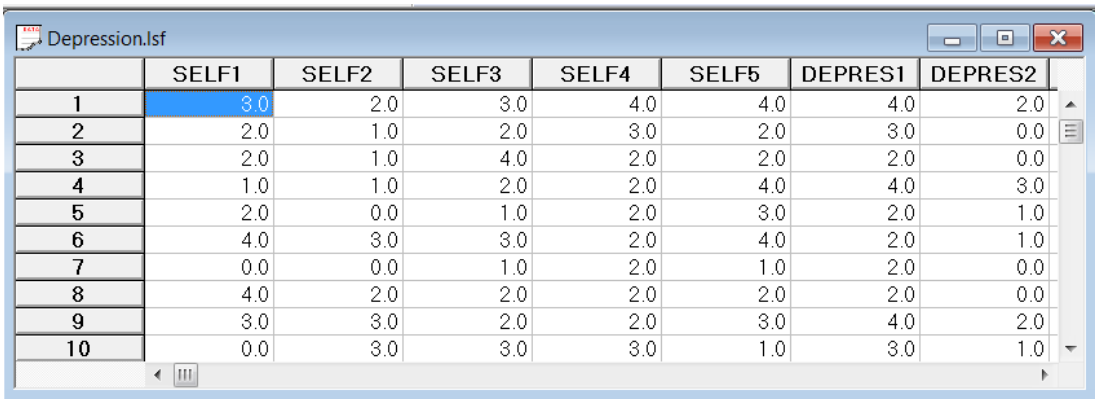
Scientific Software International

A measurement model

The data set contains 204 observations of 12 continuous variables. The 12 variables are indicators of the latent variables Self-esteem, Depression and Impulsiveness. The 12 variables are observed on a 5-point Likert scale. The data set is listed in the file **DEPRESSION.LSF,** located in the **SIMPLIS Examples** folder. The first portion of **DEPRESSION.LSF** is shown in the **LSF** window below.



Depression.lsf

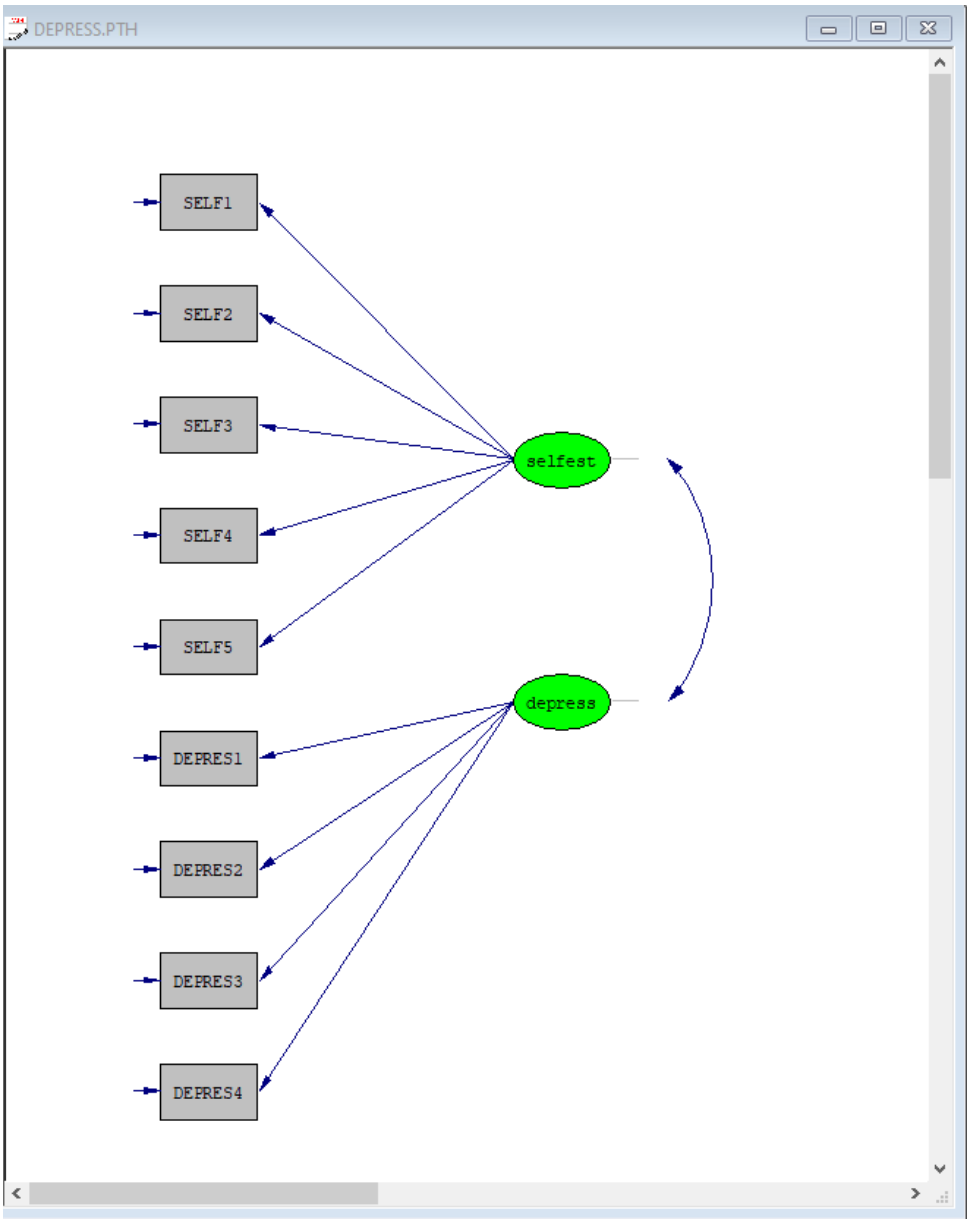
	SELF1	SELF2	SELF3	SELF4	SELF5	DEPRES1	DEPRES2
1	3.0	2.0	3.0	4.0	4.0	4.0	2.0
2	2.0	1.0	2.0	3.0	2.0	3.0	0.0
3	2.0	1.0	4.0	2.0	2.0	2.0	0.0
4	1.0	1.0	2.0	2.0	4.0	4.0	3.0
5	2.0	0.0	1.0	2.0	3.0	2.0	1.0
6	4.0	3.0	3.0	2.0	4.0	2.0	1.0
7	0.0	0.0	1.0	2.0	1.0	2.0	0.0
8	4.0	2.0	2.0	2.0	2.0	2.0	0.0
9	3.0	3.0	2.0	2.0	3.0	4.0	2.0
10	0.0	3.0	3.0	3.0	1.0	3.0	1.0

SELF1 to SELF5 are indicators of the latent variable Self-esteem (selfest). DEPRES1 to DEPRES4 are indicators of the latent variable Depression (depress). IMPULS1 to IMPULS3 are indicators of the latent variable Impulsiveness (impuls). A path diagram for the corresponding measurement model is shown below. The SIMPLIS syntax to set up this model is:

```
RAW DATA from file DEPRESS.LSF
Latent Variables: selfest depress

Relationships
SELF1-SELF5 = selfest
DEPRES1-DEPRES4 = depress

LSFFile DEPRESSION.LSF
Lisrel Output: ND=3
Path Diagram
End of Problem
```

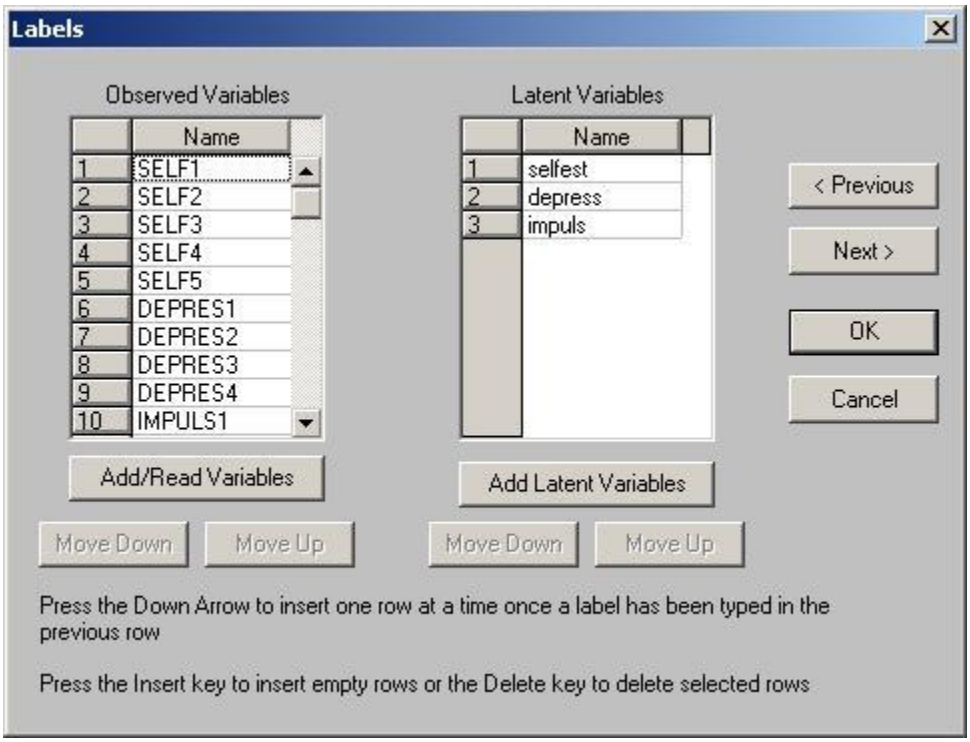


Select the **New** option on the **File** menu to load the **New** dialog box. Select the **Path Diagram** option from the list box to load the **Save As** dialog box. Enter the name **depress.pth** in the **File name** string field. Click on **Save** button to open an empty **PTH** window.

Select the **Title and Comments** option on the **Setup** menu to load the **Title and Comments** dialog box. Enter the title A CFA model for Depression in the **Title** string field. Click on the **Next** button to load the **Group Names** dialog box. Click on the **Next** button to load the **Labels** dialog box.

Click on the **Add/Read Variables** button to load the **Add/Read Variables** dialog box. Select the **LISREL System File** option in the **Read from file:** drop-down list box. Click on the ***Browse*** button to load the ***Browse*** dialog box and select the file **DEPRESS.PSF**.

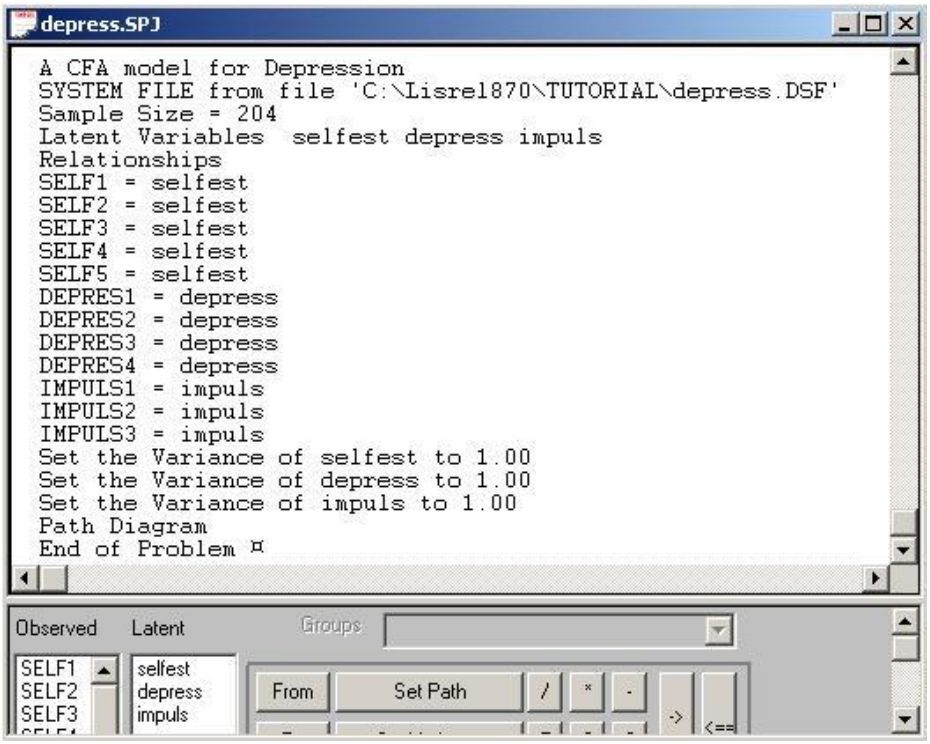
Click on the **Open** button to return to the **Add/Read Variables** dialog box. Click on the **OK** button to return to the ***Labels*** dialog box. Click on the **Add Latent Variables** button to load the **Add Variables** dialog box and enter the label selfest for Self-esteem in the string field. Click on the **OK** button to return to the **Labels** dialog box. Repeat the process to add depress and impuls in the same way.



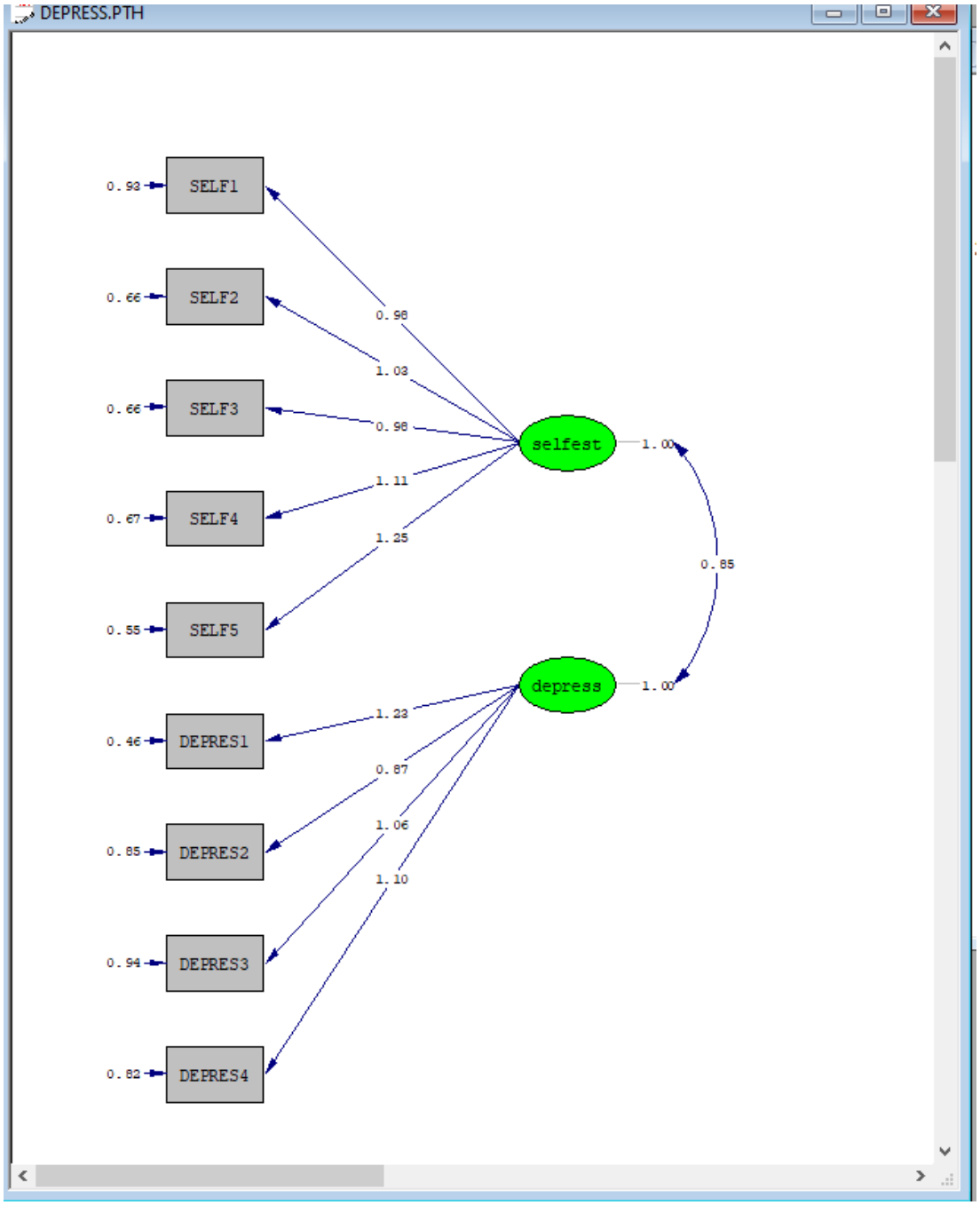
Click on the **OK** button to return to the **PTH** window. Click, drag and drop the labels of the observed variables one at a time into the **PTH** window. Click, drag and drop the labels of the latent variables one at a time into the **PTH** window.

Select the arrow icon on the **Drawing** toolbar. Click and drag paths from selfest to SELF1, SELF2, SELF3, SELF4 and SELF5 respectively. Click and drag paths from depress to DEPRES1, DEPRES2, DEPRES3 and DEPRES4 respectively. Click and drag paths from impuls to IMPULS1, IMPULS2 and IMPULS3 respectively.

Select the **Build SIMPLIS Syntax** option on the **Setup** menu to open the following **SPJ** window.



Click on the **Run LISREL** icon on the main toolbar to produce the following **PTH** window.


DEPRESS.PTH
0.93
SELF1
0.66
SELF2
0.66
SELF3
0.67
SELF4
0.55
SELF5
0.46
DEPRES1
0.85
DEPRES2
0.94
DEPRES3
0.82
DEPRES4
0.98
1.03
0.98
1.11
1.25
selfest
1.00
0.85
depress
1.00
1.23
0.87
1.06
1.10