The rex2 data

March 24, 2011

The data:

```
para 1 0.722 0.714 0.203 0.095
sent 0.722 1 0.685 0.246 0.181
word 0.714 0.685 1 0.170 0.113
add 0.203 0.246 0.170 1 0.585
dots 0.095 0.181 0.113 0.585 1
```

The SAS code and output:

```
data rmat(type=corr);
  infile "rex2.dat";
  input _name_ $ para sent word add dots;

proc print;

proc factor scree method=prinit;

proc factor method=prinit rotate=varimax;

run;
```

```
Obs    _name_     para     sent     word     add      dots
 1      para     1.000    0.722    0.714    0.203    0.095
 2      sent     0.722    1.000    0.685    0.246    0.181
 3      word     0.714    0.685    1.000    0.170    0.113
 4      add      0.203    0.246    0.170    1.000    0.585
 5      dots     0.095    0.181    0.113    0.585    1.000

The FACTOR Procedure
Input Data Type                 Correlations
N Set/Assumed in Data Set              10000
N for Significance Tests               10000

The FACTOR Procedure
Initial Factor Method: Iterated Principal Factor Analysis
```

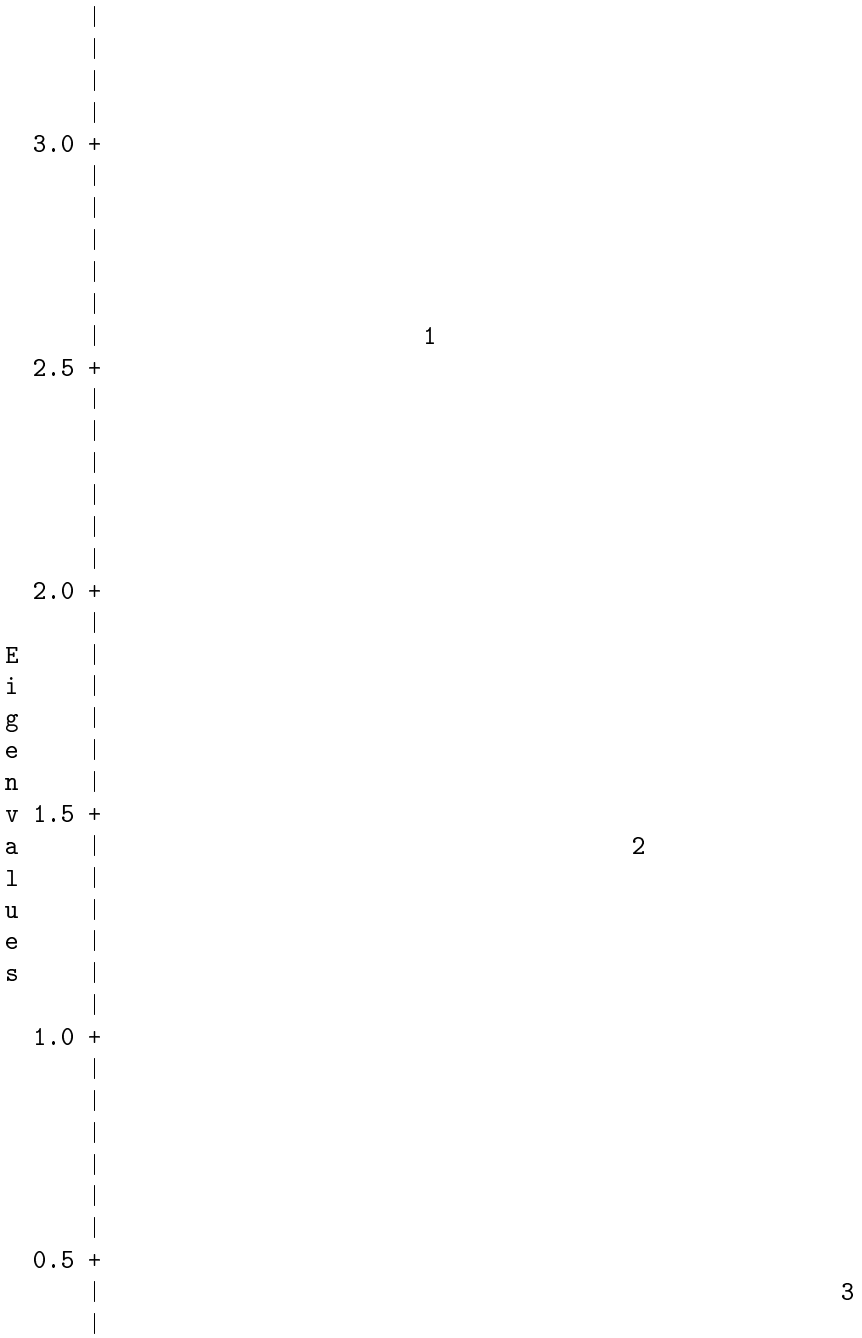
Prior Communality Estimates: ONE

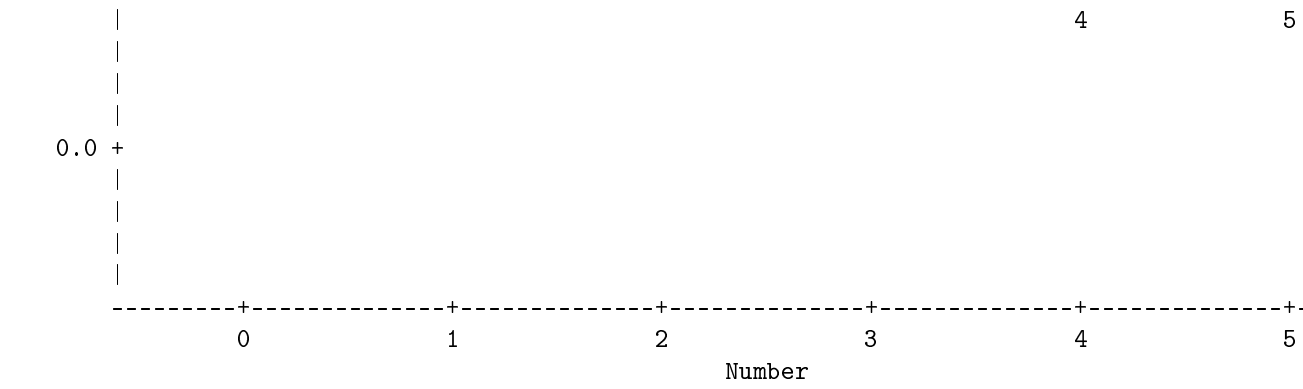
Preliminary Eigenvalues: Total = 5 Average = 1

	Eigenvalue	Difference	Proportion	Cumulative
1	2.58746987	1.16575215	0.5175	0.5175
2	1.42171772	1.00652661	0.2843	0.8018
3	0.41519110	0.10409071	0.0830	0.8849
4	0.31110040	0.04657948	0.0622	0.9471
5	0.26452092		0.0529	1.0000

2 factors will be retained by the MINEIGEN criterion.

The FACTOR Procedure
Initial Factor Method: Iterated Principal Factor Analysis





The FACTOR Procedure
Initial Factor Method: Iterated Principal Factor Analysis

Iteration	Change	Communalities				
1	0.2131	0.82449	0.79958	0.79560	0.78693	0.80260
2	0.1079	0.77053	0.73280	0.72295	0.67904	0.70591
3	0.0546	0.75532	0.71087	0.69607	0.62448	0.65842
4	0.0276	0.75209	0.70379	0.68539	0.59683	0.63515
5	0.0141	0.75228	0.70158	0.68068	0.58274	0.62385
6	0.0073	0.75321	0.70091	0.67833	0.57543	0.61851
7	0.0039	0.75412	0.70072	0.67702	0.57152	0.61614
8	0.0022	0.75484	0.70066	0.67622	0.56932	0.61524
9	0.0013	0.75537	0.70064	0.67571	0.56797	0.61508
10	0.0009	0.75575	0.70062	0.67537	0.56705	0.61529

Convergence criterion satisfied.

Eigenvalues of the Reduced Correlation Matrix: Total = 3.31477718 Average = 0.66295544

	Eigenvalue	Difference	Proportion	Cumulative
1	2.28220070	1.25031114	0.6885	0.6885
2	1.03188956	1.00687378	0.3113	0.9998
3	0.02501578	0.02604204	0.0075	1.0073
4	-.00102626	0.02227632	-0.0003	1.0070
5	-.02330258		-0.0070	1.0000

Factor Pattern

	Factor1	Factor2
para	0.83498	-0.24200
sent	0.82533	-0.13946
word	0.78992	-0.22671
add	0.40982	0.63174
dots	0.33454	0.70949

Variance Explained by Each Factor

```
   Factor1         Factor2
 2.2822007       1.0318896

              Final Communality Estimates: Total = 3.314090
      para            sent            word             add            dots
0.75574929      0.70062380      0.67537332      0.56705315      0.61529069

The FACTOR Procedure
Input Data Type                Correlations
N Set/Assumed in Data Set             10000
N for Significance Tests              10000

The FACTOR Procedure
Initial Factor Method: Iterated Principal Factor Analysis
Prior Communality Estimates: ONE

       Preliminary Eigenvalues: Total = 5  Average = 1
        Eigenvalue    Difference    Proportion    Cumulative
   1    2.58746987    1.16575215        0.5175        0.5175
   2    1.42171772    1.00652661        0.2843        0.8018
   3    0.41519110    0.10409071        0.0830        0.8849
   4    0.31110040    0.04657948        0.0622        0.9471
   5    0.26452092                      0.0529        1.0000
2 factors will be retained by the MINEIGEN criterion.

Iteration    Change                      Communalities
    1        0.2131    0.82449    0.79958    0.79560    0.78693    0.80260
    2        0.1079    0.77053    0.73280    0.72295    0.67904    0.70591
    3        0.0546    0.75532    0.71087    0.69607    0.62448    0.65842
    4        0.0276    0.75209    0.70379    0.68539    0.59683    0.63515
    5        0.0141    0.75228    0.70158    0.68068    0.58274    0.62385
    6        0.0073    0.75321    0.70091    0.67833    0.57543    0.61851
    7        0.0039    0.75412    0.70072    0.67702    0.57152    0.61614
    8        0.0022    0.75484    0.70066    0.67622    0.56932    0.61524
    9        0.0013    0.75537    0.70064    0.67571    0.56797    0.61508
   10        0.0009    0.75575    0.70062    0.67537    0.56705    0.61529

Convergence criterion satisfied.

Eigenvalues of the Reduced Correlation Matrix: Total = 3.31477718  Average = 0.66295544
        Eigenvalue    Difference    Proportion    Cumulative
   1    2.28220070    1.25031114        0.6885        0.6885
   2    1.03188956    1.00687378        0.3113        0.9998
   3    0.02501578    0.02604204        0.0075        1.0073
   4    -.00102626    0.02227632       -0.0003        1.0070
   5    -.02330258                     -0.0070        1.0000
```

```
          Factor Pattern
            Factor1         Factor2
para         0.83498        -0.24200
sent         0.82533        -0.13946
word         0.78992        -0.22671
add          0.40982         0.63174
dots         0.33454         0.70949

The FACTOR Procedure
Initial Factor Method: Iterated Principal Factor Analysis
Variance Explained by Each Factor
   Factor1         Factor2
 2.2822007       1.0318896

              Final Communality Estimates: Total = 3.314090
     para            sent            word             add            dots
0.75574929      0.70062380      0.67537332      0.56705315      0.61529069

The FACTOR Procedure
Rotation Method: Varimax
    Orthogonal Transformation Matrix
                       1               2
       1         0.93037         0.36663
       2        -0.36663         0.93037

       Rotated Factor Pattern
             Factor1         Factor2
para         0.86556         0.08098
sent         0.81899         0.17284
word         0.81804         0.07868
add          0.14966         0.73801
dots         0.05112         0.78274

Variance Explained by Each Factor
   Factor1         Factor2
 2.1141352       1.1999550

              Final Communality Estimates: Total = 3.314090
     para            sent            word             add            dots
0.75574929      0.70062380      0.67537332      0.56705315      0.61529069
```