0.06273 | 0.03950  | -0.04333 | 1.00000  |

N1: 2 common factors: ML

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Initial Factor Method: Maximum Likelihood

Root Mean Square Off-diagonal Partial: Over-all = 0.03805124

|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| X1       | X2       | X3       | X4       | X5       |
| 0.044704 | 0.048674 | 0.000000 | 0.045730 | 0.030204 |
| X6       | X7       | X8       | X9       | X10      |
| 0.029580 | 0.036175 | 0.039959 | 0.032866 | 0.047406 |

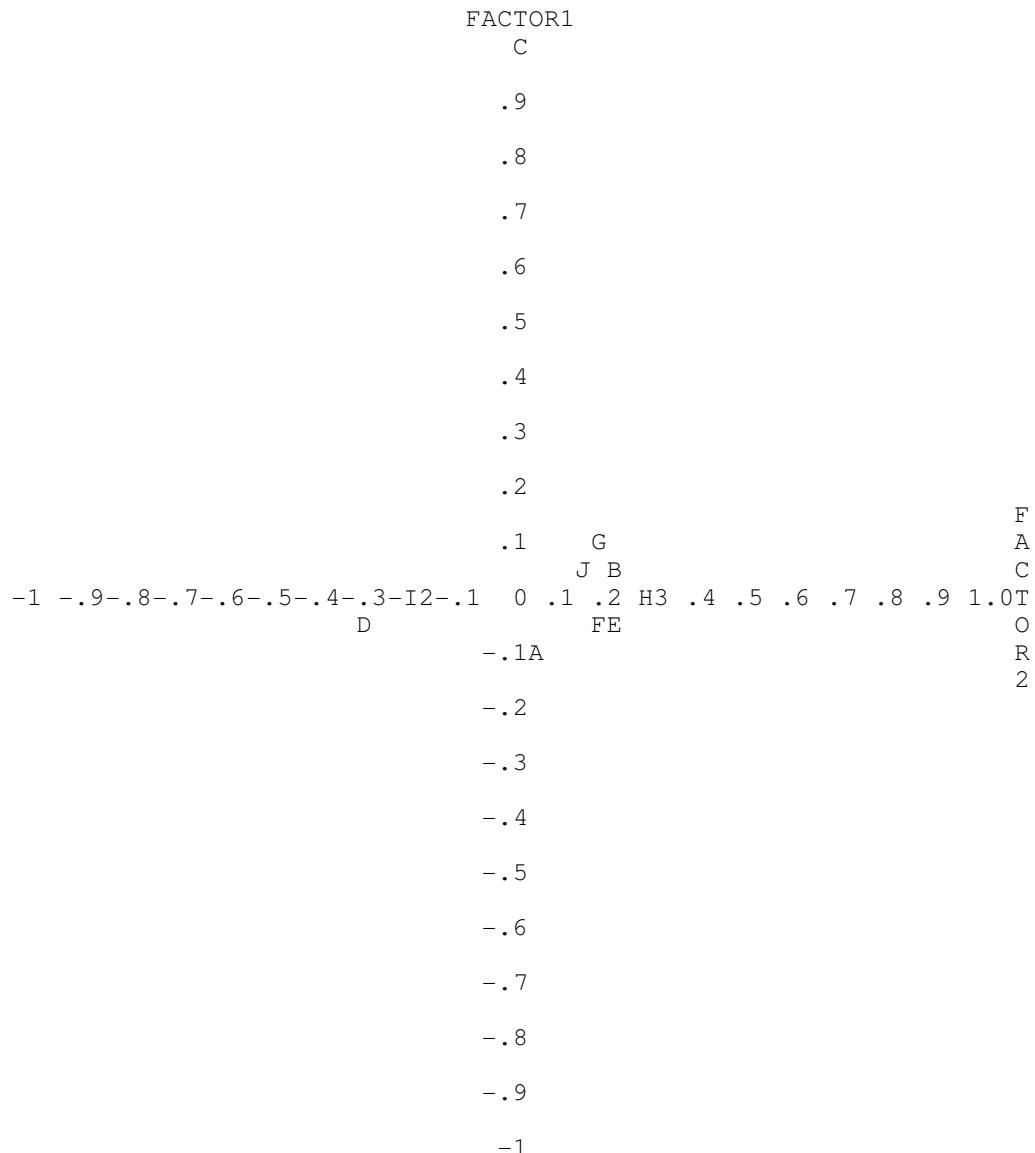
N1: 2 common factors: ML

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Initial Factor Method: Maximum Likelihood

Plot of Factor Pattern for FACTOR1 and FACTOR2



N1: 2 common factors: ML

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Rotation Method: Varimax

## Orthogonal Transformation Matrix

1 2

$$\begin{array}{ccc} 1 & 0.97799 & 0.20865 \\ 2 & -0.20865 & 0.97799 \end{array}$$

## Rotated Factor Pattern

## FACTOR1      FACTOR2

|     |          |          |
|-----|----------|----------|
| X1  | -0.09286 | 0.03079  |
| X2  | -0.00481 | 0.21545  |
| X3  | 0.97799  | 0.20865  |
| X4  | 0.00922  | -0.31923 |
| X5  | -0.08053 | 0.21066  |
| X6  | -0.10430 | 0.17807  |
| X7  | 0.05384  | 0.20893  |
| X8  | -0.06467 | 0.26870  |
| X9  | 0.04552  | -0.22598 |
| X10 | 0.02532  | 0.17063  |

### Variance explained by each factor

|            | FACTOR1  | FACTOR2  |
|------------|----------|----------|
| Weighted   | 0.037439 | 0.450887 |
| Unweighted | 0.992357 | 0.464923 |

Final Communality Estimates and Variable Weights  
Total Communality: Weighted = 0.488326 Unweighted = 1.457280

|             | X1       | X2       | X3       | X4       | X5       |
|-------------|----------|----------|----------|----------|----------|
| Communality | 0.009570 | 0.046441 | 1.000000 | 0.101993 | 0.050862 |
| Weight      | 1.009685 | 1.048610 | -        | 1.113703 | 1.053590 |

|             | X6       | X7       | X8       | X9       | X10      |
|-------------|----------|----------|----------|----------|----------|
| Communality | 0.042587 | 0.046549 | 0.076381 | 0.053139 | 0.029756 |
| Weight      | 1.044505 | 1.048786 | 1.082601 | 1.056203 | 1.030644 |

### Scoring Coefficients Estimated by Regression

### Squared Multiple Correlations of the Variables with each Factor

FACTOR1 FACTOR2  
0.970112 0.343330  
N1: 2 common factors: ML 342  
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Rotation Method: Varimax

## Standardized Scoring Coefficients

## FACTOR1      FACTOR2

|     |          |          |
|-----|----------|----------|
| X1  | -0.00716 | 0.03355  |
| X2  | -0.03180 | 0.14906  |
| X3  | 0.98250  | 0.18752  |
| X4  | 0.05011  | -0.23490 |
| X5  | -0.03363 | 0.15763  |
| X6  | -0.02931 | 0.13740  |
| X7  | -0.02901 | 0.13598  |
| X8  | -0.04285 | 0.20083  |
| X9  | 0.03487  | -0.16347 |
| X10 | -0.02386 | 0.11183  |

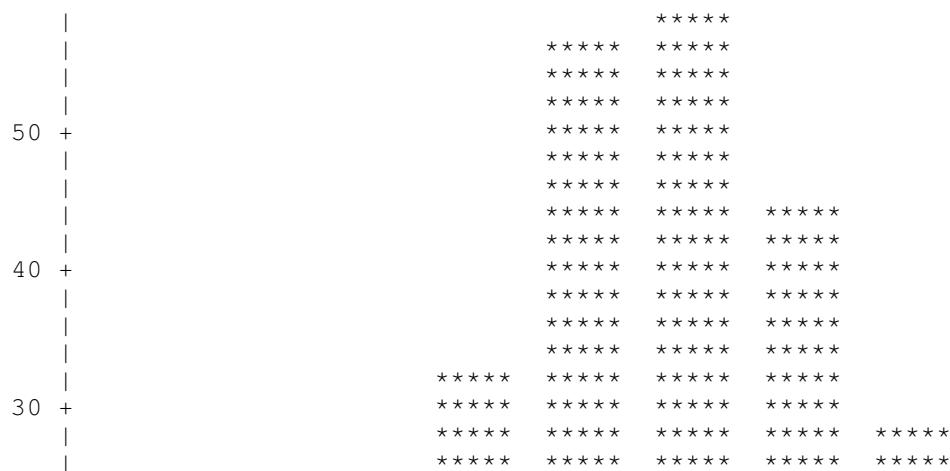
N1: 2 common factors: ML 343  
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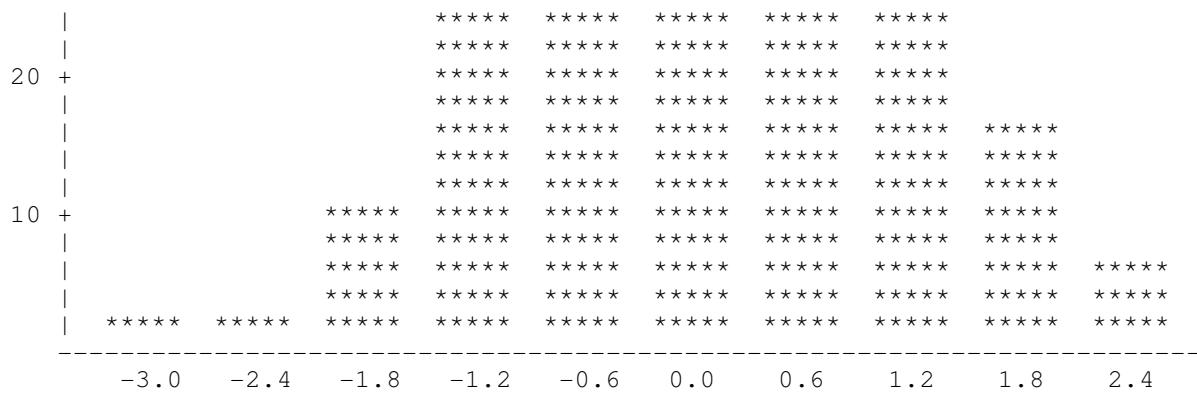
Rotation Method: Varimax

### Plot of Factor Pattern for FACTOR1 and FACTOR2

FACTOR1  
 1 C  
 .9  
 .8  
 .7  
 .6  
 .5  
 .4  
 .3  
 .2  
 .1  
 I JG  
 -1 -.9-.8-.7-.6-.5-.4-D3-.2-.1 0 .1 .B .3 .4 .5 .6 .7 .8 .9 1.0T  
 H  
 -.A FE  
 2  
 -.2  
 -.3  
 -.4  
 -.5  
 -.6  
 -.7  
 -.8  
 -.9  
 -1  
 =A X2 =B X3 =C X4 =D X5 =E  
 =F X7 =G X8 =H X9 =I X10 =J  
 N1: 2 common factors: ML  
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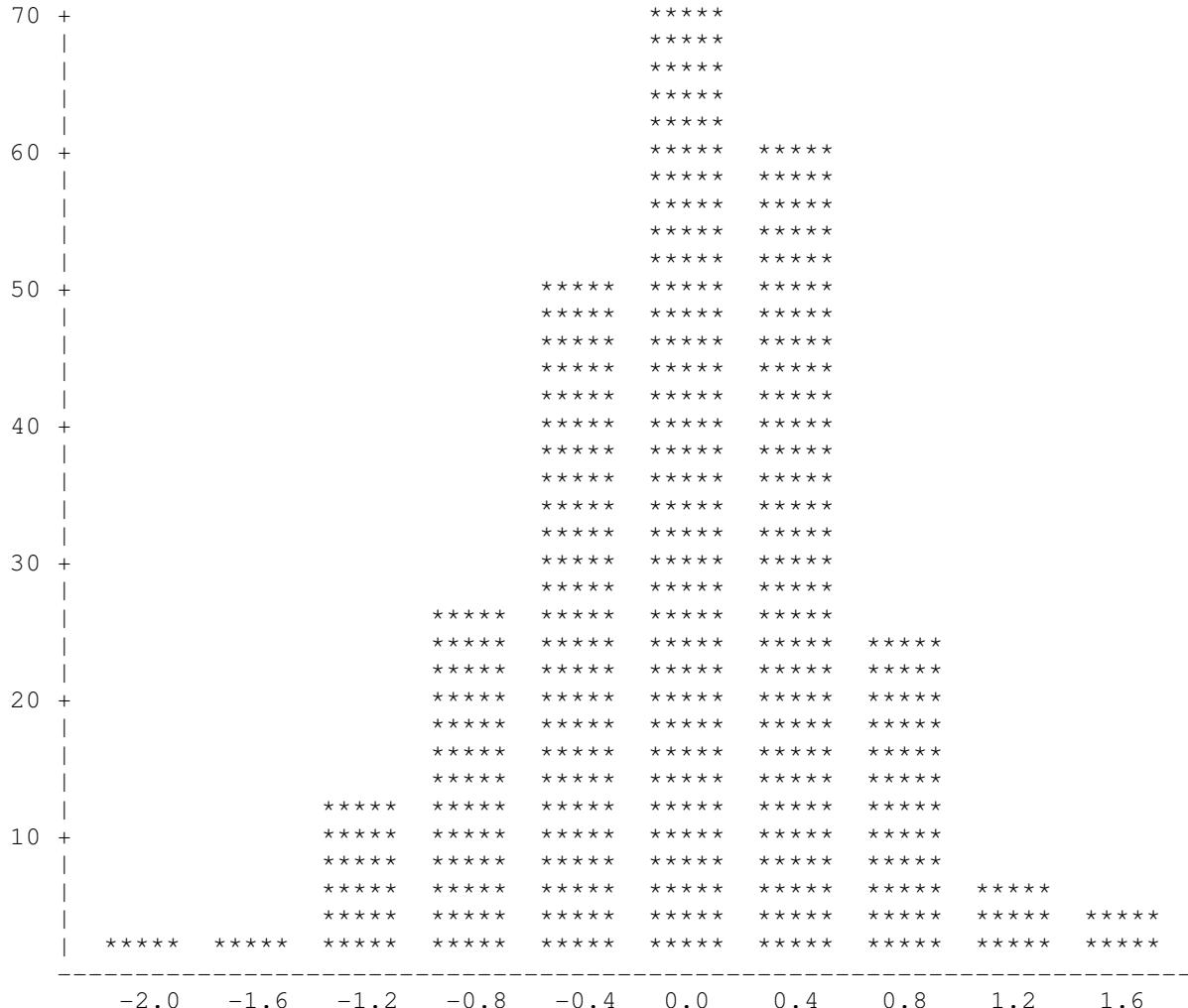
### Frequency





FACTOR1 Midpoint  
 N1: 2 common factors: ML 345  
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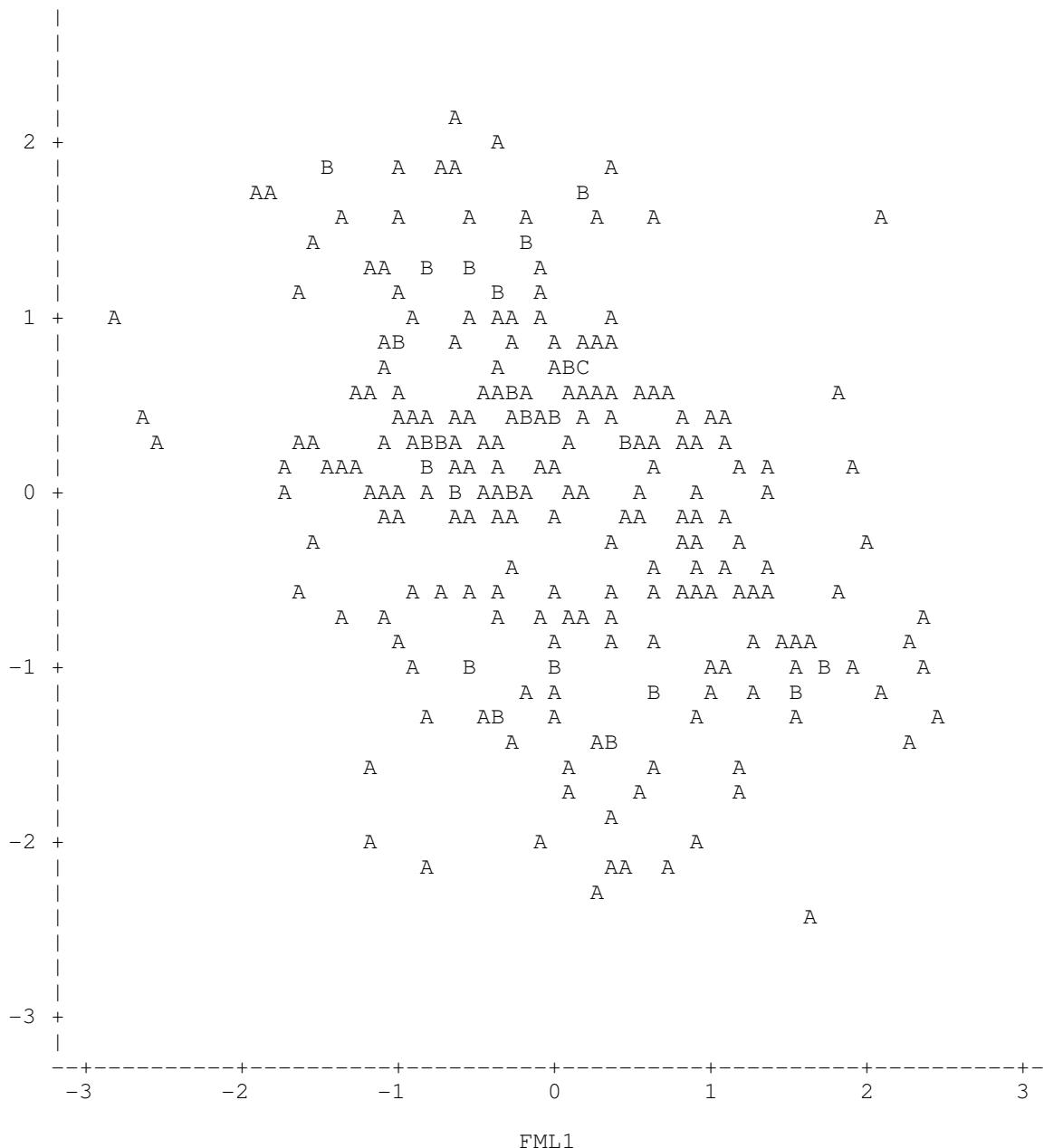
Frequency



FACTOR2 Midpoint  
 N1: Comparing factors by method 346  
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Plot of FPCA1\*FML1. Legend: A = 1 obs, B = 2 obs, etc.

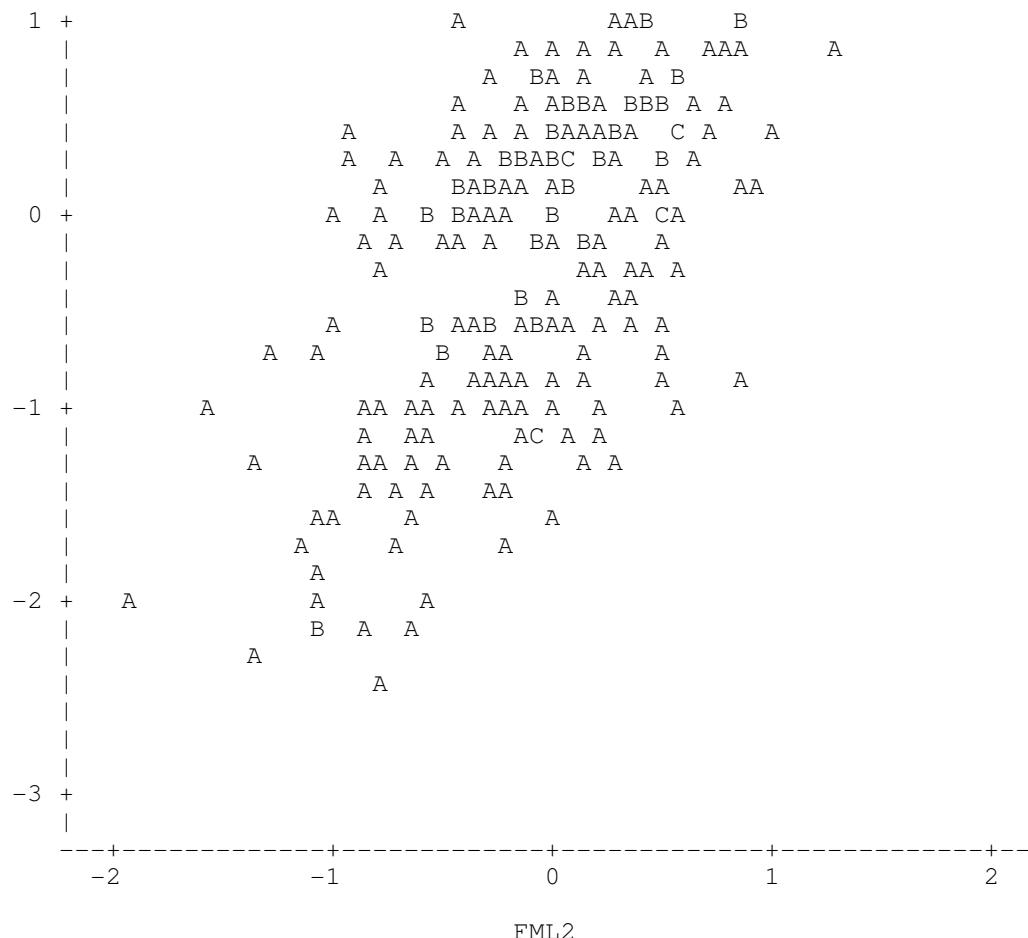




N1: Comparing factors by method 347  
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Plot of FPCA1\*FML2. Legend: A = 1 obs, B = 2 obs, etc.

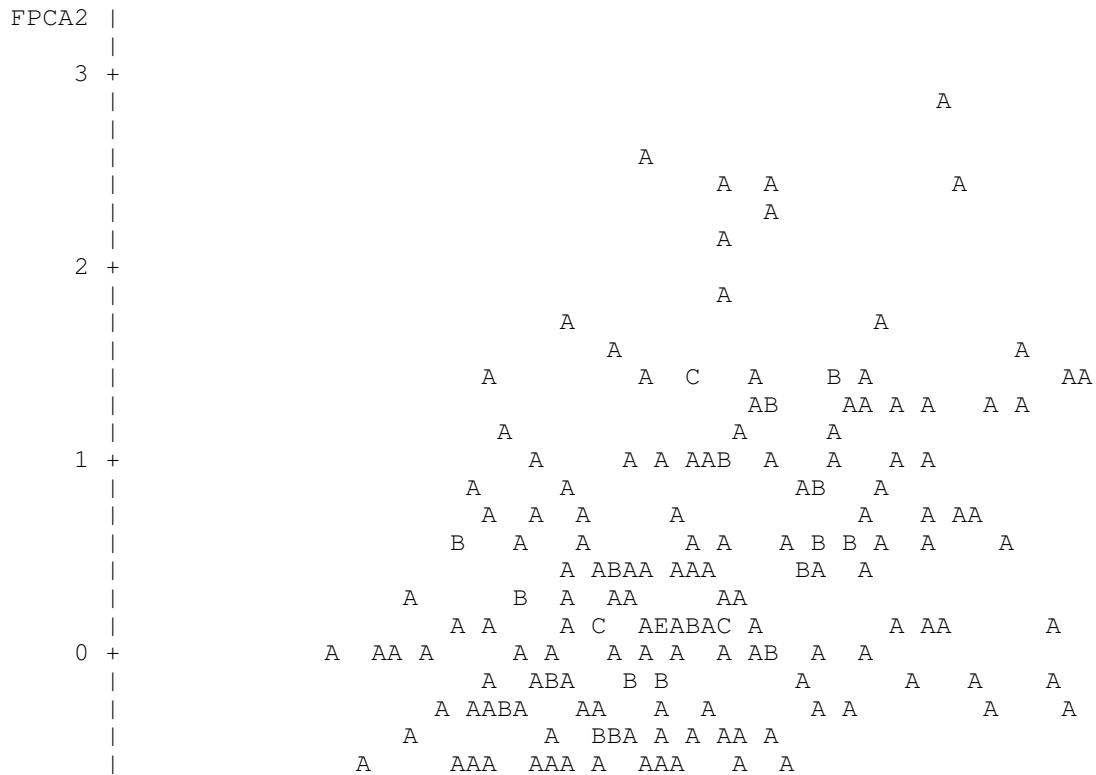


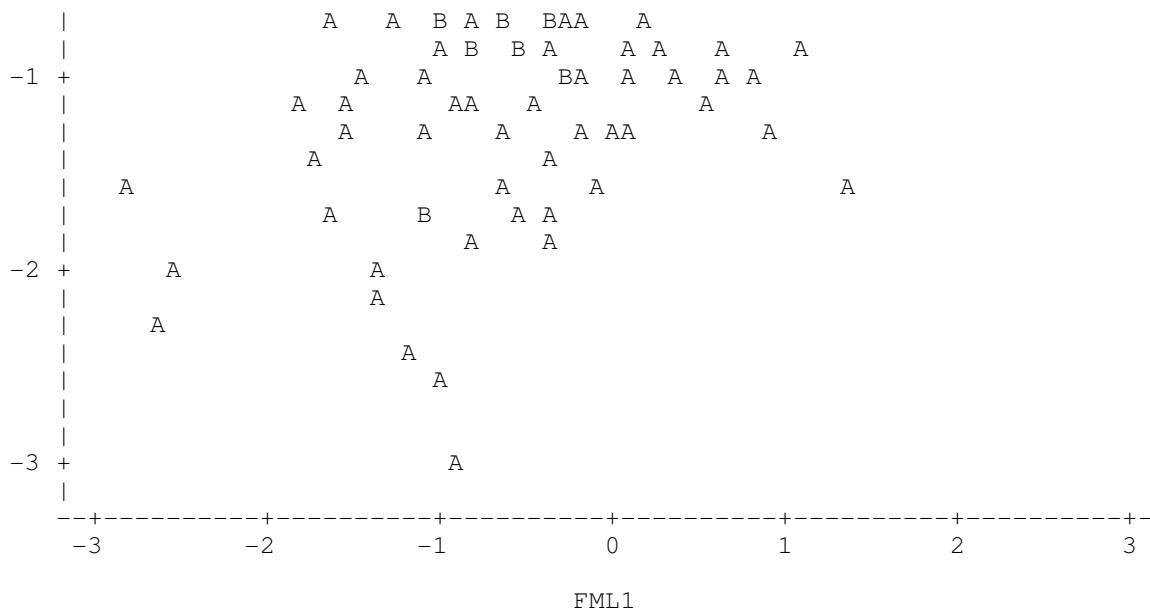


FML2

N1: Comparing factors by method 348  
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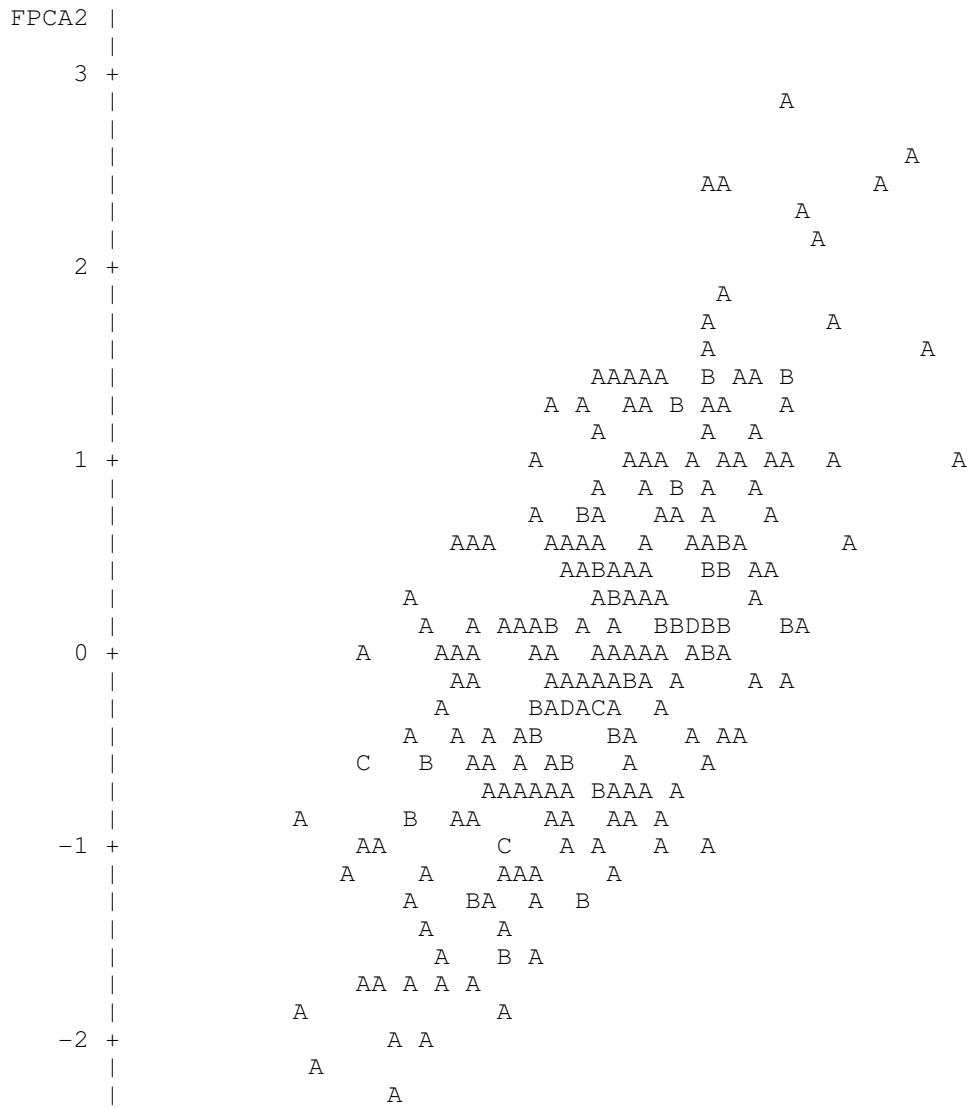
Plot of FPCA2\*FML1. Legend: A = 1 obs, B = 2 obs, etc.

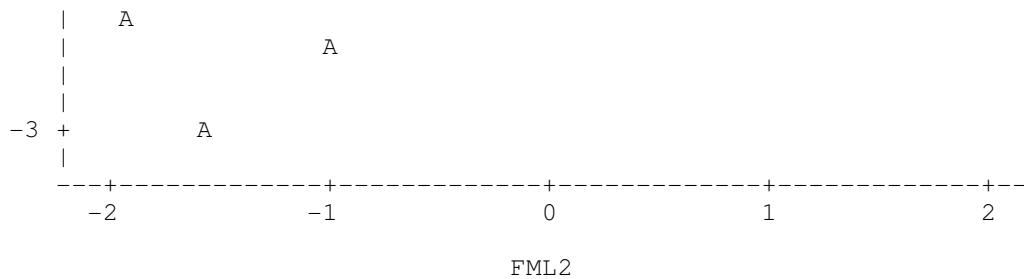




N1: Comparing factors by method 349  
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Plot of FPCA2\*FML2. Legend: A = 1 obs, B = 2 obs, etc.





N2: 2 common factors: PCA 350  
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Initial Factor Method: Principal Components

Partial Correlations Controlling all other Variables

|     | X1       | X2       | X3       | X4       | X5       |
|-----|----------|----------|----------|----------|----------|
| X1  | 1.00000  | 0.76909  | -0.02199 | 0.53242  | -0.03024 |
| X2  | 0.76909  | 1.00000  | 0.04186  | 0.04588  | 0.10369  |
| X3  | -0.02199 | 0.04186  | 1.00000  | -0.06992 | -0.04105 |
| X4  | 0.53242  | 0.04588  | -0.06992 | 1.00000  | -0.07158 |
| X5  | -0.03024 | 0.10369  | -0.04105 | -0.07158 | 1.00000  |
| X6  | -0.19689 | -0.01540 | -0.07128 | -0.06917 | 0.04510  |
| X7  | 0.00524  | 0.02965  | 0.09605  | -0.03611 | 0.02001  |
| X8  | -0.01916 | 0.09740  | -0.02698 | -0.08328 | 0.01767  |
| X9  | -0.03680 | -0.03948 | 0.00962  | 0.09621  | -0.04472 |
| X10 | -0.05557 | 0.09566  | 0.05092  | -0.05673 | -0.03900 |
|     | X6       | X7       | X8       | X9       | X10      |
| X1  | -0.19689 | 0.00524  | -0.01916 | -0.03680 | -0.05557 |
| X2  | -0.01540 | 0.02965  | 0.09740  | -0.03948 | 0.09566  |
| X3  | -0.07128 | 0.09605  | -0.02698 | 0.00962  | 0.05092  |
| X4  | -0.06917 | -0.03611 | -0.08328 | 0.09621  | -0.05673 |
| X5  | 0.04510  | 0.02001  | 0.01767  | -0.04472 | -0.03900 |
| X6  | 1.00000  | 0.06439  | 0.05045  | -0.03508 | -0.02740 |
| X7  | 0.06439  | 1.00000  | 0.08221  | -0.04906 | -0.04525 |
| X8  | 0.05045  | 0.08221  | 1.00000  | 0.03733  | 0.07355  |
| X9  | -0.03508 | -0.04906 | 0.03733  | 1.00000  | -0.07561 |
| X10 | -0.02740 | -0.04525 | 0.07355  | -0.07561 | 1.00000  |

Kaiser's Measure of Sampling Adequacy: Over-all MSA = 0.82711787

| X1       | X2       | X3       | X4       | X5       |
|----------|----------|----------|----------|----------|
| 0.741275 | 0.804052 | 0.588893 | 0.888261 | 0.270284 |
| X6       | X7       | X8       | X9       | X10      |
| 0.972810 | 0.607433 | 0.394391 | 0.350586 | 0.406057 |

Prior Communality Estimates: ONE

Eigenvalues of the Correlation Matrix: Total = 10 Average = 1

| Eigenvalue | 1      | 2      | 3      | 4      | 5      |
|------------|--------|--------|--------|--------|--------|
| Difference | 3.7323 | 1.1680 | 1.0679 | 1.0402 | 1.0119 |
| Proportion | 2.5643 | 0.1001 | 0.0277 | 0.0283 | 0.1035 |
| Cumulative | 0.3732 | 0.1168 | 0.1068 | 0.1040 | 0.1012 |
| Eigenvalue | 0.3732 | 0.4900 | 0.5968 | 0.7008 | 0.8020 |
| Eigenvalue | 6      | 7      | 8      | 9      | 10     |
| Difference | 0.9084 | 0.7923 | 0.2149 | 0.0491 | 0.0151 |
| Proportion | 0.1161 | 0.5774 | 0.1659 | 0.0339 |        |
| Cumulative | 0.0908 | 0.0792 | 0.0215 | 0.0049 | 0.0015 |

Cumulative 0.8929 0.9721 0.9936 0.9985 1.0000

2 factors will be retained by the NFACTOR criterion.

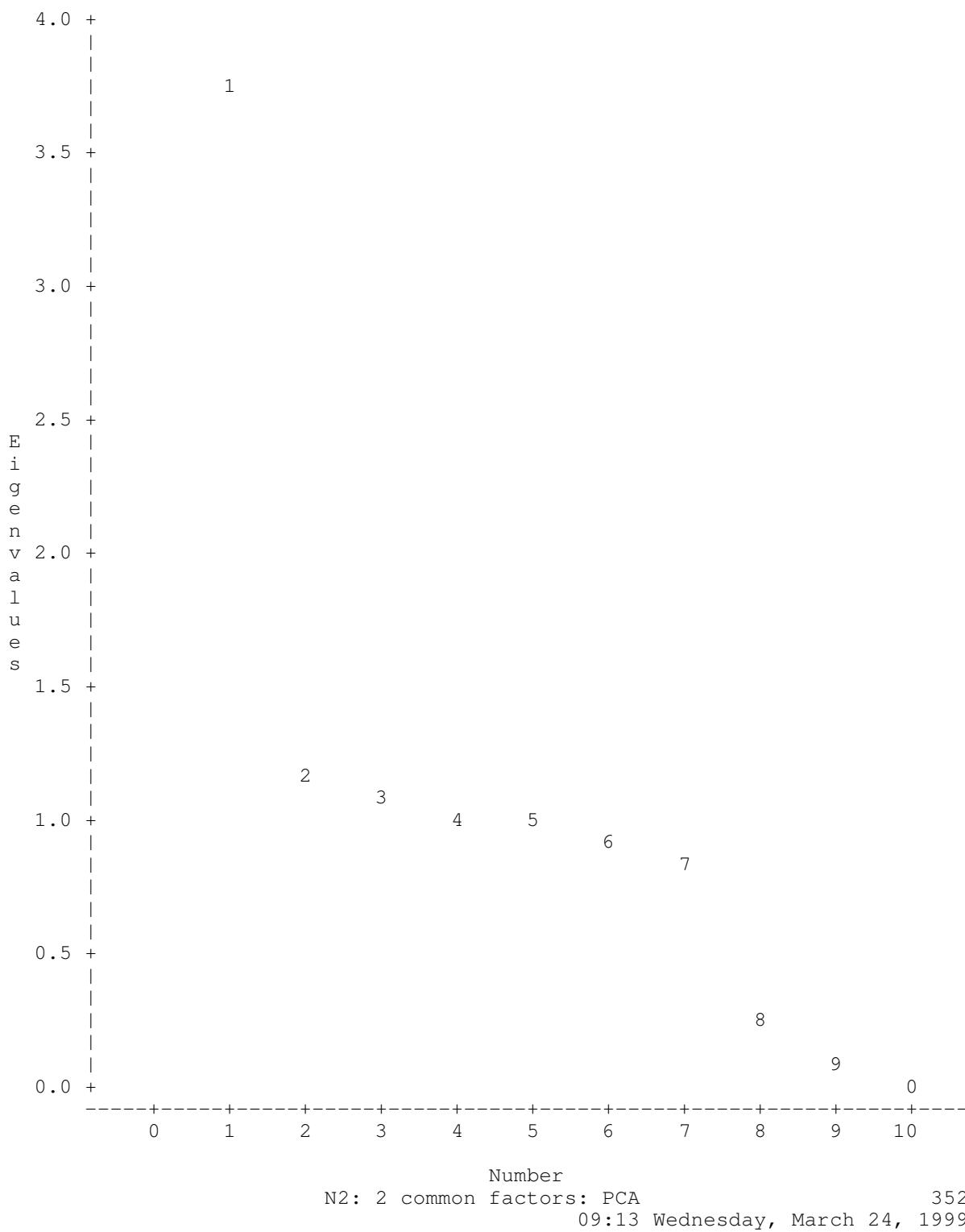
N2: 2 common factors: PCA

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Initial Factor Method: Principal Components

#### Scree Plot of Eigenvalues



Initial Factor Method: Principal Components

Eigenvectors

|  | 1 | 2 |
|--|---|---|
|--|---|---|

|     |          |          |
|-----|----------|----------|
| X1  | 0.51044  | 0.04570  |
| X2  | 0.50566  | 0.07522  |
| X3  | -0.05659 | 0.31924  |
| X4  | 0.50454  | 0.00430  |
| X5  | -0.00621 | 0.22938  |
| X6  | -0.47090 | -0.01233 |
| X7  | -0.05333 | 0.50764  |
| X8  | -0.02622 | 0.47150  |
| X9  | -0.00117 | -0.42525 |
| X10 | -0.02597 | 0.42035  |

## Factor Pattern

|     | FACTOR1  | FACTOR2  |
|-----|----------|----------|
| X1  | 0.98613  | 0.04939  |
| X2  | 0.97689  | 0.08129  |
| X3  | -0.10932 | 0.34501  |
| X4  | 0.97473  | 0.00465  |
| X5  | -0.01199 | 0.24790  |
| X6  | -0.90973 | -0.01333 |
| X7  | -0.10302 | 0.54862  |
| X8  | -0.05066 | 0.50956  |
| X9  | -0.00226 | -0.45958 |
| X10 | -0.05017 | 0.45429  |

## Variance explained by each factor

| FACTOR1  | FACTOR2  |
|----------|----------|
| 3.732288 | 1.167954 |

## Final Communality Estimates: Total = 4.900242

|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| X1       | X2       | X3       | X4       | X5       |
| 0.974892 | 0.960928 | 0.130982 | 0.950127 | 0.061598 |
| X6       | X7       | X8       | X9       | X10      |
| 0.827792 | 0.311597 | 0.262220 | 0.211214 | 0.208892 |

N2: 2 common factors: PCA 353  
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## Initial Factor Method: Principal Components

## Residual Correlations With Uniqueness on the Diagonal

|     |          |          |          |          |          |
|-----|----------|----------|----------|----------|----------|
| X1  | X2       | X3       | X4       | X5       |          |
| X1  | 0.02511  | 0.01428  | 0.00637  | 0.00538  | -0.00174 |
| X2  | 0.01428  | 0.03907  | 0.00414  | -0.00276 | 0.00970  |
| X3  | 0.00637  | 0.00414  | 0.86902  | 0.00642  | -0.12165 |
| X4  | 0.00538  | -0.00276 | 0.00642  | 0.04987  | -0.01023 |
| X5  | -0.00174 | 0.00970  | -0.12165 | -0.01023 | 0.93840  |
| X6  | 0.04684  | 0.05366  | -0.05705 | 0.05350  | 0.02399  |
| X7  | 0.01251  | 0.00305  | -0.10430 | 0.02300  | -0.10424 |
| X8  | -0.00067 | 0.00320  | -0.18853 | -0.00088 | -0.09026 |
| X9  | 0.00990  | 0.01567  | 0.15568  | 0.01696  | 0.05688  |
| X10 | -0.01220 | -0.00679 | -0.10186 | -0.00795 | -0.13576 |
| X6  | X7       | X8       | X9       | X10      |          |
| X1  | 0.04684  | 0.01251  | -0.00067 | 0.00990  | -0.01220 |
| X2  | 0.05366  | 0.00305  | 0.00320  | 0.01567  | -0.00679 |
| X3  | -0.05705 | -0.10430 | -0.18853 | 0.15568  | -0.10186 |
| X4  | 0.05350  | 0.02300  | -0.00088 | 0.01696  | -0.00795 |

|     |          |          |          |          |          |
|-----|----------|----------|----------|----------|----------|
| X5  | 0.02399  | -0.10424 | -0.09026 | 0.05688  | -0.13576 |
| X6  | 0.17221  | 0.00309  | 0.01439  | -0.01897 | -0.01901 |
| X7  | 0.00309  | 0.68840  | -0.19484 | 0.19872  | -0.27772 |
| X8  | 0.01439  | -0.19484 | 0.73778  | 0.24461  | -0.15243 |
| X9  | -0.01897 | 0.19872  | 0.24461  | 0.78879  | 0.12973  |
| X10 | -0.01901 | -0.27772 | -0.15243 | 0.12973  | 0.79111  |

Root Mean Square Off-diagonal Residuals: Over-all = 0.09496552

| X1       | X2       | X3       | X4       | X5       |
|----------|----------|----------|----------|----------|
| 0.017870 | 0.019759 | 0.104978 | 0.020885 | 0.079060 |
| X6       | X7       | X8       | X9       | X10      |
| 0.037570 | 0.140251 | 0.135376 | 0.126762 | 0.127636 |

#### Partial Correlations Controlling Factors

|     | X1       | X2       | X3       | X4       | X5       |
|-----|----------|----------|----------|----------|----------|
| X1  | 1.00000  | 0.45597  | 0.04315  | 0.15197  | -0.01132 |
| X2  | 0.45597  | 1.00000  | 0.02249  | -0.06261 | 0.05064  |
| X3  | 0.04315  | 0.02249  | 1.00000  | 0.03084  | -0.13471 |
| X4  | 0.15197  | -0.06261 | 0.03084  | 1.00000  | -0.04731 |
| X5  | -0.01132 | 0.05064  | -0.13471 | -0.04731 | 1.00000  |
| X6  | 0.71234  | 0.65421  | -0.14746 | 0.57732  | 0.05967  |
| X7  | 0.09512  | 0.01857  | -0.13485 | 0.12412  | -0.12969 |
| X8  | -0.00493 | 0.01883  | -0.23545 | -0.00461 | -0.10848 |
| X9  | 0.07032  | 0.08926  | 0.18804  | 0.08550  | 0.06611  |
| X10 | -0.08654 | -0.03865 | -0.12284 | -0.04001 | -0.15756 |

N2: 2 common factors: PCA

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Initial Factor Method: Principal Components

#### Partial Correlations Controlling Factors

|     | X6       | X7       | X8       | X9       | X10      |
|-----|----------|----------|----------|----------|----------|
| X1  | 0.71234  | 0.09512  | -0.00493 | 0.07032  | -0.08654 |
| X2  | 0.65421  | 0.01857  | 0.01883  | 0.08926  | -0.03865 |
| X3  | -0.14746 | -0.13485 | -0.23545 | 0.18804  | -0.12284 |
| X4  | 0.57732  | 0.12412  | -0.00461 | 0.08550  | -0.04001 |
| X5  | 0.05967  | -0.12969 | -0.10848 | 0.06611  | -0.15756 |
| X6  | 1.00000  | 0.00897  | 0.04036  | -0.05146 | -0.05151 |
| X7  | 0.00897  | 1.00000  | -0.27340 | 0.26967  | -0.37633 |
| X8  | 0.04036  | -0.27340 | 1.00000  | 0.32065  | -0.19952 |
| X9  | -0.05146 | 0.26967  | 0.32065  | 1.00000  | 0.16422  |
| X10 | -0.05151 | -0.37633 | -0.19952 | 0.16422  | 1.00000  |

Root Mean Square Off-diagonal Partialials: Over-all = 0.22404901

| X1       | X2       | X3       | X4       | X5       |
|----------|----------|----------|----------|----------|
| 0.290963 | 0.269371 | 0.136332 | 0.207589 | 0.096852 |
| X6       | X7       | X8       | X9       | X10      |
| 0.380210 | 0.196916 | 0.178452 | 0.171630 | 0.170476 |

N2: 2 common factors: PCA

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Initial Factor Method: Principal Components

#### Plot of Factor Pattern for FACTOR1 and FACTOR2

FACTOR1  
1AB

|                           |     |     |     |     |     |    |    |     |    |                                 |    |    |    |    |    |    |    |     |   |  |
|---------------------------|-----|-----|-----|-----|-----|----|----|-----|----|---------------------------------|----|----|----|----|----|----|----|-----|---|--|
|                           |     |     |     |     |     |    |    | D   |    |                                 |    |    |    |    |    |    |    |     |   |  |
|                           |     |     |     |     |     |    |    | .9  |    |                                 |    |    |    |    |    |    |    |     |   |  |
|                           |     |     |     |     |     |    |    | .8  |    |                                 |    |    |    |    |    |    |    |     |   |  |
|                           |     |     |     |     |     |    |    | .7  |    |                                 |    |    |    |    |    |    |    |     |   |  |
|                           |     |     |     |     |     |    |    | .6  |    |                                 |    |    |    |    |    |    |    |     |   |  |
|                           |     |     |     |     |     |    |    | .5  |    |                                 |    |    |    |    |    |    |    |     |   |  |
|                           |     |     |     |     |     |    |    | .4  |    |                                 |    |    |    |    |    |    |    |     |   |  |
|                           |     |     |     |     |     |    |    | .3  |    |                                 |    |    |    |    |    |    |    |     |   |  |
|                           |     |     |     |     |     |    |    | .2  |    |                                 |    |    |    |    |    |    |    |     |   |  |
|                           |     |     |     |     |     |    |    | F   |    |                                 |    |    |    |    |    |    |    |     |   |  |
|                           |     |     |     |     |     |    |    | A   |    |                                 |    |    |    |    |    |    |    |     |   |  |
|                           |     |     |     |     |     |    |    | C   |    |                                 |    |    |    |    |    |    |    |     |   |  |
| -1                        | -.9 | -.8 | -.7 | -.6 | -.5 | I  | .4 | .3  | .2 | E                               | .3 | .4 | .5 | .6 | .7 | .8 | .9 | 1.0 | T |  |
|                           |     |     |     |     |     | J  | H  |     |    | O                               |    |    |    |    |    |    |    |     | R |  |
|                           |     |     |     |     |     | -1 |    | C   | G  |                                 |    |    |    |    |    |    |    |     | 2 |  |
|                           |     |     |     |     |     |    |    |     |    |                                 |    |    |    |    |    |    |    |     |   |  |
|                           |     |     |     |     |     |    |    |     |    |                                 |    |    |    |    |    |    |    |     |   |  |
|                           |     |     |     |     |     |    |    |     |    |                                 |    |    |    |    |    |    |    |     |   |  |
|                           |     |     |     |     |     |    |    |     |    |                                 |    |    |    |    |    |    |    |     |   |  |
|                           |     |     |     |     |     |    |    |     |    |                                 |    |    |    |    |    |    |    |     |   |  |
|                           |     |     |     |     |     |    |    |     |    |                                 |    |    |    |    |    |    |    |     |   |  |
|                           |     |     |     |     |     |    |    |     |    |                                 |    |    |    |    |    |    |    |     |   |  |
|                           |     |     |     |     |     |    |    |     |    |                                 |    |    |    |    |    |    |    |     |   |  |
|                           |     |     |     |     |     |    |    |     |    |                                 |    |    |    |    |    |    |    |     |   |  |
| X1                        | =A  | X2  | =B  | X3  | =C  | X4 | =D | X5  | =E |                                 |    |    |    |    |    |    |    |     |   |  |
| X6                        | =F  | X7  | =G  | X8  | =H  | X9 | =I | X10 | =J |                                 |    |    |    |    |    |    |    |     |   |  |
| N2: 2 common factors: PCA |     |     |     |     |     |    |    |     |    | 356                             |    |    |    |    |    |    |    |     |   |  |
|                           |     |     |     |     |     |    |    |     |    | 09:13 Wednesday, March 24, 1999 |    |    |    |    |    |    |    |     |   |  |

Rotation Method: Varimax

#### Orthogonal Transformation Matrix

|   | 1       | 2        |
|---|---------|----------|
| 1 | 0.99690 | -0.07864 |
| 2 | 0.07864 | 0.99690  |

#### Rotated Factor Pattern

|     | FACTOR1  | FACTOR2  |
|-----|----------|----------|
| X1  | 0.98696  | -0.02831 |
| X2  | 0.98026  | 0.00422  |
| X3  | -0.08185 | 0.35254  |
| X4  | 0.97208  | -0.07202 |
| X5  | 0.00754  | 0.24808  |
| X6  | -0.90796 | 0.05825  |
| X7  | -0.05956 | 0.55502  |
| X8  | -0.01043 | 0.51197  |
| X9  | -0.03839 | -0.45797 |
| X10 | -0.01429 | 0.45682  |

Variance explained by each factor

| FACTOR1  | FACTOR2  |
|----------|----------|
| 3.716430 | 1.183812 |

Final Communality Estimates: Total = 4.900242

| X1       | X2       | X3       | X4       | X5       |
|----------|----------|----------|----------|----------|
| 0.974892 | 0.960928 | 0.130982 | 0.950127 | 0.061598 |
| X6       | X7       | X8       | X9       | X10      |
| 0.827792 | 0.311597 | 0.262220 | 0.211214 | 0.208892 |

Scoring Coefficients Estimated by Regression

Squared Multiple Correlations of the Variables with each Factor

| FACTOR1                             | FACTOR2  |
|-------------------------------------|----------|
| 1.000000                            | 1.000000 |
| N2: 2 common factors: PCA           |          |
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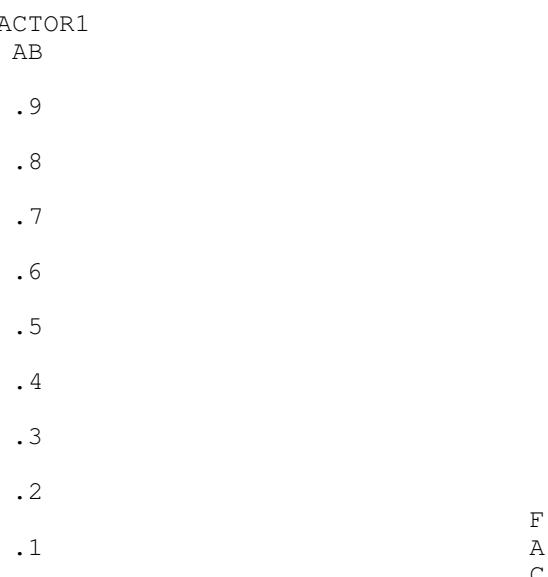
Rotation Method: Varimax

Standardized Scoring Coefficients

|                                     | FACTOR1  | FACTOR2  |
|-------------------------------------|----------|----------|
| X1                                  | 0.26672  | 0.02138  |
| X2                                  | 0.26640  | 0.04880  |
| X3                                  | -0.00597 | 0.29678  |
| X4                                  | 0.26067  | -0.01657 |
| X5                                  | 0.01349  | 0.21185  |
| X6                                  | -0.24389 | 0.00779  |
| X7                                  | 0.00942  | 0.47044  |
| X8                                  | 0.02078  | 0.43600  |
| X9                                  | -0.03155 | -0.39222 |
| X10                                 | 0.01719  | 0.38881  |
| N2: 2 common factors: PCA           |          |          |
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Rotation Method: Varimax

Plot of Factor Pattern for FACTOR1 and FACTOR2



```

-1 -.9-.8-.7-.6-.5-.4-.3-.2-.1  0 .1 .2E.3 .4J.H .6 .7 .8 .9 1.0T
   I                               G                               O
   -.1                            C                               R
   -.2                            2
   -.3
   -.4
   -.5
   -.6
   -.7
   -.8
   -.9F
   -1

```

```

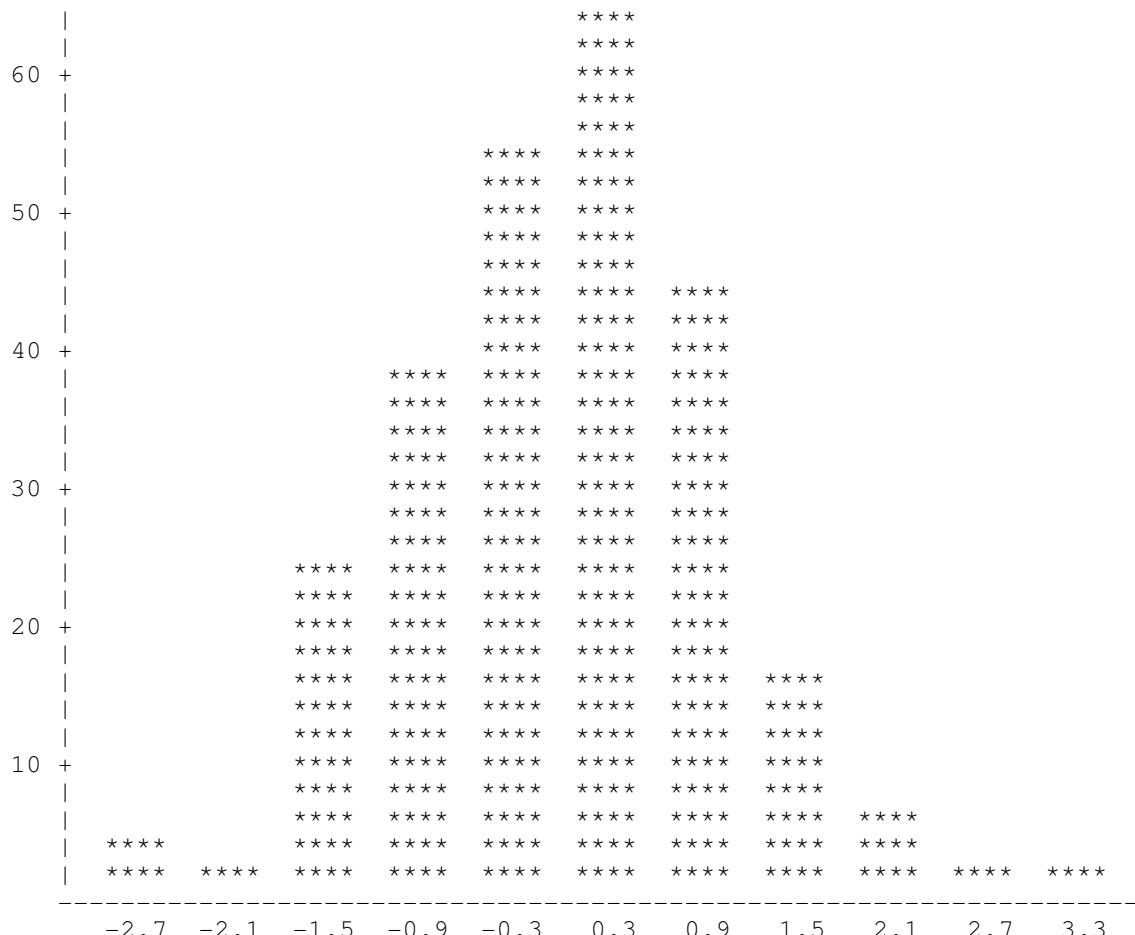
X1      =A      X2      =B      X3      =C      X4      =D      X5      =E
X6      =F      X7      =G      X8      =H      X9      =I      X10     =J

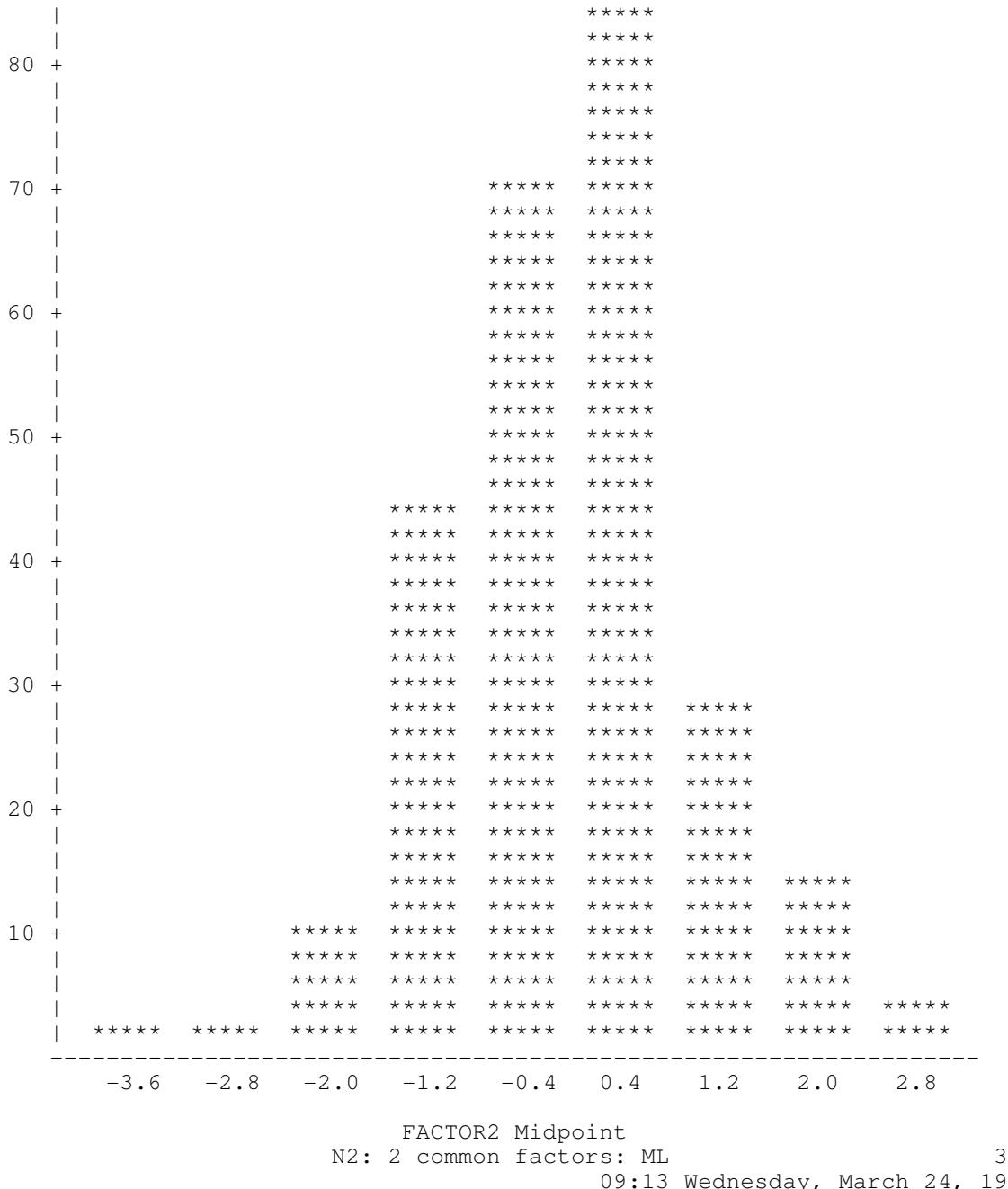
```

N2: 2 common factors: PCA

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Frequency





Initial Factor Method: Maximum Likelihood

## Partial Correlations Controlling all other Variables

|     | X1       | X2       | X3       | X4       | X5       |
|-----|----------|----------|----------|----------|----------|
| X1  | 1.00000  | 0.76909  | -0.02199 | 0.53242  | -0.03024 |
| X2  | 0.76909  | 1.00000  | 0.04186  | 0.04588  | 0.10369  |
| X3  | -0.02199 | 0.04186  | 1.00000  | -0.06992 | -0.04105 |
| X4  | 0.53242  | 0.04588  | -0.06992 | 1.00000  | -0.07158 |
| X5  | -0.03024 | 0.10369  | -0.04105 | -0.07158 | 1.00000  |
| X6  | -0.19689 | -0.01540 | -0.07128 | -0.06917 | 0.04510  |
| X7  | 0.00524  | 0.02965  | 0.09605  | -0.03611 | 0.02001  |
| X8  | -0.01916 | 0.09740  | -0.02698 | -0.08328 | 0.01767  |
| X9  | -0.03680 | -0.03948 | 0.00962  | 0.09621  | -0.04472 |
| X10 | -0.05557 | 0.09566  | 0.05092  | -0.05673 | -0.03900 |
|     | X6       | X7       | X8       | X9       | X10      |

|     |          |          |          |          |          |
|-----|----------|----------|----------|----------|----------|
| X1  | -0.19689 | 0.00524  | -0.01916 | -0.03680 | -0.05557 |
| X2  | -0.01540 | 0.02965  | 0.09740  | -0.03948 | 0.09566  |
| X3  | -0.07128 | 0.09605  | -0.02698 | 0.00962  | 0.05092  |
| X4  | -0.06917 | -0.03611 | -0.08328 | 0.09621  | -0.05673 |
| X5  | 0.04510  | 0.02001  | 0.01767  | -0.04472 | -0.03900 |
| X6  | 1.00000  | 0.06439  | 0.05045  | -0.03508 | -0.02740 |
| X7  | 0.06439  | 1.00000  | 0.08221  | -0.04906 | -0.04525 |
| X8  | 0.05045  | 0.08221  | 1.00000  | 0.03733  | 0.07355  |
| X9  | -0.03508 | -0.04906 | 0.03733  | 1.00000  | -0.07561 |
| X10 | -0.02740 | -0.04525 | 0.07355  | -0.07561 | 1.00000  |

Kaiser's Measure of Sampling Adequacy: Over-all MSA = 0.82711787

|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| X1       | X2       | X3       | X4       | X5       |
| 0.741275 | 0.804052 | 0.588893 | 0.888261 | 0.270284 |
| X6       | X7       | X8       | X9       | X10      |
| 0.972810 | 0.607433 | 0.394391 | 0.350586 | 0.406057 |

Prior Communality Estimates: SMC

|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| X1       | X2       | X3       | X4       | X5       |
| 0.976820 | 0.964939 | 0.031480 | 0.937335 | 0.024931 |
| X6       | X7       | X8       | X9       | X10      |
| 0.730369 | 0.032153 | 0.036022 | 0.025594 | 0.032692 |

Preliminary Eigenvalues: Total = 87.5173452 Average = 8.75173452

|                                 | 1       | 2      | 3      | 4      | 5      |
|---------------------------------|---------|--------|--------|--------|--------|
| Eigenvalue                      | 87.7943 | 0.4227 | 0.1588 | 0.0816 | 0.0490 |
| Difference                      | 87.3715 | 0.2639 | 0.0772 | 0.0326 | 0.0740 |
| Proportion                      | 1.0032  | 0.0048 | 0.0018 | 0.0009 | 0.0006 |
| Cumulative                      | 1.0032  | 1.0080 | 1.0098 | 1.0107 | 1.0113 |
| N2: 2 common factors: ML        |         |        |        |        | 362    |
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Initial Factor Method: Maximum Likelihood

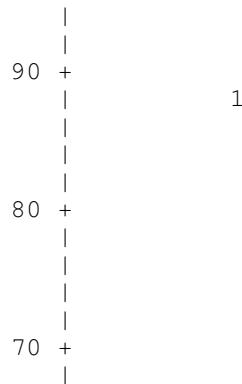
|            | 6       | 7       | 8       | 9       | 10      |
|------------|---------|---------|---------|---------|---------|
| Eigenvalue | -0.0250 | -0.1097 | -0.1596 | -0.2104 | -0.4845 |
| Difference | 0.0848  | 0.0498  | 0.0509  | 0.2741  |         |
| Proportion | -0.0003 | -0.0013 | -0.0018 | -0.0024 | -0.0055 |
| Cumulative | 1.0110  | 1.0098  | 1.0079  | 1.0055  | 1.0000  |

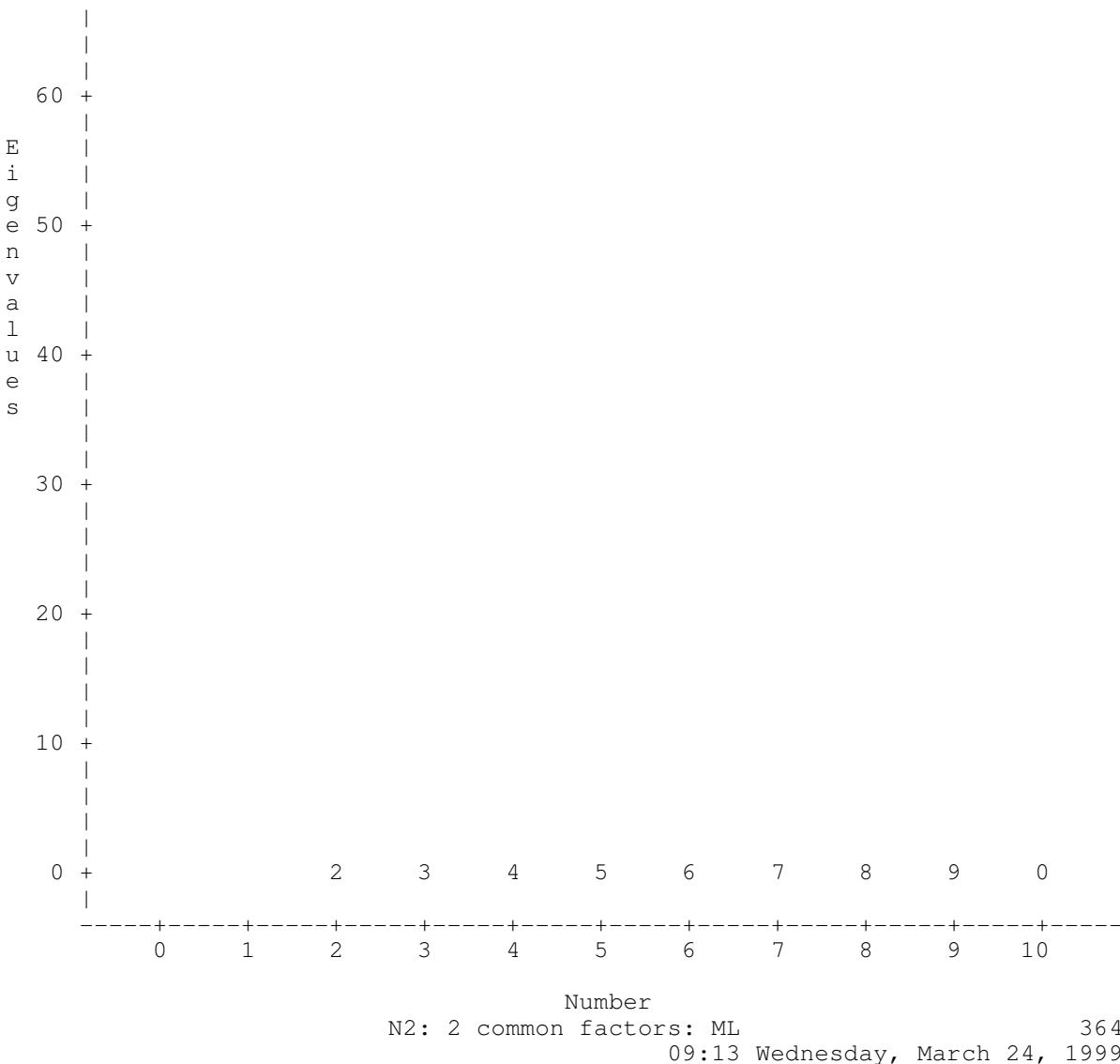
2 factors will be retained by the NFACTO criterion.

N2: 2 common factors: ML 363  
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Initial Factor Method: Maximum Likelihood

#### Scree Plot of Eigenvalues





Initial Factor Method: Maximum Likelihood

| Iter | Criterion | Ridge | Change  | Communalities  |
|------|-----------|-------|---------|--|
| 1    | 0.05143   | 0.000 | 0.03002 | 0.99271 0.97555 0.01528 0.94985 0.03164<br>0.73430 0.04407 0.06604 0.04096 0.03153 |
| 2    | 0.05105   | 0.000 | 0.00894 | 0.99200 0.97713 0.01785 0.95134 0.03878<br>0.73423 0.03513 0.06538 0.03910 0.03935 |
| 3    | 0.05105   | 0.000 | 0.00148 | 0.99191 0.97736 0.01809 0.95144 0.03949<br>0.73403 0.03365 0.06513 0.03874 0.04020 |
| 4    | 0.05105   | 0.000 | 0.00020 | 0.99189 0.97739 0.01810 0.95144 0.03959<br>0.73401 0.03345 0.06510 0.03863 0.04032 |

Convergence criterion satisfied.

Significance tests based on 250 observations:

Test of H0: No common factors.  
vs HA: At least one common factor.

Chi-square = 1832.121 df = 45 Prob>chi\*\*2 = 0.0001

Test of H0: 2 Factors are sufficient.

vs HA: More factors are needed.

Chi-square = 12.430 df = 26 Prob>chi\*\*2 = 0.9885

Chi-square without Bartlett's correction = 12.710783587  
 Akaike's Information Criterion = -39.28921641  
 Schwarz's Bayesian Criterion = -130.8472003  
 Tucker and Lewis's Reliability Coefficient = 1.0131420898

#### Squared Canonical Correlations

| FACTOR1  | FACTOR2  |
|----------|----------|
| 0.994695 | 0.407269 |

#### Eigenvectors

|  | 1 | 2 |
|--|---|---|
|--|---|---|

|     |          |          |
|-----|----------|----------|
| X1  | 0.99857  | -0.00982 |
| X2  | 0.04467  | 0.62731  |
| X3  | -0.00174 | 0.13760  |
| X4  | 0.02787  | -0.58490 |
| X5  | -0.00045 | 0.20808  |
| X6  | -0.00893 | 0.16316  |
| X7  | -0.00034 | 0.18397  |
| X8  | -0.00015 | 0.25601  |
| X9  | -0.00006 | -0.20173 |
| X10 | -0.00020 | 0.18802  |

N2: 2 common factors: ML 365  
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Initial Factor Method: Maximum Likelihood

#### Eigenvalues of the Weighted Reduced Correlation Matrix:

Total = 188.188962 Average = 18.8188962

|            | 1        | 2       | 3       | 4       | 5       |
|------------|----------|---------|---------|---------|---------|
| Eigenvalue | 187.5019 | 0.6871  | 0.1696  | 0.0940  | 0.0883  |
| Difference | 186.8148 | 0.5175  | 0.0756  | 0.0057  | 0.0600  |
| Proportion | 0.9963   | 0.0037  | 0.0009  | 0.0005  | 0.0005  |
| Cumulative | 0.9963   | 1.0000  | 1.0009  | 1.0014  | 1.0019  |
|            | 6        | 7       | 8       | 9       | 10      |
| Eigenvalue | 0.0283   | -0.0086 | -0.0632 | -0.1245 | -0.1838 |
| Difference | 0.0369   | 0.0546  | 0.0613  | 0.0594  |         |
| Proportion | 0.0002   | -0.0000 | -0.0003 | -0.0007 | -0.0010 |
| Cumulative | 1.0020   | 1.0020  | 1.0016  | 1.0010  | 1.0000  |

#### Factor Pattern

|     | FACTOR1  | FACTOR2  |
|-----|----------|----------|
| X1  | 0.99592  | -0.00627 |
| X2  | 0.98613  | 0.07021  |
| X3  | -0.08385 | 0.10523  |
| X4  | 0.97016  | -0.10111 |
| X5  | 0.00061  | 0.19901  |
| X6  | -0.85347 | 0.07480  |
| X7  | -0.06251 | 0.17181  |
| X8  | -0.02389 | 0.25404  |
| X9  | -0.01384 | -0.19602 |
| X10 | -0.03631 | 0.19753  |

#### Variance explained by each factor

|            | FACTOR1   | FACTOR2  |
|------------|-----------|----------|
| Weighted   | 187.50186 | 0.687106 |
| Unweighted | 3.646960  | 0.242963 |

Final Communality Estimates and Variable Weights  
 Total Communality: Weighted = 188.18896 Unweighted = 3.889923

|             | X1        | X2        | X3       | X4        | X5       |
|-------------|-----------|-----------|----------|-----------|----------|
| Communality | 0.991894  | 0.977386  | 0.018104 | 0.951444  | 0.039607 |
| Weight      | 123.36976 | 44.218885 | 1.018436 | 20.594738 | 1.041226 |

|             | X6       | X7       | X8       | X9       | X10      |
|-------------|----------|----------|----------|----------|----------|
| Communality | 0.734003 | 0.033428 | 0.065106 | 0.038616 | 0.040336 |
| Weight      | 3.759480 | 1.034606 | 1.069635 | 1.040179 | 1.042016 |

N2: 2 common factors: ML 366  
 09:13 Wednesday, March 24, 1999

Initial Factor Method: Maximum Likelihood

#### Residual Correlations With Uniqueness on the Diagonal

|     | X1       | X2       | X3       | X4       | X5       |
|-----|----------|----------|----------|----------|----------|
| X1  | 0.00811  | -0.00003 | -0.00022 | -0.00002 | -0.00068 |
| X2  | -0.00003 | 0.02261  | 0.00069  | 0.00021  | 0.00356  |
| X3  | -0.00022 | 0.00069  | 0.98190  | -0.00655 | -0.05570 |
| X4  | -0.00002 | 0.00021  | -0.00655 | 0.04856  | -0.00124 |
| X5  | -0.00068 | 0.00356  | -0.05570 | -0.00124 | 0.96039  |
| X6  | -0.00048 | 0.00025  | -0.04162 | 0.00226  | 0.01723  |
| X7  | 0.00135  | -0.00341 | 0.07292  | 0.00315  | -0.00116 |
| X8  | -0.00007 | 0.00086  | -0.03592 | 0.00097  | -0.01387 |
| X9  | -0.00247 | 0.00352  | 0.01684  | 0.00623  | -0.01800 |
| X10 | -0.00183 | 0.00307  | 0.03653  | 0.00047  | -0.06183 |
|     | X6       | X7       | X8       | X9       | X10      |
| X1  | -0.00048 | 0.00135  | -0.00007 | -0.00247 | -0.00183 |
| X2  | 0.00025  | -0.00341 | 0.00086  | 0.00352  | 0.00307  |
| X3  | -0.04162 | 0.07292  | -0.03592 | 0.01684  | 0.03653  |
| X4  | 0.00226  | 0.00315  | 0.00097  | 0.00623  | 0.00047  |
| X5  | 0.01723  | -0.00116 | -0.01387 | -0.01800 | -0.06183 |
| X6  | 0.26600  | 0.02329  | 0.01429  | -0.00794 | -0.02520 |
| X7  | 0.02329  | 0.96657  | 0.04479  | -0.02037 | -0.05953 |
| X8  | 0.01429  | 0.04479  | 0.93489  | 0.06001  | 0.03056  |
| X9  | -0.00794 | -0.02037 | 0.06001  | 0.96138  | -0.04072 |
| X10 | -0.02520 | -0.05953 | 0.03056  | -0.04072 | 0.95966  |

Root Mean Square Off-diagonal Residuals: Over-all = 0.02644068

|          | X1       | X2       | X3       | X4       | X5  |
|----------|----------|----------|----------|----------|-----|
| 0.001154 | 0.002296 | 0.038158 | 0.003325 | 0.029353 |     |
|          | X6       | X7       | X8       | X9       | X10 |
| 0.019662 | 0.036286 | 0.030239 | 0.026671 | 0.036425 |     |

#### Partial Correlations Controlling Factors

|     | X1       | X2       | X3       | X4       | X5       |
|-----|----------|----------|----------|----------|----------|
| X1  | 1.00000  | -0.00205 | -0.00251 | -0.00092 | -0.00767 |
| X2  | -0.00205 | 1.00000  | 0.00465  | 0.00641  | 0.02417  |
| X3  | -0.00251 | 0.00465  | 1.00000  | -0.02998 | -0.05736 |
| X4  | -0.00092 | 0.00641  | -0.02998 | 1.00000  | -0.00573 |
| X5  | -0.00767 | 0.02417  | -0.05736 | -0.00573 | 1.00000  |
| X6  | -0.01031 | 0.00321  | -0.08145 | 0.01990  | 0.03408  |
| X7  | 0.01521  | -0.02309 | 0.07485  | 0.01454  | -0.00120 |
| X8  | -0.00084 | 0.00588  | -0.03749 | 0.00455  | -0.01464 |
| X9  | -0.02797 | 0.02387  | 0.01733  | 0.02885  | -0.01873 |
| X10 | -0.02071 | 0.02083  | 0.03763  | 0.00217  | -0.06440 |

N2: 2 common factors: ML 367  
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Initial Factor Method: Maximum Likelihood

Partial Correlations Controlling Factors

|     | X6       | X7       | X8       | X9       | X10      |
|-----|----------|----------|----------|----------|----------|
| X1  | -0.01031 | 0.01521  | -0.00084 | -0.02797 | -0.02071 |
| X2  | 0.00321  | -0.02309 | 0.00588  | 0.02387  | 0.02083  |
| X3  | -0.08145 | 0.07485  | -0.03749 | 0.01733  | 0.03763  |
| X4  | 0.01990  | 0.01454  | 0.00455  | 0.02885  | 0.00217  |
| X5  | 0.03408  | -0.00120 | -0.01464 | -0.01873 | -0.06440 |
| X6  | 1.00000  | 0.04594  | 0.02865  | -0.01570 | -0.04987 |
| X7  | 0.04594  | 1.00000  | 0.04712  | -0.02113 | -0.06181 |
| X8  | 0.02865  | 0.04712  | 1.00000  | 0.06330  | 0.03226  |
| X9  | -0.01570 | -0.02113 | 0.06330  | 1.00000  | -0.04239 |
| X10 | -0.04987 | -0.06181 | 0.03226  | -0.04239 | 1.00000  |

Root Mean Square Off-diagonal Partialis: Over-all = 0.03325567

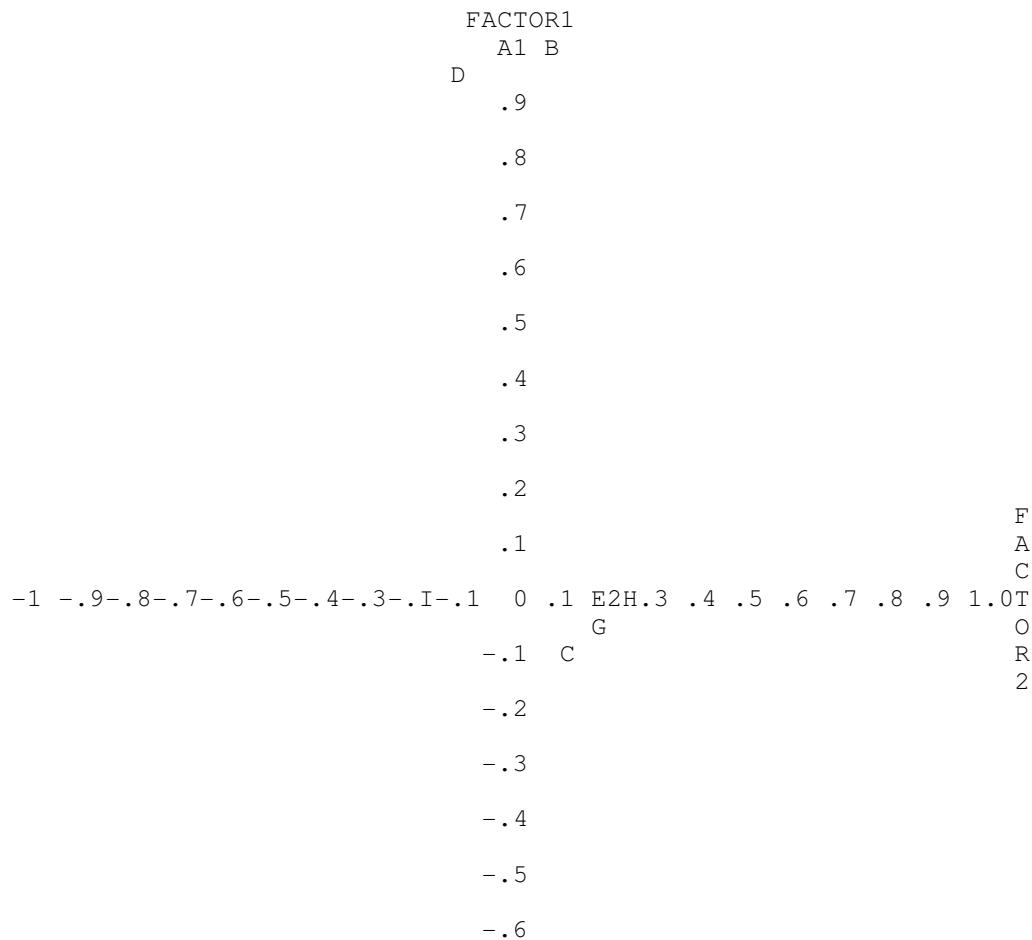
| X1       | X2       | X3       | X4       | X5       |
|----------|----------|----------|----------|----------|
| 0.013417 | 0.015751 | 0.046638 | 0.016463 | 0.033069 |

| X6       | X7       | X8       | X9       | X10      |
|----------|----------|----------|----------|----------|
| 0.039402 | 0.041066 | 0.032938 | 0.032202 | 0.041603 |

N2: 2 common factors: ML 368  
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Initial Factor Method: Maximum Likelihood

Plot of Factor Pattern for FACTOR1 and FACTOR2



-.7

-.8  
F  
-.9

-1

|    |    |    |    |    |    |    |    |     |    |
|----|----|----|----|----|----|----|----|-----|----|
| X1 | =A | X2 | =B | X3 | =C | X4 | =D | X5  | =E |
| X6 | =F | X7 | =G | X8 | =H | X9 | =I | X10 | =G |

N2: 2 common factors: ML 369  
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Rotation Method: Varimax

#### Orthogonal Transformation Matrix

|   |   |
|---|---|
| 1 | 2 |
|---|---|

|   |         |          |
|---|---------|----------|
| 1 | 0.99907 | -0.04301 |
| 2 | 0.04301 | 0.99907  |

#### Rotated Factor Pattern

|         |         |
|---------|---------|
| FACTOR1 | FACTOR2 |
|---------|---------|

|     |          |          |
|-----|----------|----------|
| X1  | 0.99473  | -0.04910 |
| X2  | 0.98824  | 0.02773  |
| X3  | -0.07924 | 0.10874  |
| X4  | 0.96492  | -0.14275 |
| X5  | 0.00917  | 0.19880  |
| X6  | -0.84946 | 0.11144  |
| X7  | -0.05507 | 0.17434  |
| X8  | -0.01294 | 0.25483  |
| X9  | -0.02226 | -0.19524 |
| X10 | -0.02778 | 0.19891  |

#### Variance explained by each factor

|            |           |          |
|------------|-----------|----------|
| FACTOR1    | FACTOR2   |          |
| Weighted   | 187.15624 | 1.032722 |
| Unweighted | 3.629583  | 0.260340 |

Final Communality Estimates and Variable Weights  
Total Communality: Weighted = 188.18896 Unweighted = 3.889923

|           |           |           |          |           |          |
|-----------|-----------|-----------|----------|-----------|----------|
| Community | X1        | X2        | X3       | X4        | X5       |
| Weight    | 0.991894  | 0.977386  | 0.018104 | 0.951444  | 0.039607 |
| Community | 123.36976 | 44.218885 | 1.018436 | 20.594738 | 1.041226 |
| Weight    | 3.759480  | 1.034606  | 1.069635 | 1.040179  | 1.042016 |
| Community | X6        | X7        | X8       | X9        | X10      |
| Weight    | 0.734003  | 0.033428  | 0.065106 | 0.038616  | 0.040336 |

#### Scoring Coefficients Estimated by Regression

#### Squared Multiple Correlations of the Variables with each Factor

|                                 |          |
|---------------------------------|----------|
| FACTOR1                         | FACTOR2  |
| 0.993608                        | 0.408356 |
| N2: 2 common factors: ML 370    |          |
| 09:13 Wednesday, March 24, 1999 |          |

Rotation Method: Varimax

#### Standardized Scoring Coefficients

|         |         |
|---------|---------|
| FACTOR1 | FACTOR2 |
|---------|---------|

|     |          |          |
|-----|----------|----------|
| X1  | 0.63149  | -0.48594 |
| X2  | 0.31026  | 1.82849  |
| X3  | 0.00228  | 0.06348  |
| X4  | 0.05281  | -1.23771 |
| X5  | 0.00529  | 0.12271  |
| X6  | -0.00984 | 0.16726  |
| X7  | 0.00419  | 0.10528  |
| X8  | 0.00679  | 0.16092  |
| X9  | -0.00527 | -0.12074 |
| X10 | 0.00505  | 0.12190  |

N2: 2 common factors: ML 371  
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Rotation Method: Varimax

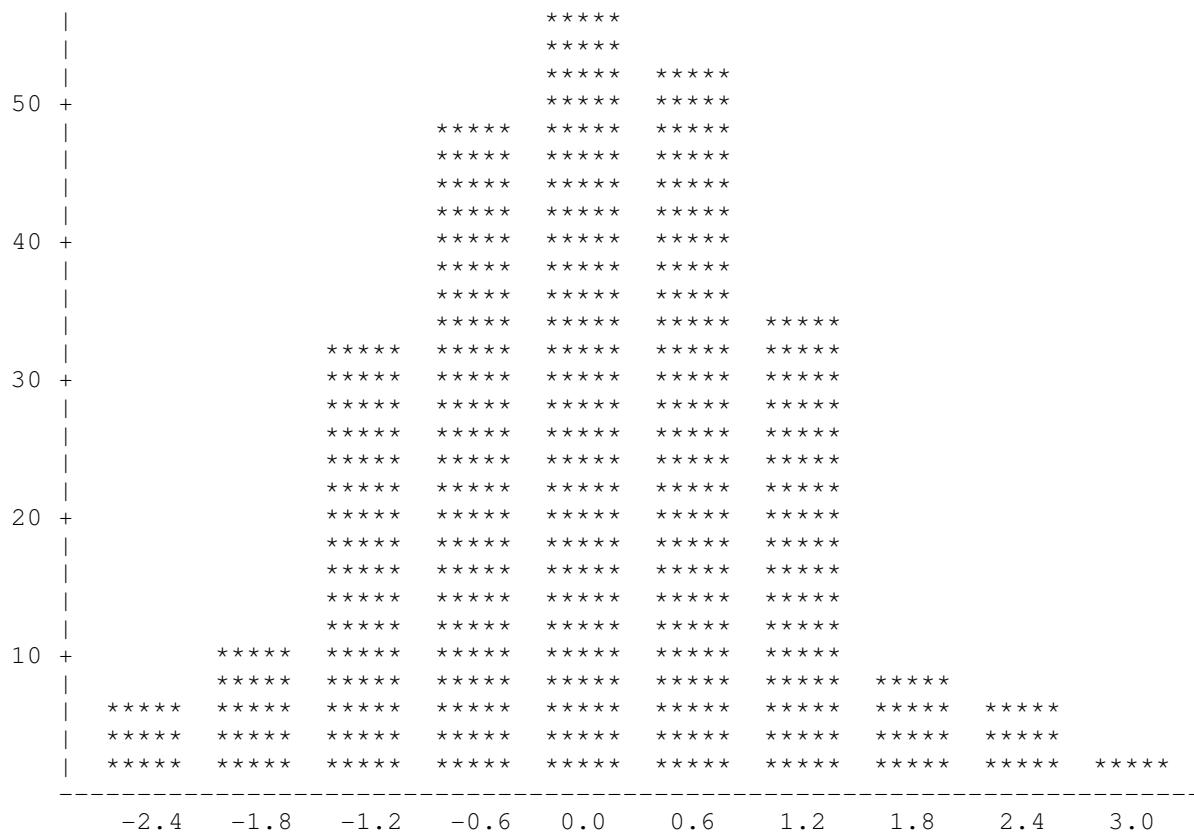
Plot of Factor Pattern for FACTOR1 and FACTOR2

|    |    |    |    |    |    |    |    |     |    |
|----|----|----|----|----|----|----|----|-----|----|
| X1 | =A | X2 | =B | X3 | =C | X4 | =D | X5  | =E |
| X6 | =F | X7 | =G | X8 | =H | X9 | =I | X10 | =J |

N2: 2 common factors: ML 372  
09:13 Wednesday, March 24, 1999

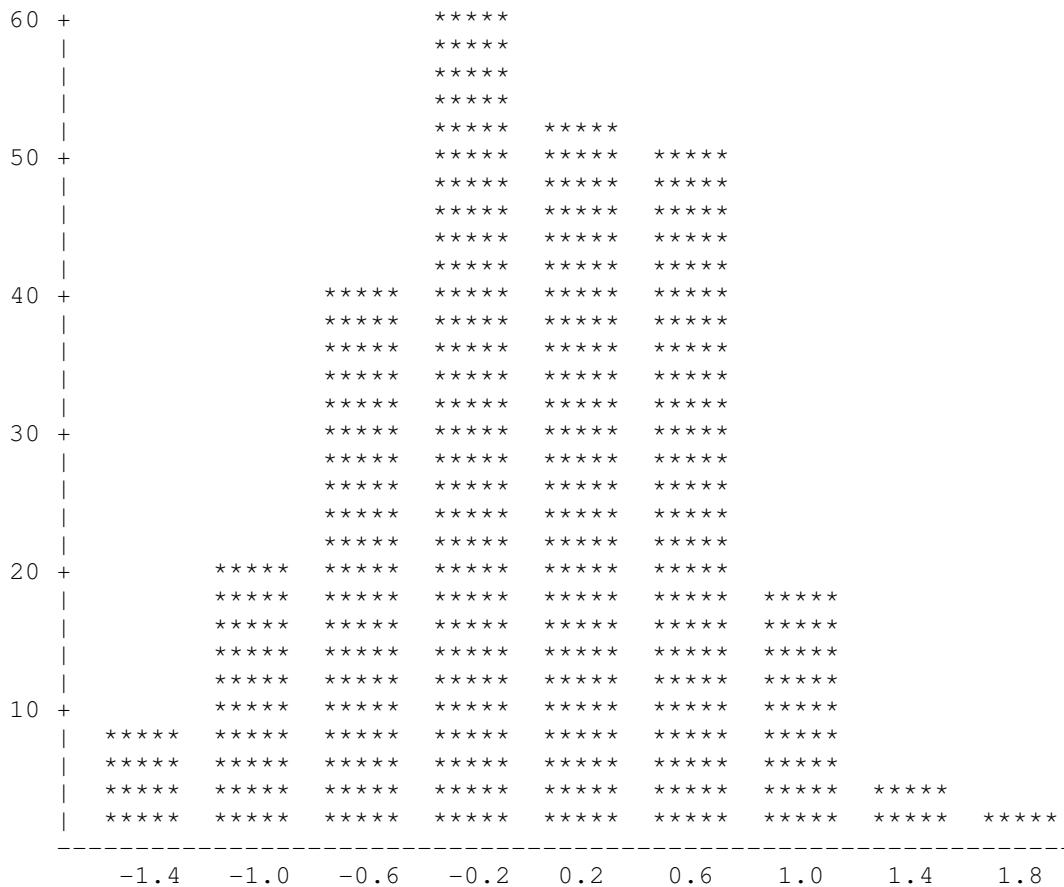
### Frequency

$$\begin{array}{r} 60 \\ + \\ \hline \end{array} \qquad \qquad \qquad \begin{array}{r} \ast \ast \ast \ast \\ \ast \ast \ast \ast \end{array}$$



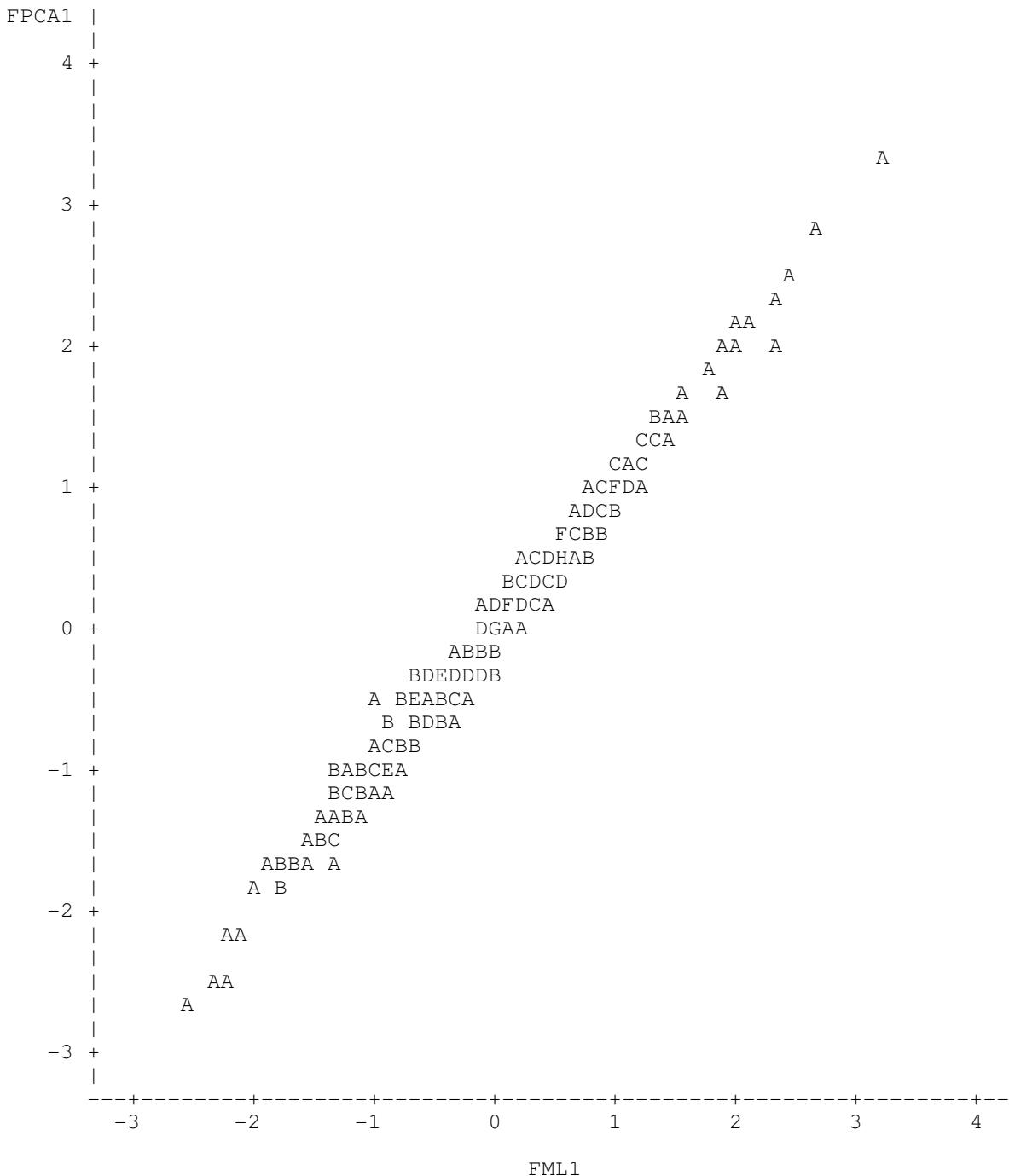
FACTOR1 Midpoint  
 N2: 2 common factors: ML 373  
 09:13 Wednesday, March 24, 1999

### Frequency



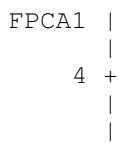
FACTOR2 Midpoint  
 N2: Comparing factors by method 374  
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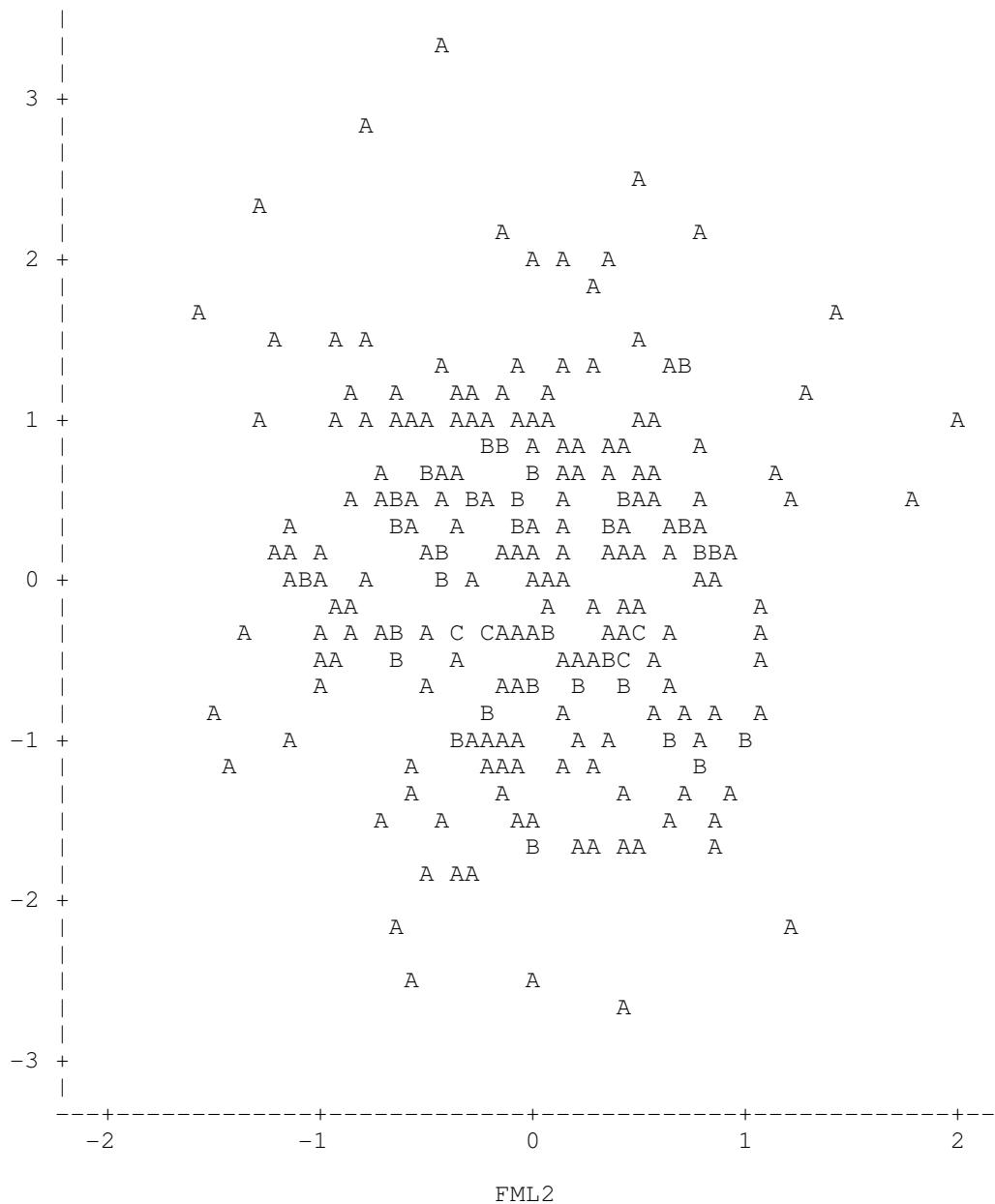
Plot of FPCA1\*FML1. Legend: A = 1 obs, B = 2 obs, etc.



N2: Comparing factors by method 375  
 09:13 Wednesday, March 24, 1999

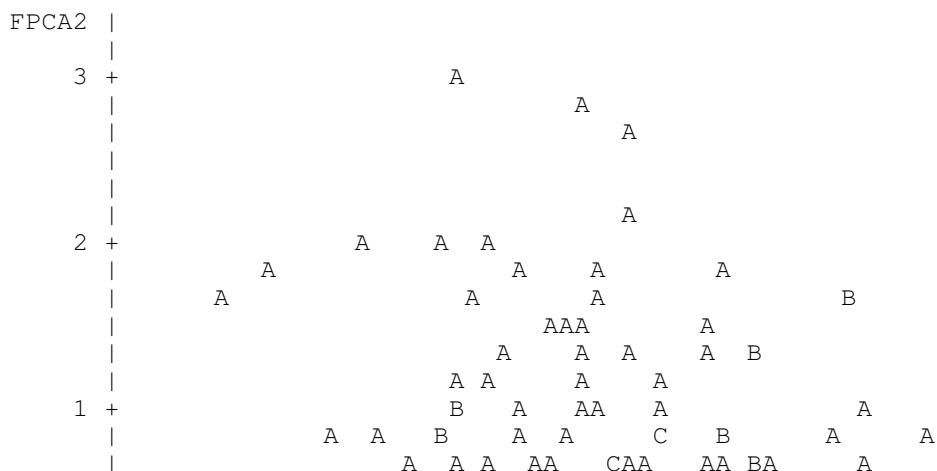
Plot of FPCA1\*FML2. Legend: A = 1 obs, B = 2 obs, etc.

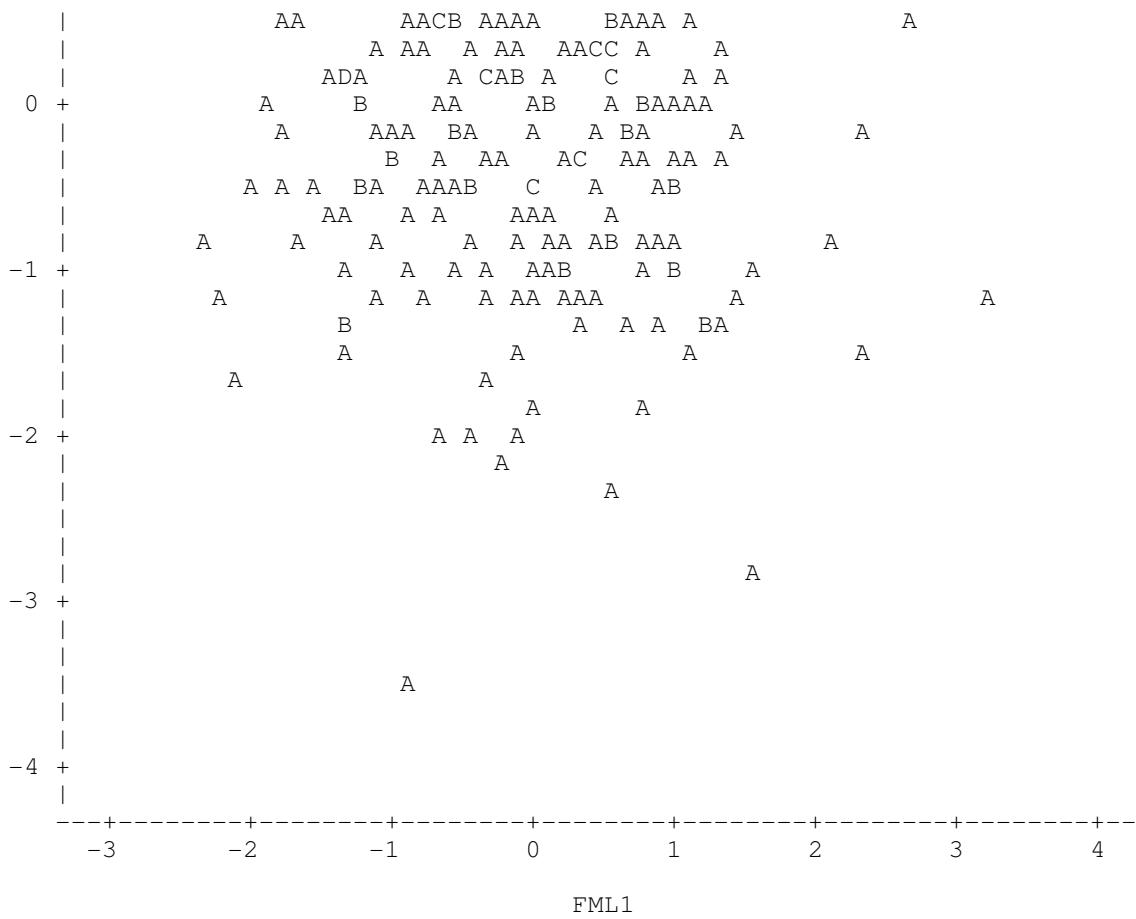




N2: Comparing factors by method 376  
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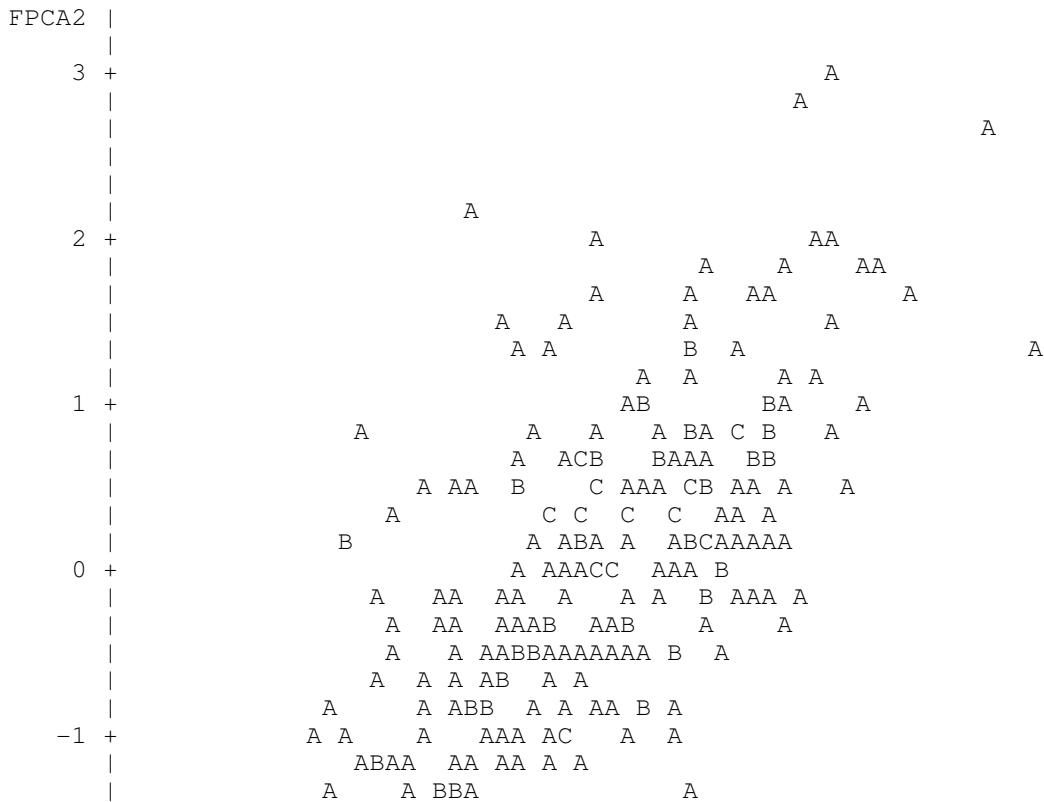
Plot of FPCA2\*FML1. Legend: A = 1 obs, B = 2 obs, etc.

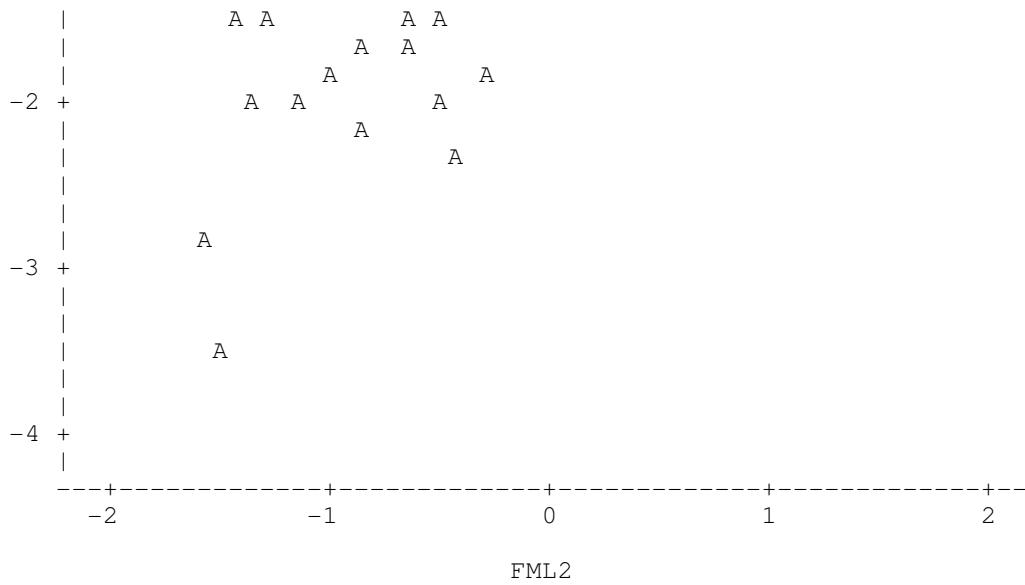




N2: Comparing factors by method 377  
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Plot of FPCA2\*FML2. Legend: A = 1 obs, B = 2 obs, etc.





N3: 2 common factors: PCA 378  
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Initial Factor Method: Principal Components

Partial Correlations Controlling all other Variables

|     | X1       | X2       | X3       | X4       | X5       |
|-----|----------|----------|----------|----------|----------|
| X1  | 1.00000  | 0.10454  | 0.47844  | 0.06015  | 0.84974  |
| X2  | 0.10454  | 1.00000  | -0.32100 | -0.05067 | 0.02850  |
| X3  | 0.47844  | -0.32100 | 1.00000  | -0.06992 | -0.04105 |
| X4  | 0.06015  | -0.05067 | -0.06992 | 1.00000  | -0.07158 |
| X5  | 0.84974  | 0.02850  | -0.04105 | -0.07158 | 1.00000  |
| X6  | -0.00632 | 0.02539  | -0.07128 | -0.06917 | 0.04510  |
| X7  | -0.07861 | -0.87483 | 0.09605  | -0.03611 | 0.02001  |
| X8  | -0.01100 | 0.09017  | -0.02698 | -0.08328 | 0.01767  |
| X9  | 0.03049  | -0.05163 | 0.00962  | 0.09621  | -0.04472 |
| X10 | -0.00446 | 0.00484  | 0.05092  | -0.05673 | -0.03900 |
|     | X6       | X7       | X8       | X9       | X10      |
| X1  | -0.00632 | -0.07861 | -0.01100 | 0.03049  | -0.00446 |
| X2  | 0.02539  | -0.87483 | 0.09017  | -0.05163 | 0.00484  |
| X3  | -0.07128 | 0.09605  | -0.02698 | 0.00962  | 0.05092  |
| X4  | -0.06917 | -0.03611 | -0.08328 | 0.09621  | -0.05673 |
| X5  | 0.04510  | 0.02001  | 0.01767  | -0.04472 | -0.03900 |
| X6  | 1.00000  | 0.06439  | 0.05045  | -0.03508 | -0.02740 |
| X7  | 0.06439  | 1.00000  | 0.08221  | -0.04906 | -0.04525 |
| X8  | 0.05045  | 0.08221  | 1.00000  | 0.03733  | 0.07355  |
| X9  | -0.03508 | -0.04906 | 0.03733  | 1.00000  | -0.07561 |
| X10 | -0.02740 | -0.04525 | 0.07355  | -0.07561 | 1.00000  |

Kaiser's Measure of Sampling Adequacy: Over-all MSA = 0.64013829

| X1       | X2       | X3       | X4       | X5       |
|----------|----------|----------|----------|----------|
| 0.573446 | 0.602177 | 0.809422 | 0.606662 | 0.628844 |
| X6       | X7       | X8       | X9       | X10      |
| 0.400163 | 0.623330 | 0.577202 | 0.493121 | 0.688368 |

Prior Communality Estimates: ONE

Eigenvalues of the Correlation Matrix: Total = 10 Average = 1

|            | 1      | 2      | 3      | 4      | 5      |
|------------|--------|--------|--------|--------|--------|
| Eigenvalue | 2.7514 | 2.0907 | 1.2164 | 1.0268 | 0.9982 |
| Difference | 0.6607 | 0.8742 | 0.1896 | 0.0286 | 0.1298 |
| Proportion | 0.2751 | 0.2091 | 0.1216 | 0.1027 | 0.0998 |
| Cumulative | 0.2751 | 0.4842 | 0.6059 | 0.7085 | 0.8084 |
|            | 6      | 7      | 8      | 9      | 10     |
| Eigenvalue | 0.8684 | 0.8299 | 0.1348 | 0.0462 | 0.0372 |
| Difference | 0.0385 | 0.6951 | 0.0886 | 0.0090 |        |
| Proportion | 0.0868 | 0.0830 | 0.0135 | 0.0046 | 0.0037 |
| Cumulative | 0.8952 | 0.9782 | 0.9917 | 0.9963 | 1.0000 |

2 factors will be retained by the NFACTOR criterion.

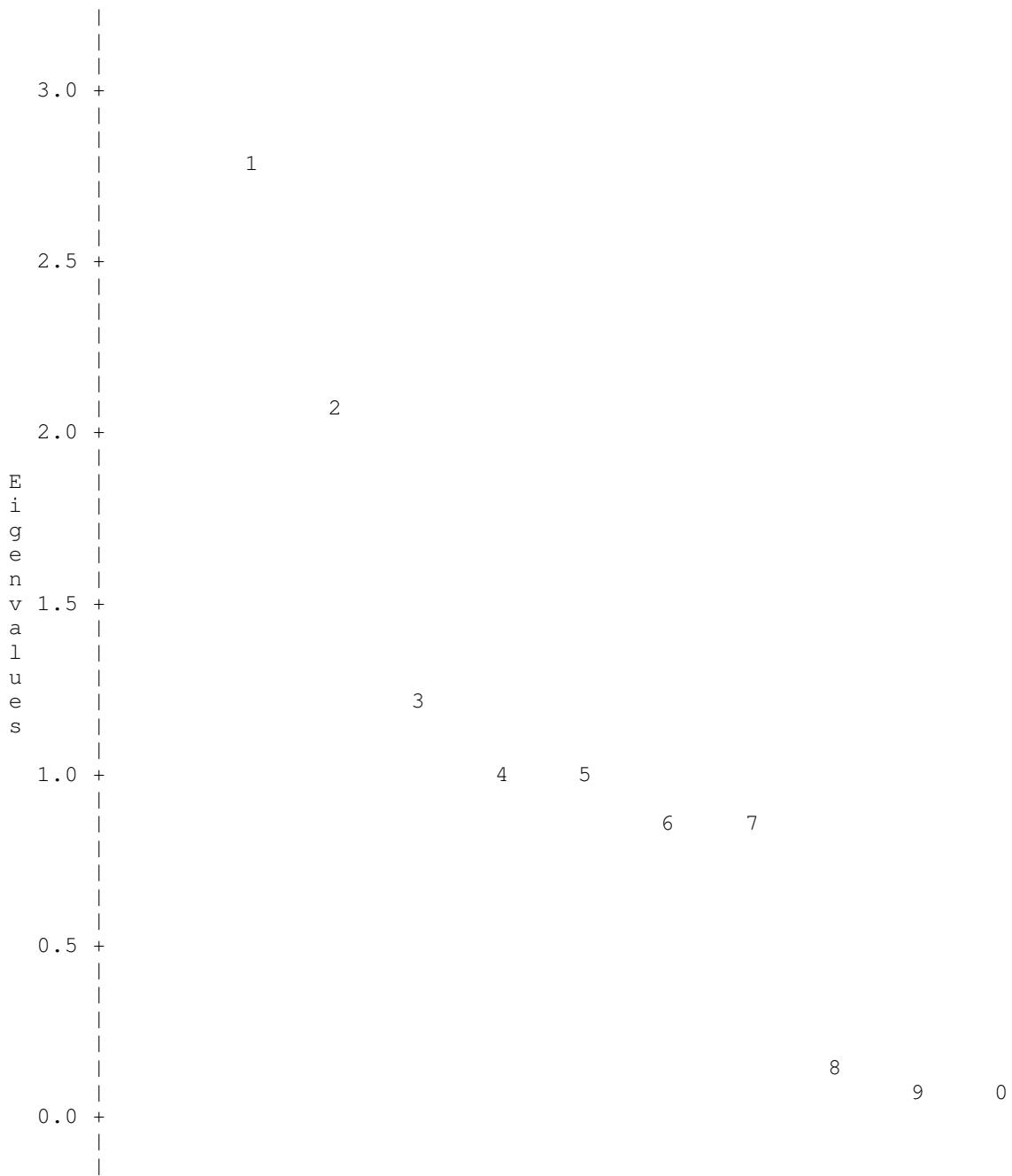
N3: 2 common factors: PCA

379

09:13 Wednesday, March 24, 1999

Initial Factor Method: Principal Components

Scree Plot of Eigenvalues



Number  
N3: 2 common factors: PCA 380  
09:13 Wednesday, March 24, 1999

## Initial Factor Method: Principal Components

## Eigenvectors

1 2

|     |          |          |
|-----|----------|----------|
| X1  | 0.39603  | 0.50307  |
| X2  | -0.42413 | 0.47320  |
| X3  | 0.57362  | 0.01754  |
| X4  | -0.08215 | -0.10472 |
| X5  | 0.37453  | 0.51792  |
| X6  | 0.00806  | 0.00759  |
| X7  | 0.41445  | -0.47804 |
| X8  | -0.08145 | 0.07313  |
| X9  | 0.01437  | -0.07198 |
| X10 | -0.09243 | 0.06623  |

## Factor Pattern

## FACTOR1      FACTOR2

|     |          |          |
|-----|----------|----------|
| X1  | 0.65691  | 0.72739  |
| X2  | -0.70352 | 0.68420  |
| X3  | 0.95148  | 0.02536  |
| X4  | -0.13627 | -0.15142 |
| X5  | 0.62124  | 0.74887  |
| X6  | 0.01338  | 0.01097  |
| X7  | 0.68745  | -0.69121 |
| X8  | -0.13511 | 0.10574  |
| X9  | 0.02383  | -0.10408 |
| X10 | -0.15332 | 0.09576  |

### Variance explained by each factor

FACTOR1      FACTOR2  
2.751385    2.090690

Final Communality Estimates: Total = 4.842076

| X1       | X2       | X3       | X4       | X5       |
|----------|----------|----------|----------|----------|
| 0.960636 | 0.963068 | 0.905955 | 0.041497 | 0.946746 |
| X6       | X7       | X8       | X9       | X10      |
| 0.000299 | 0.950359 | 0.029436 | 0.011401 | 0.032679 |

N3: 2 common factors: PCA 381  
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## Initial Factor Method: Principal Components

## Residual Correlations With Uniqueness on the Diagonal

|    | X1       | X2       | X3       | X4       | X5       |
|----|----------|----------|----------|----------|----------|
| X1 | 0.03936  | -0.00112 | -0.01403 | 0.10000  | -0.00651 |
| X2 | -0.00112 | 0.03693  | 0.01921  | 0.01969  | -0.00986 |
| X3 | -0.01403 | 0.01921  | 0.09404  | 0.03268  | -0.04133 |
| X4 | 0.10000  | 0.01969  | 0.03268  | 0.95850  | 0.07919  |
| X5 | -0.00651 | -0.00986 | -0.04133 | 0.07919  | 0.05325  |
| X6 | -0.01527 | -0.00625 | -0.03374 | -0.07532 | 0.00364  |

|     |          |          |          |          |          |
|-----|----------|----------|----------|----------|----------|
| X7  | 0.00060  | -0.00453 | -0.02942 | -0.03698 | 0.01365  |
| X8  | -0.01362 | -0.06284 | 0.03492  | -0.09054 | -0.00750 |
| X9  | 0.04503  | 0.03956  | 0.00112  | 0.09475  | 0.03048  |
| X10 | -0.00817 | -0.07185 | 0.07345  | -0.06794 | -0.02089 |

|     | X6       | X7       | X8       | X9       | X10      |
|-----|----------|----------|----------|----------|----------|
| X1  | -0.01527 | 0.00060  | -0.01362 | 0.04503  | -0.00817 |
| X2  | -0.00625 | -0.00453 | -0.06284 | 0.03956  | -0.07185 |
| X3  | -0.03374 | -0.02942 | 0.03492  | 0.00112  | 0.07345  |
| X4  | -0.07532 | -0.03698 | -0.09054 | 0.09475  | -0.06794 |
| X5  | 0.00364  | 0.01365  | -0.00750 | 0.03048  | -0.02089 |
| X6  | 0.99970  | 0.02562  | 0.06156  | -0.04408 | -0.02345 |
| X7  | 0.02562  | 0.04964  | 0.08921  | -0.05597 | 0.06647  |
| X8  | 0.06156  | 0.08921  | 0.97056  | 0.02477  | 0.05076  |
| X9  | -0.04408 | -0.05597 | 0.02477  | 0.98860  | -0.06532 |
| X10 | -0.02345 | 0.06647  | 0.05076  | -0.06532 | 0.96732  |

Root Mean Square Off-diagonal Residuals: Over-all = 0.04769531

|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| X1       | X2       | X3       | X4       | X5       |
| 0.037644 | 0.035888 | 0.036455 | 0.071925 | 0.032898 |
| X6       | X7       | X8       | X9       | X10      |
| 0.039490 | 0.045468 | 0.056319 | 0.051050 | 0.055265 |

#### Partial Correlations Controlling Factors

|     | X1       | X2       | X3       | X4       | X5       |
|-----|----------|----------|----------|----------|----------|
| X1  | 1.00000  | -0.02941 | -0.23055 | 0.51482  | -0.14226 |
| X2  | -0.02941 | 1.00000  | 0.32590  | 0.10463  | -0.22225 |
| X3  | -0.23055 | 0.32590  | 1.00000  | 0.10885  | -0.58395 |
| X4  | 0.51482  | 0.10463  | 0.10885  | 1.00000  | 0.35053  |
| X5  | -0.14226 | -0.22225 | -0.58395 | 0.35053  | 1.00000  |
| X6  | -0.07700 | -0.03251 | -0.11003 | -0.07694 | 0.01577  |
| X7  | 0.01356  | -0.10588 | -0.43055 | -0.16951 | 0.26543  |
| X8  | -0.06968 | -0.33192 | 0.11560  | -0.09387 | -0.03300 |
| X9  | 0.22824  | 0.20704  | 0.00369  | 0.09733  | 0.13284  |
| X10 | -0.04186 | -0.38016 | 0.24351  | -0.07056 | -0.09205 |

N3: 2 common factors: PCA

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Initial Factor Method: Principal Components

#### Partial Correlations Controlling Factors

|     | X6       | X7       | X8       | X9       | X10      |
|-----|----------|----------|----------|----------|----------|
| X1  | -0.07700 | 0.01356  | -0.06968 | 0.22824  | -0.04186 |
| X2  | -0.03251 | -0.10588 | -0.33192 | 0.20704  | -0.38016 |
| X3  | -0.11003 | -0.43055 | 0.11560  | 0.00369  | 0.24351  |
| X4  | -0.07694 | -0.16951 | -0.09387 | 0.09733  | -0.07056 |
| X5  | 0.01577  | 0.26543  | -0.03300 | 0.13284  | -0.09205 |
| X6  | 1.00000  | 0.11503  | 0.06249  | -0.04434 | -0.02384 |
| X7  | 0.11503  | 1.00000  | 0.40643  | -0.25265 | 0.30333  |
| X8  | 0.06249  | 0.40643  | 1.00000  | 0.02529  | 0.05239  |
| X9  | -0.04434 | -0.25265 | 0.02529  | 1.00000  | -0.06679 |
| X10 | -0.02384 | 0.30333  | 0.05239  | -0.06679 | 1.00000  |

Root Mean Square Off-diagonal Partialials: Over-all = 0.21759975

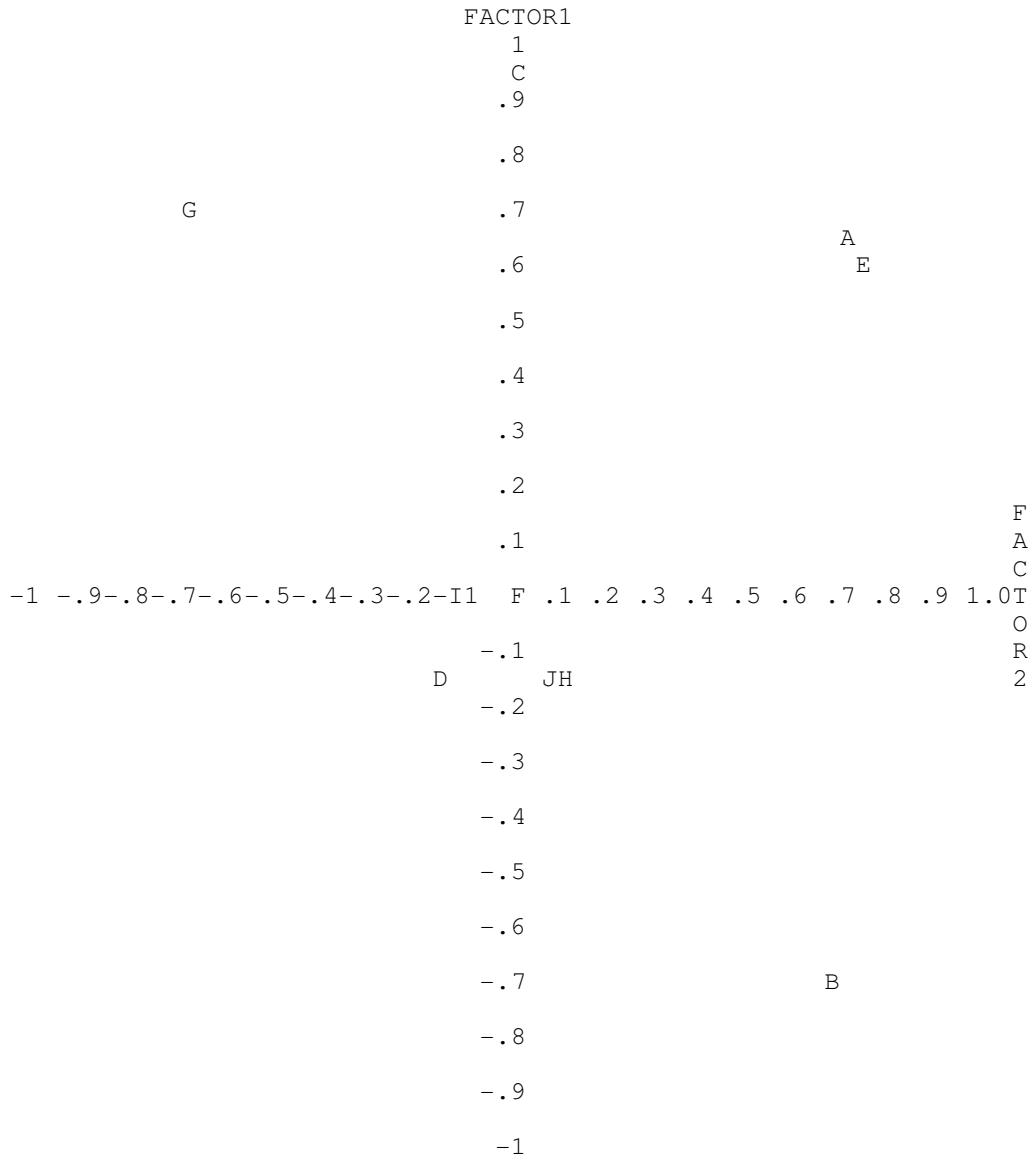
|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| X1       | X2       | X3       | X4       | X5       |
| 0.211900 | 0.230275 | 0.294839 | 0.228187 | 0.264871 |
| X6       | X7       | X8       | X9       | X10      |

0.070657 0.264620 0.185820 0.146437 0.188209

N3: 2 common factors: PCA 383  
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Initial Factor Method: Principal Components

Plot of Factor Pattern for FACTOR1 and FACTOR2



X1 =A X2 =B X3 =C X4 =D X5 =E  
X6 =F X7 =G X8 =H X9 =I X10 =J

N3: 2 common factors: PCA 384  
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Rotation Method: Varimax

Orthogonal Transformation Matrix

|   | 1        | 2       |
|---|----------|---------|
| 1 | 0.73019  | 0.68325 |
| 2 | -0.68325 | 0.73019 |

Rotated Factor Pattern

FACTOR1 FACTOR2

|     |          |          |
|-----|----------|----------|
| X1  | -0.01732 | 0.97997  |
| X2  | -0.98118 | 0.01892  |
| X3  | 0.67743  | 0.66861  |
| X4  | 0.00395  | -0.20367 |
| X5  | -0.05804 | 0.97128  |
| X6  | 0.00227  | 0.01715  |
| X7  | 0.97423  | -0.03501 |
| X8  | -0.17090 | -0.01510 |
| X9  | 0.08851  | -0.05972 |
| X10 | -0.17739 | -0.03483 |

Variance explained by each factor

| FACTOR1  | FACTOR2  |
|----------|----------|
| 2.442956 | 2.399119 |

Final Communality Estimates: Total = 4.842076

| X1       | X2       | X3       | X4       | X5       |
|----------|----------|----------|----------|----------|
| 0.960636 | 0.963068 | 0.905955 | 0.041497 | 0.946746 |
| X6       | X7       | X8       | X9       | X10      |
| 0.000299 | 0.950359 | 0.029436 | 0.011401 | 0.032679 |

Scoring Coefficients Estimated by Regression

Squared Multiple Correlations of the Variables with each Factor

| FACTOR1                         | FACTOR2  |
|---------------------------------|----------|
| 1.000000                        | 1.000000 |
| N3: 2 common factors: PCA       |          |
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Rotation Method: Varimax

Standardized Scoring Coefficients

|                                 | FACTOR1  | FACTOR2  |
|---------------------------------|----------|----------|
| X1                              | -0.06338 | 0.41718  |
| X2                              | -0.41031 | 0.06426  |
| X3                              | 0.24423  | 0.24514  |
| X4                              | 0.01332  | -0.08672 |
| X5                              | -0.07986 | 0.41582  |
| X6                              | -0.00004 | 0.00715  |
| X7                              | 0.40833  | -0.07070 |
| X8                              | -0.07041 | 0.00338  |
| X9                              | 0.04034  | -0.03043 |
| X10                             | -0.07199 | -0.00463 |
| N3: 2 common factors: PCA       |          |          |
| 09:13 Wednesday, March 24, 1999 |          |          |

Rotation Method: Varimax

Plot of Factor Pattern for FACTOR1 and FACTOR2

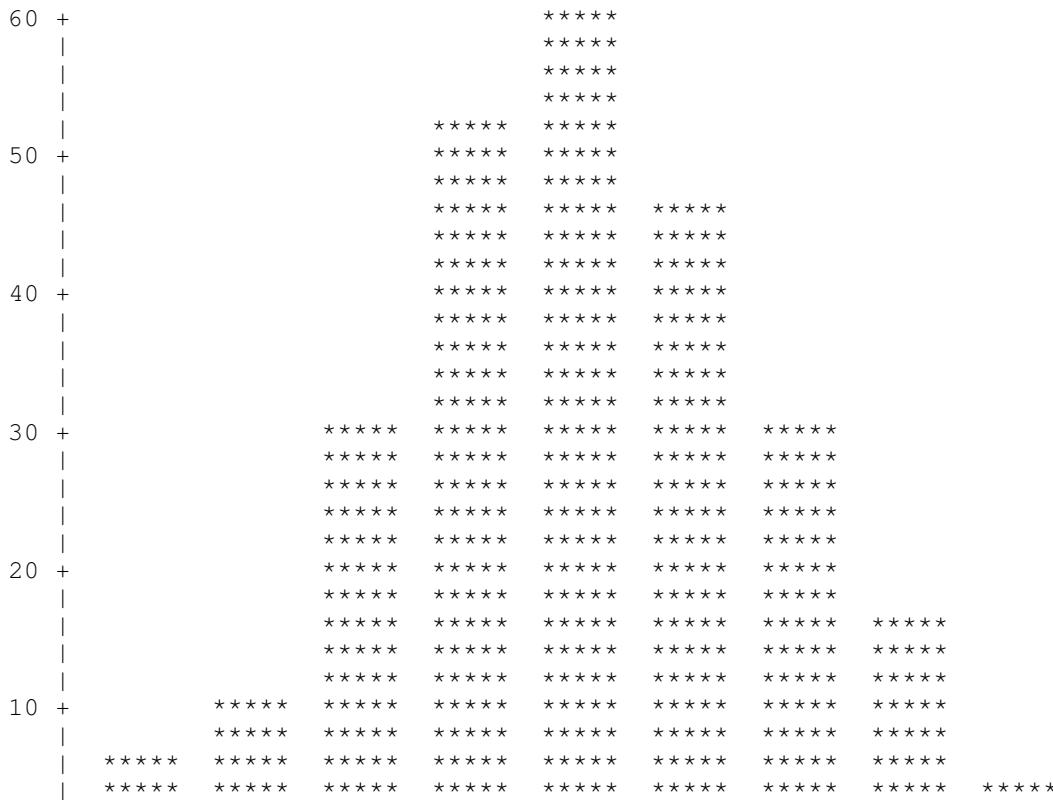
| FACTOR1 |
|---------|
| 1       |
| G       |
| .9      |
| .8      |
| .7      |
| C       |
| .6      |

.5  
.4  
.3  
.2  
I.1  
F .1 .2 .3 .4 .5 .6 .7 .8 .9 A.0T  
-1 -.9-.8-.7-.6-.5-.4-.3-D2-.1 F .1 .2 .3 .4 .5 .6 .7 .8 .9 A.0T  
E O  
-.1 R  
H 2  
J.2  
-.3  
-.4  
-.5  
-.6  
-.7  
-.8  
-.9  
-B

X1 =A X2 =B X3 =C X4 =D X5 =E  
X6 =F X7 =G X8 =H X9 =I X10 =J

N3: 2 common factors: PCA 387  
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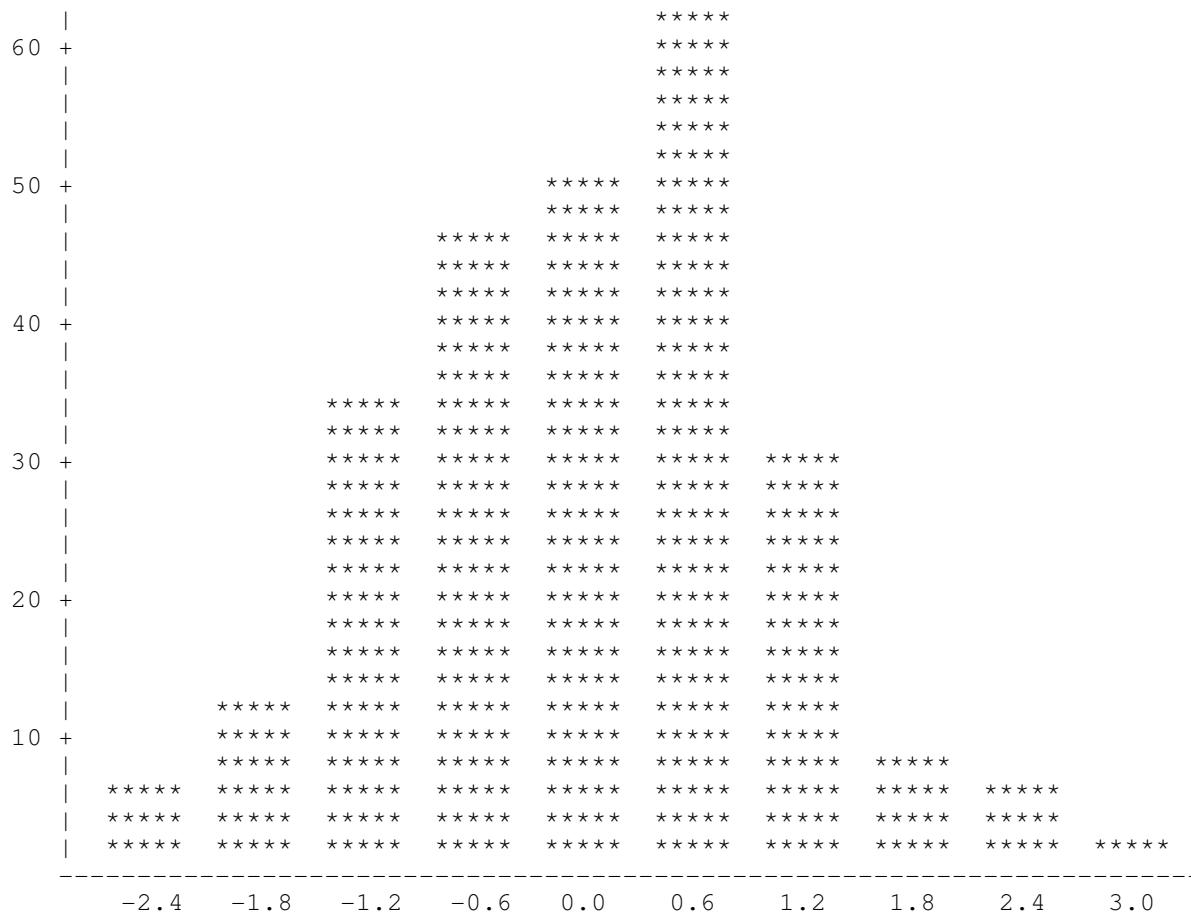
## Frequency



|  | ***** | ***** | ***** | ***** | ***** | ***** | ***** | ***** | ***** |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|  | -2.4  | -1.8  | -1.2  | -0.6  | 0.0   | 0.6   | 1.2   | 1.8   | 2.4   |

FACTOR1 Midpoint  
 N3: 2 common factors: PCA 388  
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## Frequency



|     |          |          |          |          |          |
|-----|----------|----------|----------|----------|----------|
| X3  | -0.07128 | 0.09605  | -0.02698 | 0.00962  | 0.05092  |
| X4  | -0.06917 | -0.03611 | -0.08328 | 0.09621  | -0.05673 |
| X5  | 0.04510  | 0.02001  | 0.01767  | -0.04472 | -0.03900 |
| X6  | 1.00000  | 0.06439  | 0.05045  | -0.03508 | -0.02740 |
| X7  | 0.06439  | 1.00000  | 0.08221  | -0.04906 | -0.04525 |
| X8  | 0.05045  | 0.08221  | 1.00000  | 0.03733  | 0.07355  |
| X9  | -0.03508 | -0.04906 | 0.03733  | 1.00000  | -0.07561 |
| X10 | -0.02740 | -0.04525 | 0.07355  | -0.07561 | 1.00000  |

Kaiser's Measure of Sampling Adequacy: Over-all MSA = 0.64013829

|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| X1       | X2       | X3       | X4       | X5       |
| 0.573446 | 0.602177 | 0.809422 | 0.606662 | 0.628844 |
| X6       | X7       | X8       | X9       | X10      |
| 0.400163 | 0.623330 | 0.577202 | 0.493121 | 0.688368 |

Prior Communality Estimates: SMC

|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| X1       | X2       | X3       | X4       | X5       |
| 0.920717 | 0.933288 | 0.829046 | 0.049254 | 0.898109 |
| X6       | X7       | X8       | X9       | X10      |
| 0.022770 | 0.926041 | 0.036022 | 0.025594 | 0.032692 |

Preliminary Eigenvalues: Total = 51.9602188 Average = 5.19602188

|                          | 1       | 2       | 3      | 4      | 5                               |
|--------------------------|---------|---------|--------|--------|---------------------------------|
| Eigenvalue               | 29.6859 | 23.0972 | 0.2983 | 0.1511 | 0.0403                          |
| Difference               | 6.5887  | 22.7989 | 0.1472 | 0.1108 | 0.1038                          |
| Proportion               | 0.5713  | 0.4445  | 0.0057 | 0.0029 | 0.0008                          |
| Cumulative               | 0.5713  | 1.0158  | 1.0216 | 1.0245 | 1.0253                          |
| N3: 2 common factors: ML |         |         |        |        | 390                             |
|                          |         |         |        |        | 09:13 Wednesday, March 24, 1999 |

Initial Factor Method: Maximum Likelihood

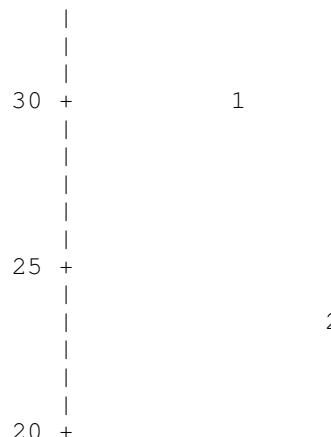
|            | 6       | 7       | 8       | 9       | 10      |
|------------|---------|---------|---------|---------|---------|
| Eigenvalue | -0.0635 | -0.0992 | -0.1636 | -0.4728 | -0.5135 |
| Difference | 0.0357  | 0.0644  | 0.3092  | 0.0407  |         |
| Proportion | -0.0012 | -0.0019 | -0.0031 | -0.0091 | -0.0099 |
| Cumulative | 1.0240  | 1.0221  | 1.0190  | 1.0099  | 1.0000  |

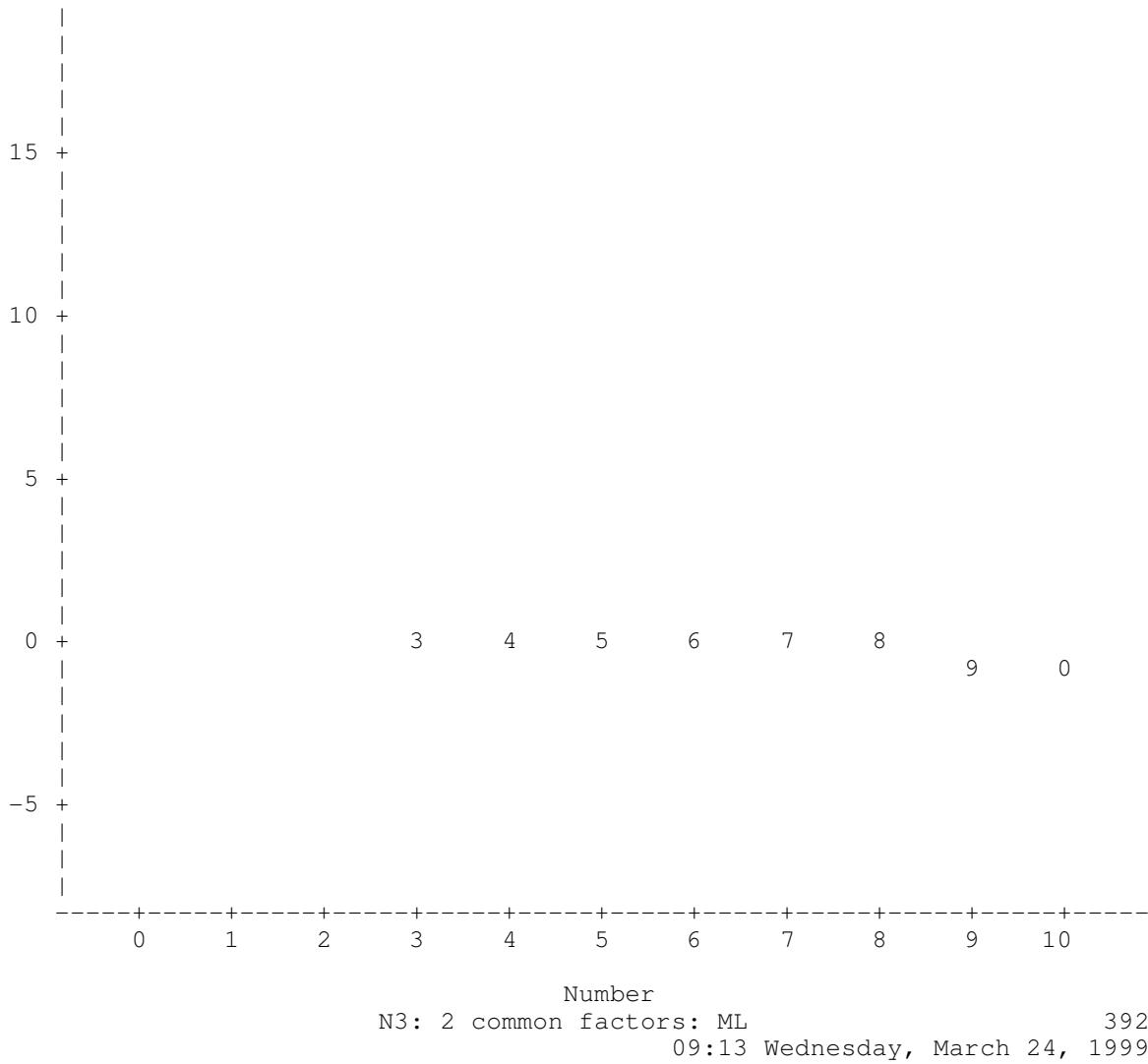
2 factors will be retained by the NFACTOR criterion.

N3: 2 common factors: ML 391  
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Initial Factor Method: Maximum Likelihood

Scree Plot of Eigenvalues





Initial Factor Method: Maximum Likelihood

| Iter | Criterion | Ridge | Change  | Communalities  |
|------|-----------|-------|---------|--|
| 1    | 0.09764   | 0.000 | 0.07928 | 1.00000 0.98217 0.82814 0.01589 0.88973<br>0.00175 0.93609 0.01164 0.00385 0.01374 |
| 2    | 0.09345   | 0.000 | 0.00685 | 1.00000 0.98493 0.83186 0.01033 0.89658<br>0.00012 0.93811 0.01094 0.00227 0.01236 |
| 3    | 0.09345   | 0.000 | 0.00010 | 1.00000 0.98494 0.83183 0.01031 0.89658<br>0.00011 0.93811 0.01104 0.00230 0.01235 |

Convergence criterion satisfied.

Significance tests based on 250 observations:

Test of H0: No common factors.  
vs HA: At least one common factor.

Chi-square = 1647.259 df = 45 Prob>chi\*\*2 = 0.0001

Test of H0: 2 Factors are sufficient.  
vs HA: More factors are needed.

Chi-square = 22.755 df = 26 Prob>chi\*\*2 = 0.6468

Chi-square without Bartlett's correction = 23.268770071

Akaike's Information Criterion = -28.73122993  
 Schwarz's Bayesian Criterion = -120.2892138  
 Tucker and Lewis's Reliability Coefficient = 1.0035054824

## Squared Canonical Correlations

| FACTOR1  | FACTOR2  |
|----------|----------|
| 1.000000 | 0.988105 |

## Eigenvectors

|  | 1 | 2 |
|--|---|---|
|--|---|---|

|     |         |          |
|-----|---------|----------|
| X1  | 1.00000 | 0.00000  |
| X2  | 0.00000 | 0.99839  |
| X3  | 0.00000 | -0.02428 |
| X4  | 0.00000 | 0.00264  |
| X5  | 0.00000 | -0.00025 |
| X6  | 0.00000 | -0.00373 |
| X7  | 0.00000 | -0.05105 |
| X8  | 0.00000 | 0.00129  |
| X9  | 0.00000 | -0.00063 |
| X10 | 0.00000 | 0.00124  |

N3: 2 common factors: ML

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Initial Factor Method: Maximum Likelihood

Eigenvalues of the Weighted Reduced Correlation Matrix:  
 Total = 83.0682439 Average = 9.22980488

|            | 1       | 2       | 3       | 4       | 5       |
|------------|---------|---------|---------|---------|---------|
| Eigenvalue | .       | 83.0682 | 0.3189  | 0.1476  | 0.0325  |
| Difference | .       | 82.7494 | 0.1713  | 0.1151  | 0.0477  |
| Proportion | .       | 1.0000  | 0.0038  | 0.0018  | 0.0004  |
| Cumulative | .       | 1.0000  | 1.0038  | 1.0056  | 1.0060  |
|            | 6       | 7       | 8       | 9       | 10      |
| Eigenvalue | -0.0152 | -0.0463 | -0.0861 | -0.1536 | -0.1978 |
| Difference | 0.0311  | 0.0398  | 0.0675  | 0.0442  |         |
| Proportion | -0.0002 | -0.0006 | -0.0010 | -0.0018 | -0.0024 |
| Cumulative | 1.0058  | 1.0053  | 1.0042  | 1.0024  | 1.0000  |

## Factor Pattern

|     | FACTOR1  | FACTOR2  |
|-----|----------|----------|
| X1  | 1.00000  | 0.00000  |
| X2  | 0.03442  | 0.99185  |
| X3  | 0.62946  | -0.66002 |
| X4  | -0.09966 | 0.01950  |
| X5  | 0.94631  | 0.03284  |
| X6  | 0.00149  | -0.01049 |
| X7  | -0.05058 | -0.96724 |
| X8  | -0.02546 | 0.10195  |
| X9  | -0.01503 | -0.04550 |
| X10 | -0.03923 | 0.10399  |

## Variance explained by each factor

|            | FACTOR1   | FACTOR2   |
|------------|-----------|-----------|
| Weighted   | 11.147643 | 83.068244 |
| Unweighted | 2.307808  | 2.379772  |

Final Communality Estimates and Variable Weights  
 Total Communality: Weighted = 94.215887 Unweighted = 4.687580

|             | X1       | X2       | X3       | X4       | X5       |
|-------------|----------|----------|----------|----------|----------|
| Communality | 1.000000 | 0.984941 | 0.831834 | 0.010312 | 0.896582 |

|             |          |                          |          |          |          |                                 |
|-------------|----------|--------------------------|----------|----------|----------|---------------------------------|
| Weight      | .        | 66.405803                | 5.946515 | 1.010419 | 9.669498 |                                 |
|             |          | X6                       | X7       | X8       | X9       | X10                             |
| Communality | 0.000112 | 0.938109                 | 0.011041 | 0.002296 | 0.012352 |                                 |
| Weight      | 1.000112 | 16.157568                | 1.011164 | 1.002301 | 1.012507 |                                 |
|             |          | N3: 2 common factors: ML |          |          |          | 394                             |
|             |          |                          |          |          |          | 09:13 Wednesday, March 24, 1999 |

Initial Factor Method: Maximum Likelihood

#### Residual Correlations With Uniqueness on the Diagonal

|     | X1       | X2       | X3       | X4       | X5       |
|-----|----------|----------|----------|----------|----------|
| X1  | 0.00000  | 0.00000  | 0.00000  | 0.00000  | 0.00000  |
| X2  | 0.00000  | 0.01506  | 0.00015  | -0.00396 | 0.00034  |
| X3  | 0.00000  | 0.00015  | 0.16817  | -0.02522 | -0.00523 |
| X4  | 0.00000  | -0.00396 | -0.02522 | 0.98969  | -0.02519 |
| X5  | 0.00000  | 0.00034  | -0.00523 | -0.02519 | 0.10342  |
| X6  | 0.00000  | 0.00221  | -0.02860 | -0.07845 | 0.01910  |
| X7  | 0.00000  | -0.00000 | 0.00060  | -0.01218 | 0.00272  |
| X8  | 0.00000  | 0.00432  | -0.00764 | -0.09267 | 0.00849  |
| X9  | 0.00000  | -0.00277 | 0.00059  | 0.10665  | -0.01694 |
| X10 | 0.00000  | -0.00025 | 0.02332  | -0.06749 | -0.01072 |
|     | X6       | X7       | X8       | X9       | X10      |
| X1  | 0.00000  | 0.00000  | 0.00000  | 0.00000  | 0.00000  |
| X2  | 0.00221  | -0.00000 | 0.00432  | -0.00277 | -0.00025 |
| X3  | -0.02860 | 0.00060  | -0.00764 | 0.00059  | 0.02332  |
| X4  | -0.07845 | -0.01218 | -0.09267 | 0.10665  | -0.06749 |
| X5  | 0.01910  | 0.00272  | 0.00849  | -0.01694 | -0.01072 |
| X6  | 0.99989  | 0.01716  | 0.06202  | -0.04536 | -0.02330 |
| X7  | 0.01716  | 0.06189  | 0.02056  | -0.01241 | -0.00653 |
| X8  | 0.06202  | 0.02056  | 0.98896  | 0.01480  | 0.07000  |
| X9  | -0.04536 | -0.01241 | 0.01480  | 0.99770  | -0.07480 |
| X10 | -0.02330 | -0.00653 | 0.07000  | -0.07480 | 0.98765  |

Root Mean Square Off-diagonal Residuals: Over-all = 0.03415791

|  | X1       | X2       | X3       | X4       | X5       |
|--|----------|----------|----------|----------|----------|
|  | 0.000000 | 0.002287 | 0.015217 | 0.059725 | 0.012945 |
|  | X6       | X7       | X8       | X9       | X10      |
|  | 0.039557 | 0.010904 | 0.044876 | 0.046779 | 0.042549 |

#### Partial Correlations Controlling Factors

|     | X1      | X2       | X3       | X4       | X5       |
|-----|---------|----------|----------|----------|----------|
| X1  | 0.00000 | 0.00000  | 0.00000  | 0.00000  | 0.00000  |
| X2  | 0.00000 | 1.00000  | 0.00289  | -0.03241 | 0.00854  |
| X3  | 0.00000 | 0.00289  | 1.00000  | -0.06182 | -0.03965 |
| X4  | 0.00000 | -0.03241 | -0.06182 | 1.00000  | -0.07873 |
| X5  | 0.00000 | 0.00854  | -0.03965 | -0.07873 | 1.00000  |
| X6  | 0.00000 | 0.01799  | -0.06974 | -0.07886 | 0.05939  |
| X7  | 0.00000 | -0.00004 | 0.00588  | -0.04920 | 0.03402  |
| X8  | 0.00000 | 0.03539  | -0.01872 | -0.09367 | 0.02656  |
| X9  | 0.00000 | -0.02261 | 0.00144  | 0.10733  | -0.05275 |
| X10 | 0.00000 | -0.00208 | 0.05721  | -0.06826 | -0.03354 |

N3: 2 common factors: ML 395  
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Initial Factor Method: Maximum Likelihood

#### Partial Correlations Controlling Factors

|     | X6       | X7       | X8       | X9       | X10      |
|-----|----------|----------|----------|----------|----------|
| X1  | 0.00000  | 0.00000  | 0.00000  | 0.00000  | 0.00000  |
| X2  | 0.01799  | -0.00004 | 0.03539  | -0.02261 | -0.00208 |
| X3  | -0.06974 | 0.00588  | -0.01872 | 0.00144  | 0.05721  |
| X4  | -0.07886 | -0.04920 | -0.09367 | 0.10733  | -0.06826 |
| X5  | 0.05939  | 0.03402  | 0.02656  | -0.05275 | -0.03354 |
| X6  | 1.00000  | 0.06898  | 0.06237  | -0.04542 | -0.02344 |
| X7  | 0.06898  | 1.00000  | 0.08311  | -0.04996 | -0.02642 |
| X8  | 0.06237  | 0.08311  | 1.00000  | 0.01490  | 0.07083  |
| X9  | -0.04542 | -0.04996 | 0.01490  | 1.00000  | -0.07535 |
| X10 | -0.02344 | -0.02642 | 0.07083  | -0.07535 | 1.00000  |

Root Mean Square Off-diagonal Partialis: Over-all = 0.04678705

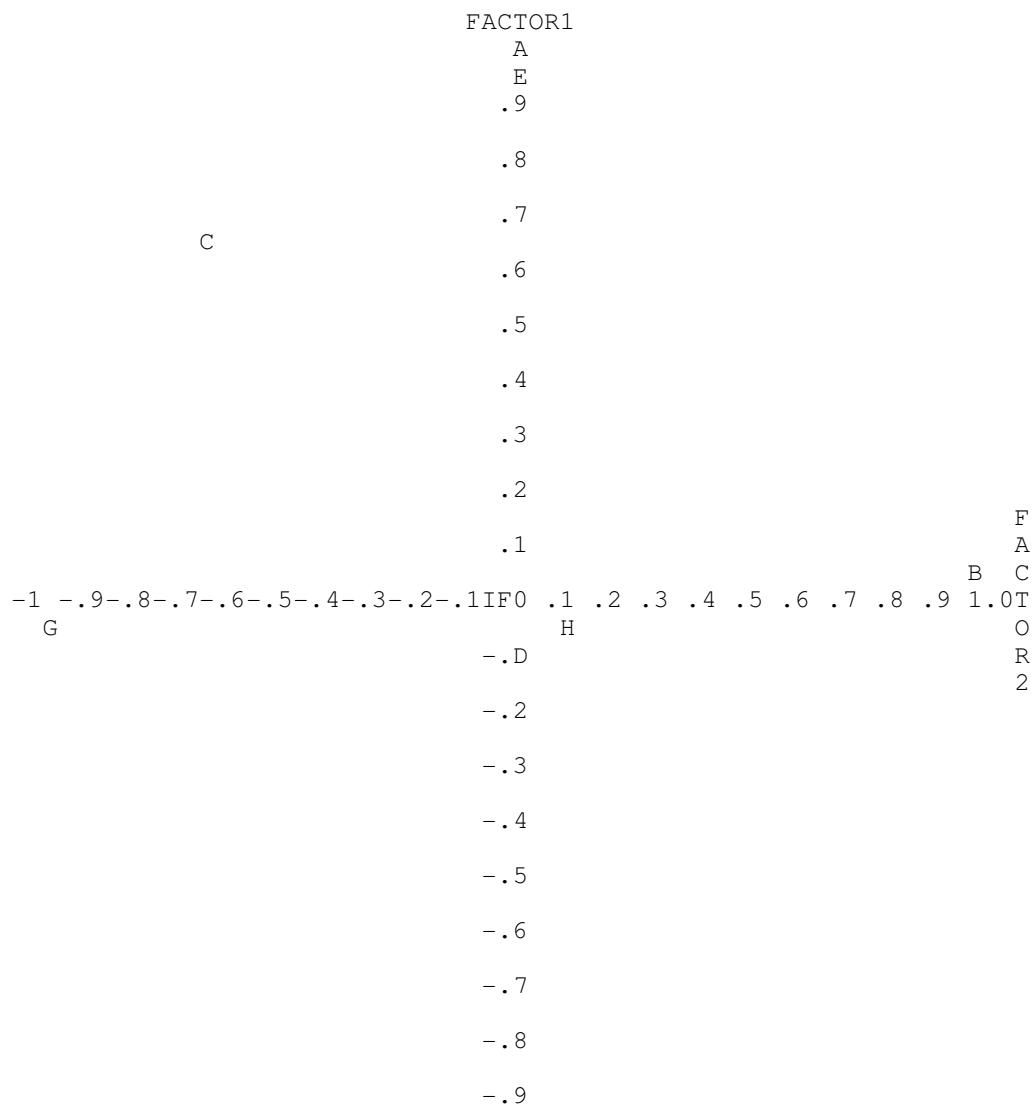
|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| X1       | X2       | X3       | X4       | X5       |
| 0.000000 | 0.018924 | 0.039337 | 0.070444 | 0.043641 |

|          |          |          |          |          |
|----------|----------|----------|----------|----------|
| X6       | X7       | X8       | X9       | X10      |
| 0.053949 | 0.045304 | 0.054892 | 0.052991 | 0.048310 |

N3: 2 common factors: ML 396  
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Initial Factor Method: Maximum Likelihood

Plot of Factor Pattern for FACTOR1 and FACTOR2



-1

|    |    |    |    |    |    |    |    |     |    |
|----|----|----|----|----|----|----|----|-----|----|
| X1 | =A | X2 | =B | X3 | =C | X4 | =D | X5  | =E |
| X6 | =F | X7 | =G | X8 | =H | X9 | =I | X10 | =H |

N3: 2 common factors: ML

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Rotation Method: Varimax

## Orthogonal Transformation Matrix

1 2

|   |          |          |
|---|----------|----------|
| 1 | -0.01848 | 0.99983  |
| 2 | -0.99983 | -0.01848 |

## Rotated Factor Pattern

FACTOR1 FACTOR2

|     |          |          |
|-----|----------|----------|
| X1  | -0.01848 | 0.99983  |
| X2  | -0.99231 | 0.01608  |
| X3  | 0.64827  | 0.64154  |
| X4  | -0.01765 | -0.10000 |
| X5  | -0.05032 | 0.94554  |
| X6  | 0.01046  | 0.00169  |
| X7  | 0.96801  | -0.03270 |
| X8  | -0.10146 | -0.02734 |
| X9  | 0.04577  | -0.01418 |
| X10 | -0.10324 | -0.04115 |

## Variance explained by each factor

|            |           |           |
|------------|-----------|-----------|
|            | FACTOR1   | FACTOR2   |
| Weighted   | 83.076176 | 11.139711 |
| Unweighted | 2.368320  | 2.319261  |

Final Communality Estimates and Variable Weights  
 Total Communality: Weighted = 94.215887 Unweighted = 4.687580

|             |          |           |          |          |          |
|-------------|----------|-----------|----------|----------|----------|
|             | X1       | X2        | X3       | X4       | X5       |
| Communality | 1.000000 | 0.984941  | 0.831834 | 0.010312 | 0.896582 |
| Weight      | .        | 66.405803 | 5.946515 | 1.010419 | 9.669498 |
|             | X6       | X7        | X8       | X9       | X10      |
| Communality | 0.000112 | 0.938109  | 0.011041 | 0.002296 | 0.012352 |
| Weight      | 1.000112 | 16.157568 | 1.011164 | 1.002301 | 1.012507 |

## Scoring Coefficients Estimated by Regression

## Squared Multiple Correlations of the Variables with each Factor

|                          |          |                                 |
|--------------------------|----------|---------------------------------|
|                          | FACTOR1  | FACTOR2                         |
|                          | 0.988109 | 0.999996                        |
| N3: 2 common factors: ML |          |                                 |
|                          |          | 398                             |
|                          |          | 09:13 Wednesday, March 24, 1999 |

Rotation Method: Varimax

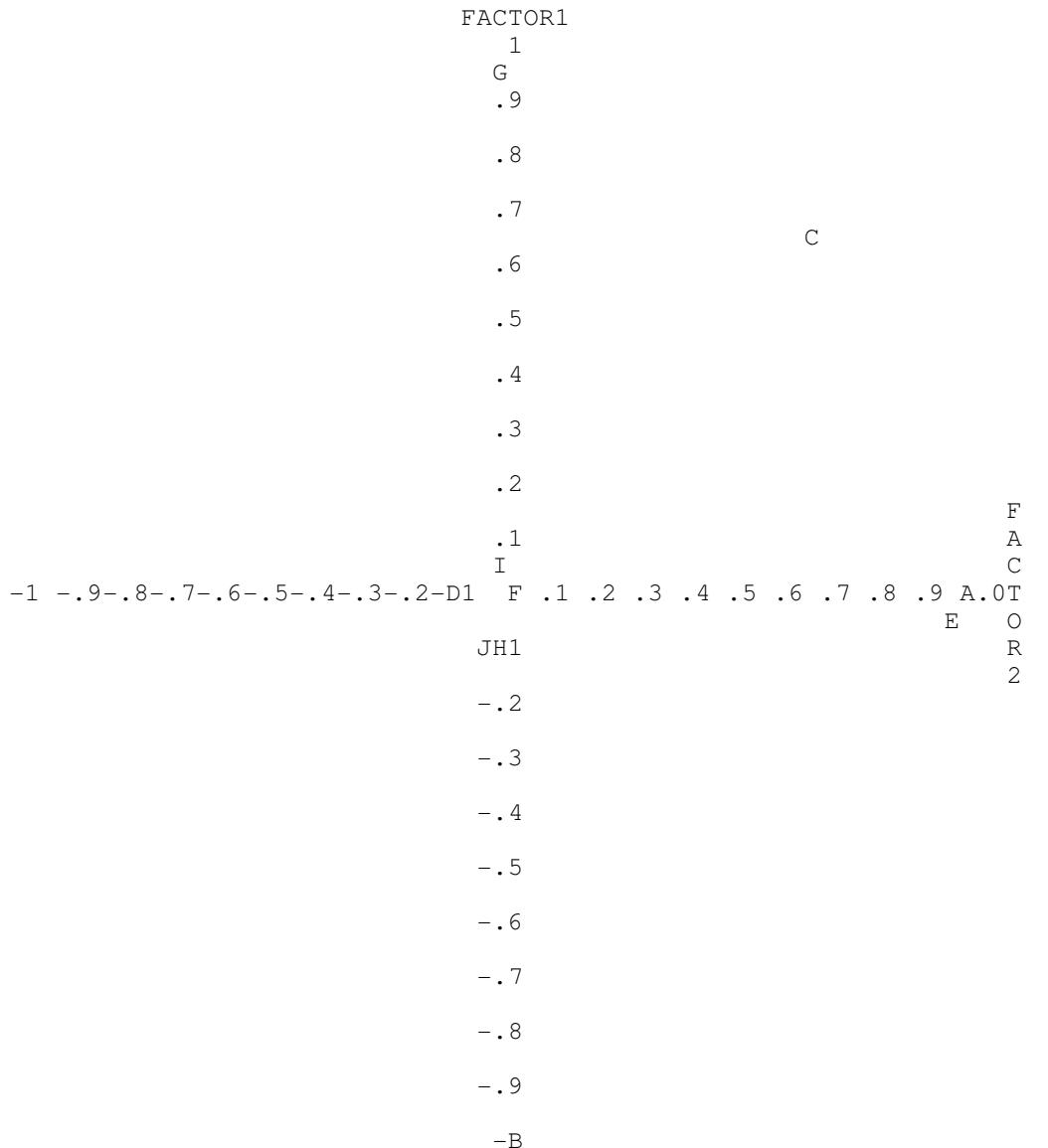
## Standardized Scoring Coefficients

FACTOR1 FACTOR2

|    |          |          |
|----|----------|----------|
| X1 | -0.00802 | 1.00002  |
| X2 | -0.78333 | -0.01448 |
| X3 | 0.04668  | 0.00086  |
| X4 | -0.00023 | -0.00000 |
| X5 | -0.00378 | -0.00007 |

Rotation Method: Varimax

## Plot of Factor Pattern for FACTOR1 and FACTOR2

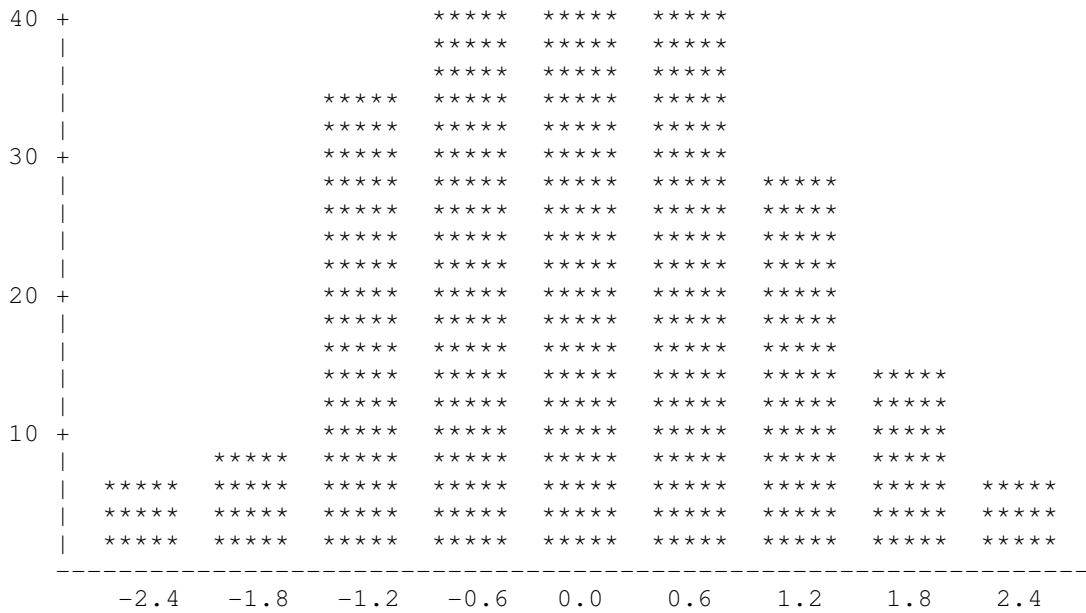


|    |    |    |    |    |    |    |    |     |    |
|----|----|----|----|----|----|----|----|-----|----|
| X1 | =A | X2 | =B | X3 | =C | X4 | =D | X5  | =E |
| X6 | =F | X7 | =G | X8 | =H | X9 | =I | X10 | =J |

N3: 2 common factors: ML 400  
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## Frequency



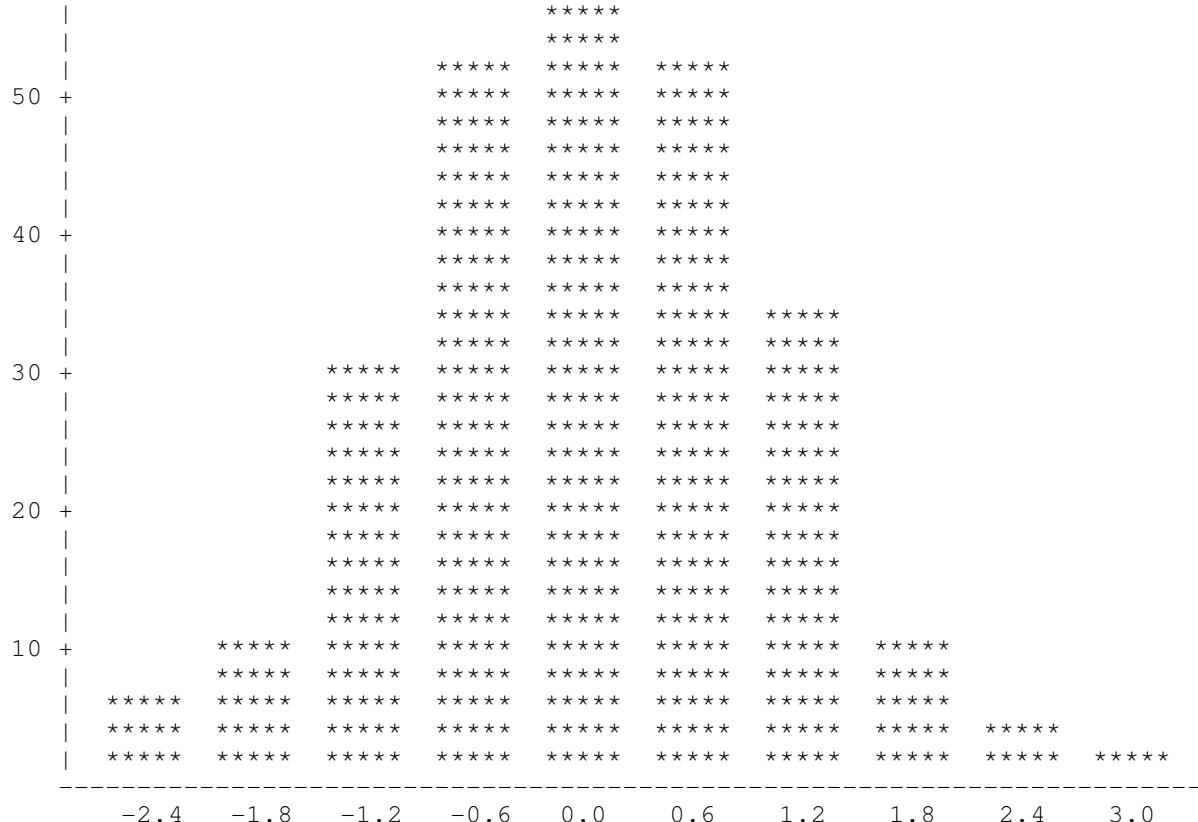


FACTOR1 Midpoint  
N3: 2 common factors: ML

401

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Frequency



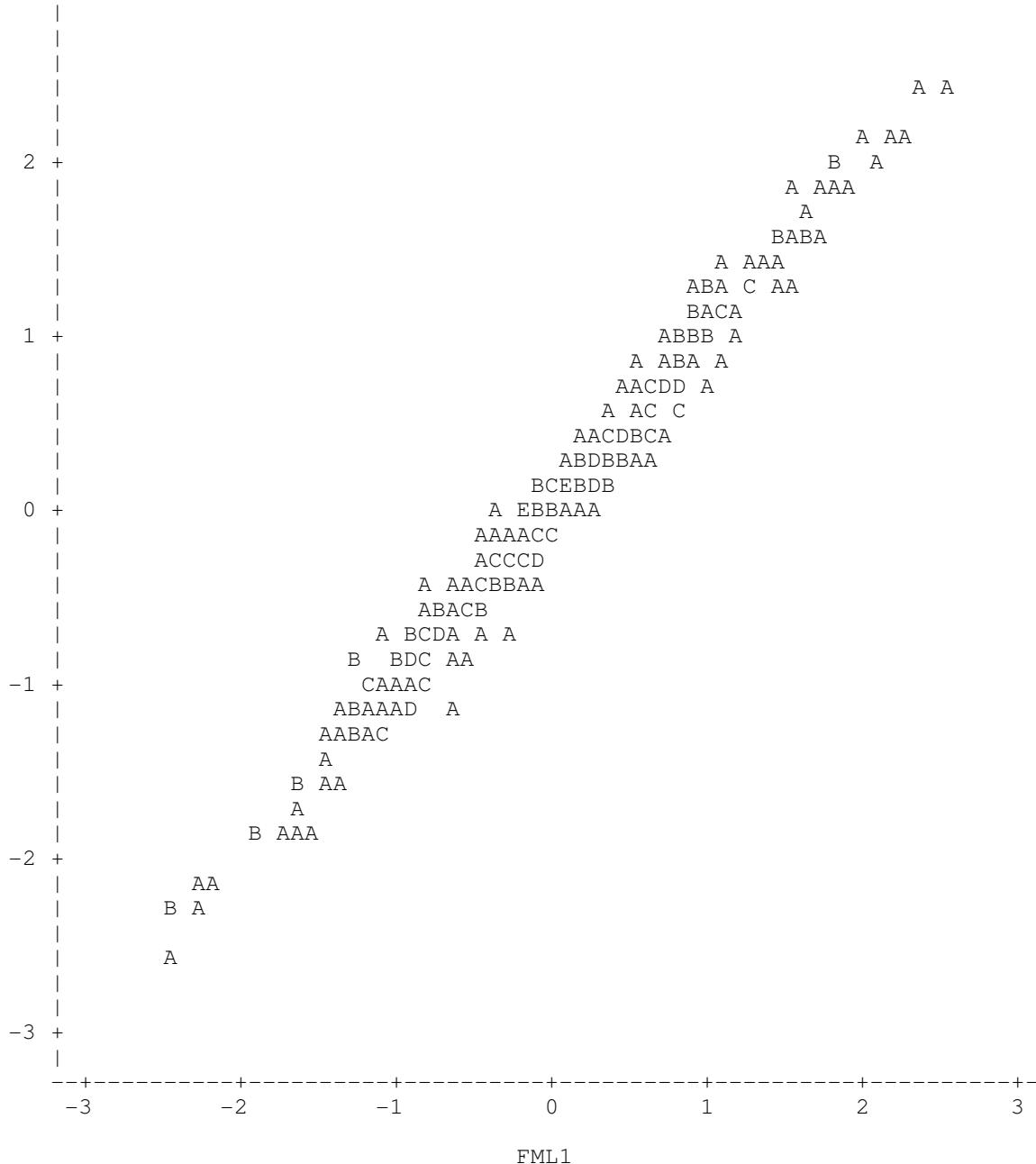
FACTOR2 Midpoint  
N3: Comparing factors by method

402

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Plot of FPCA1\*FML1. Legend: A = 1 obs, B = 2 obs, etc.

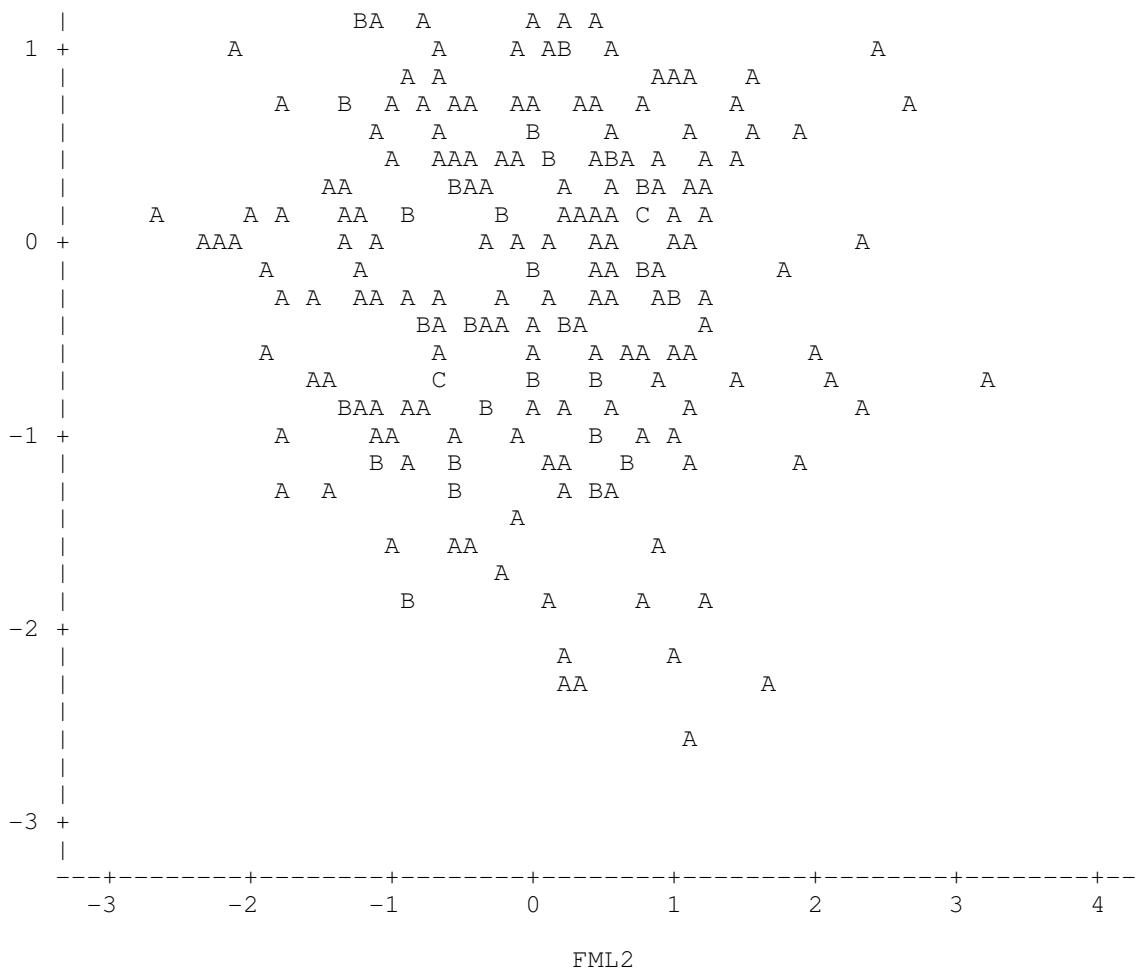
FPCA1 |  
|  
3 +



N3: Comparing factors by method 403  
09:13 Wednesday, March 24, 1999

Plot of FPCA1\*FML2. Legend: A = 1 obs, B = 2 obs, etc.

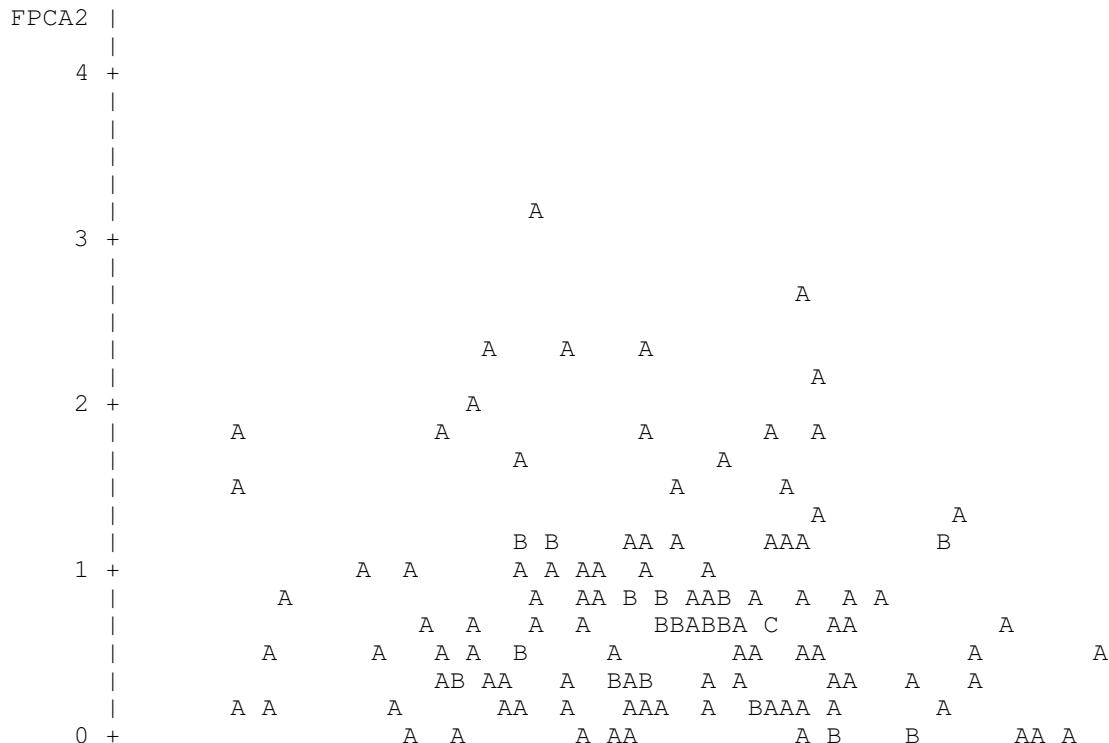


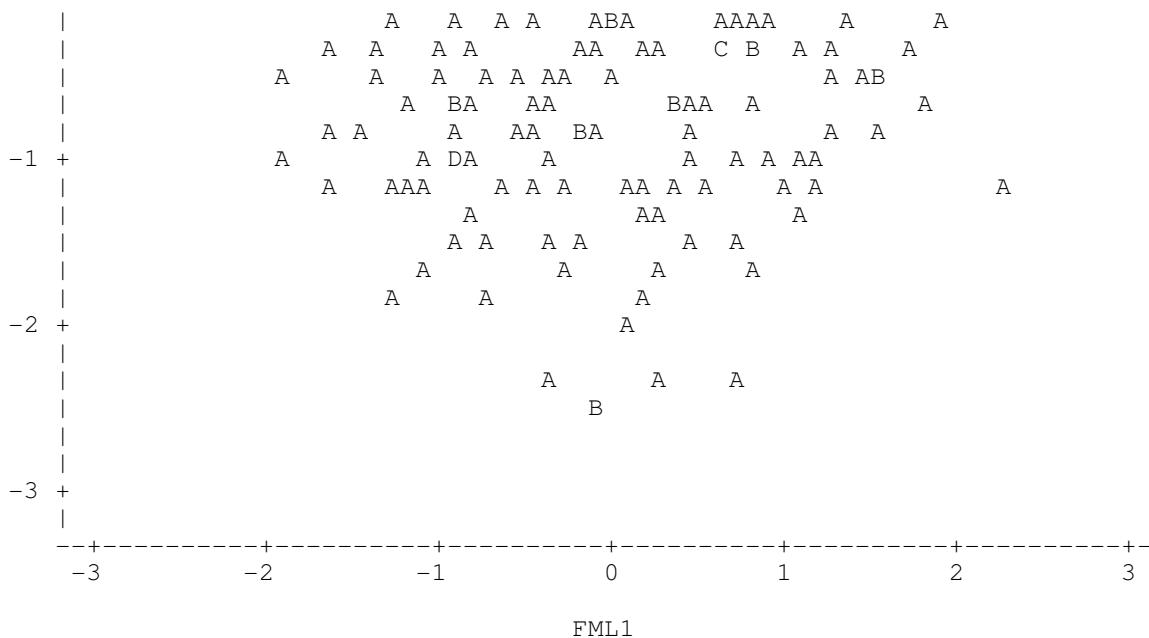


FML2

N3: Comparing factors by method 404  
09:13 Wednesday, March 24, 1999

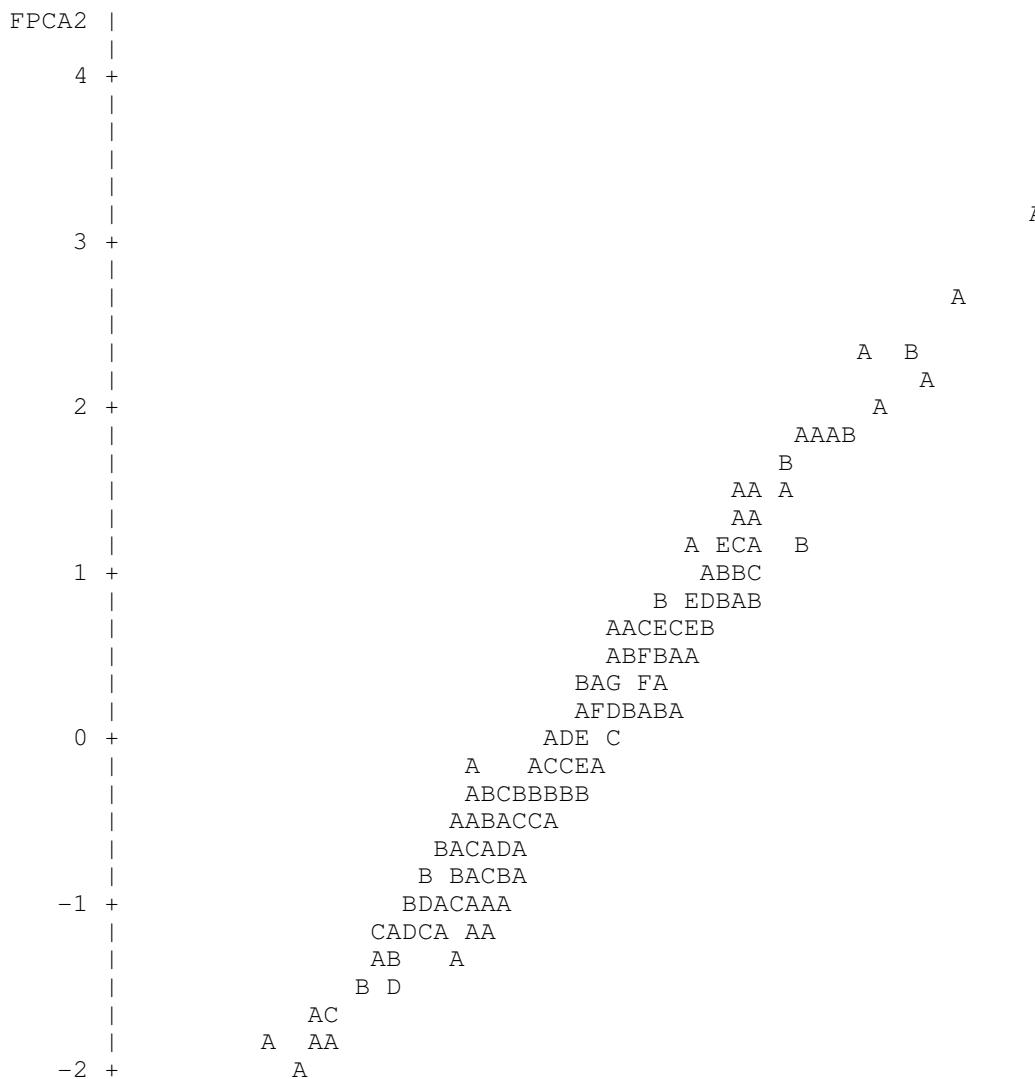
Plot of FPCA2\*FML1. Legend: A = 1 obs, B = 2 obs, etc.

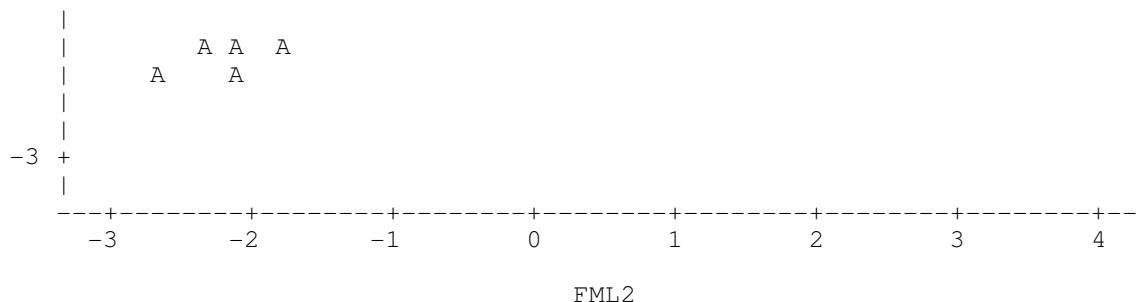




N3: Comparing factors by method 405  
09:13 Wednesday, March 24, 1999

Plot of FPCA2\*FML2. Legend: A = 1 obs, B = 2 obs, etc.





FML2