

How to draw networks from a matrix?

A short instruction in 8 steps for Netdraw within UCINET

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Version 12 October 2009

First, get the a free copy of the trial version of the program UCINET;

<http://www.analytictech.com/downloaduc6.htm>

After the trial period has ended, the program continues executing the most elementary calculations, under which the methods that are described in this instruction.

Step1: Required Data Format

Step 2: Import the Data

Step 3: Start Netdraw

Step 4: Drawing a First Network

Step 5: Draw More Networks

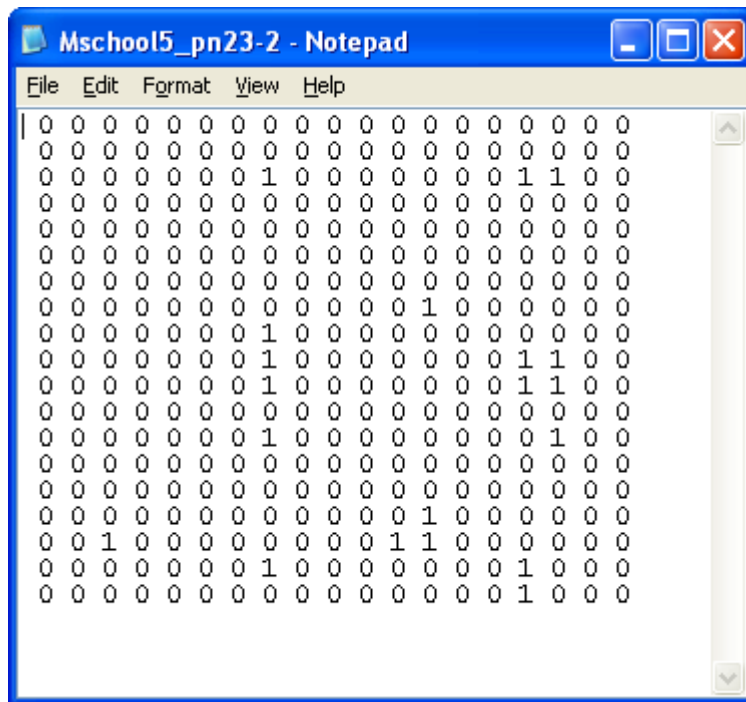
Step 6: Upload Actor Covariates

Step 7: Assign Actors with Their Attributes

Step 8: Save the network-picture

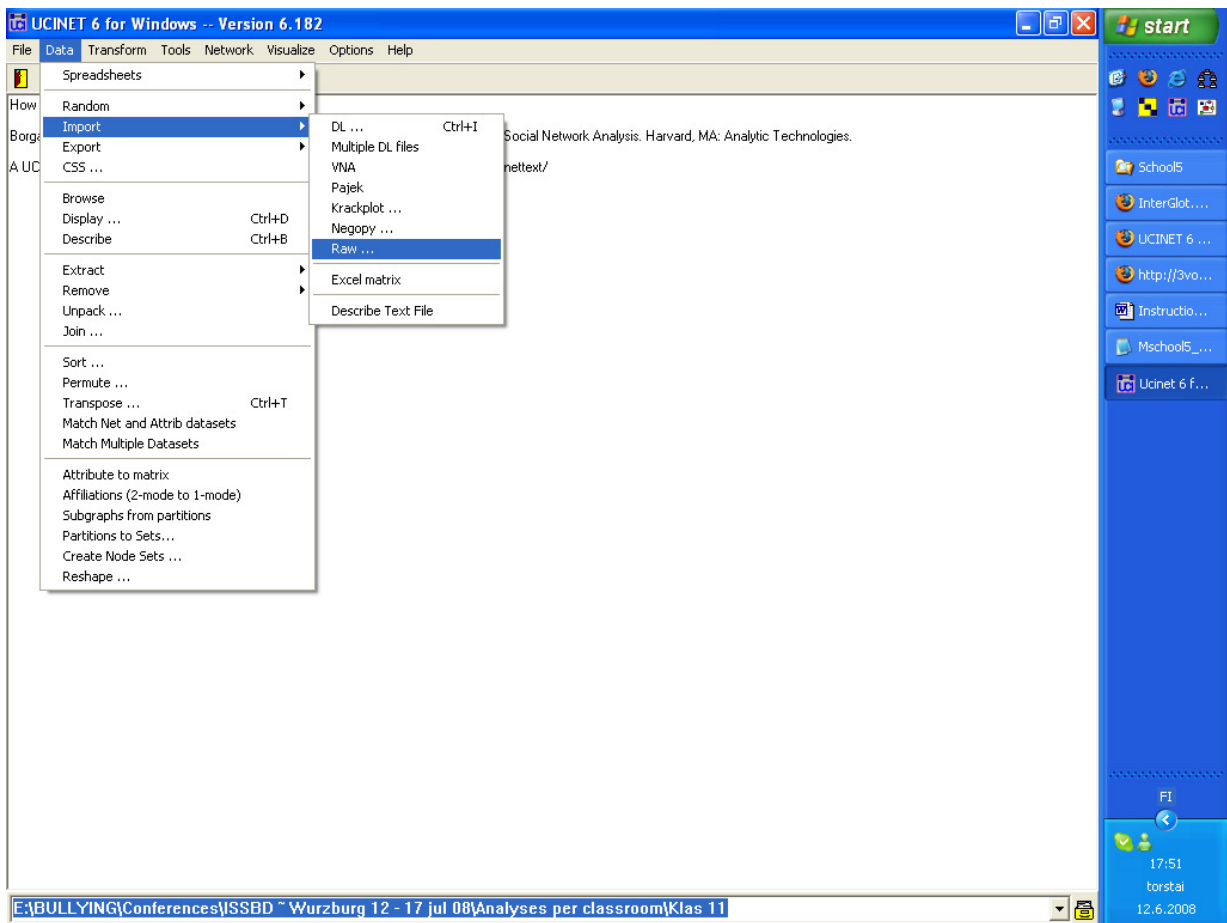
Step1: Required Data Format

The data that are needed as input for a visual presentation of a social network is a matrix. An example is given below. The files required are plain txt-files.



Step 2: Import the Data

Go to UCINET, and click on the tabs DATA, IMPORT, RAW.



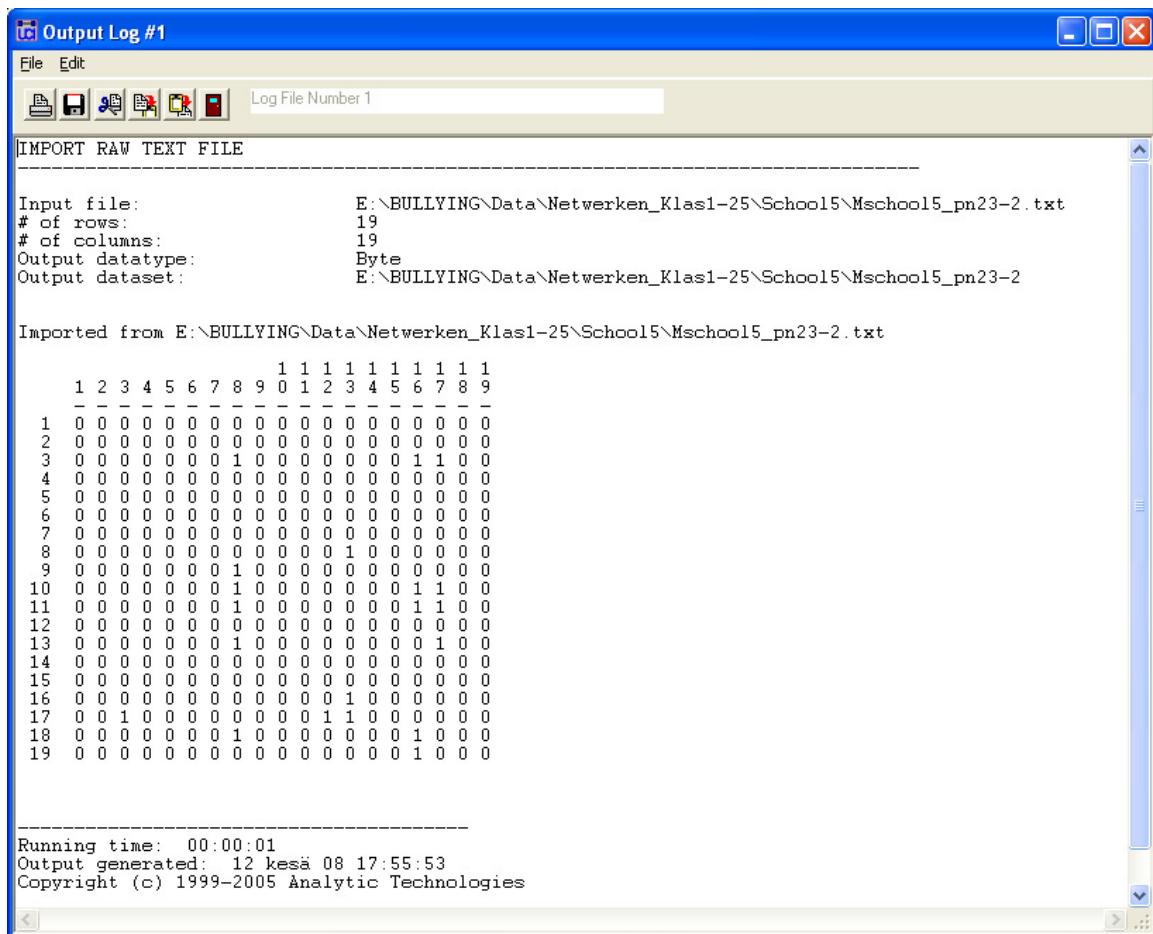
After indicating that you want to import raw data, you will see the following scheme:



Click the button that has been circled. Now you can select the network that you want to visualize.

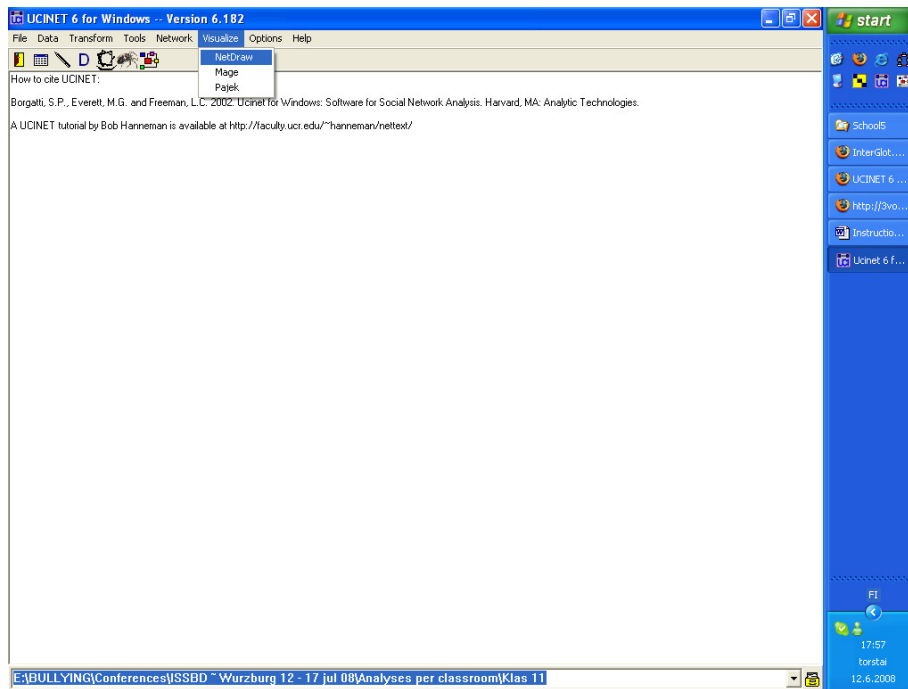
Remember that this should be a txt-file. After selecting the right file, UCINET automatically inputs the number of columns and rows. It is wise to check if these are correct. For a network, these should be equal to the number of actors in the network. The output dataset is automatically named in the right way and the imported dataset will be placed in the folder where the raw data was found.

When you press “OK”, you will get the output file where you can verify if the importing procedure was carried out successfully:



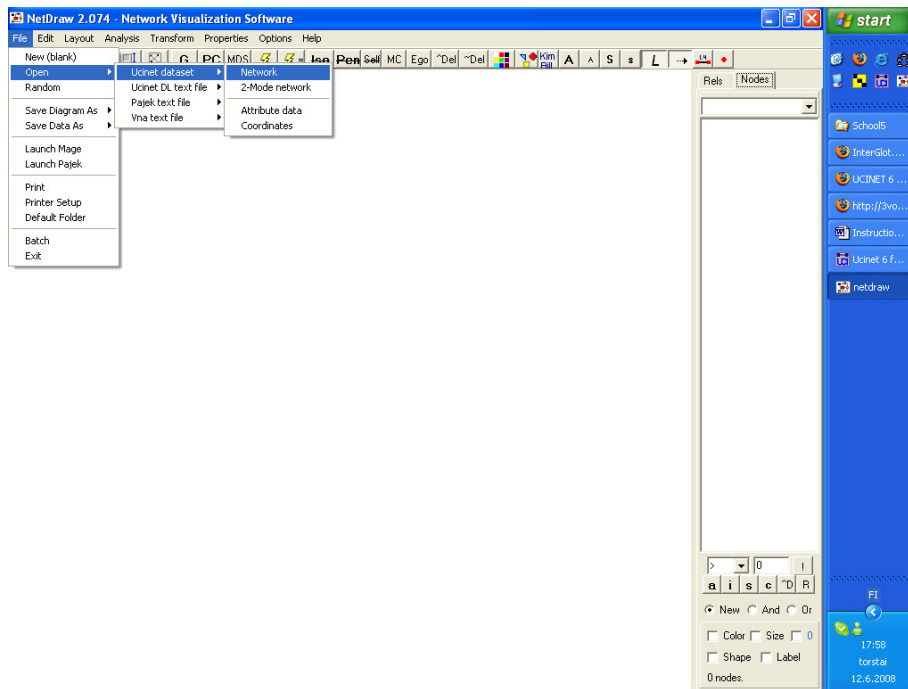
Step 3: Start Netdraw

When you have imported the data correctly, you can start Netdraw in UCINET by going to the tabs VISUALIZE and NETDRAW:

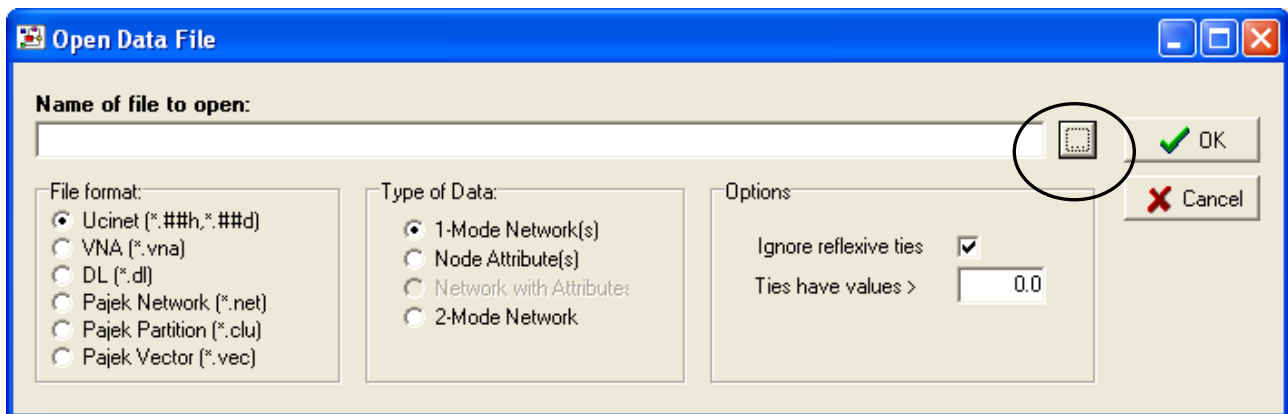


Step 4: Drawing a First Network

In Netdraw, you can open the new file via the tabs FILE, OPEN, UCINET DATASET, NETWORK:

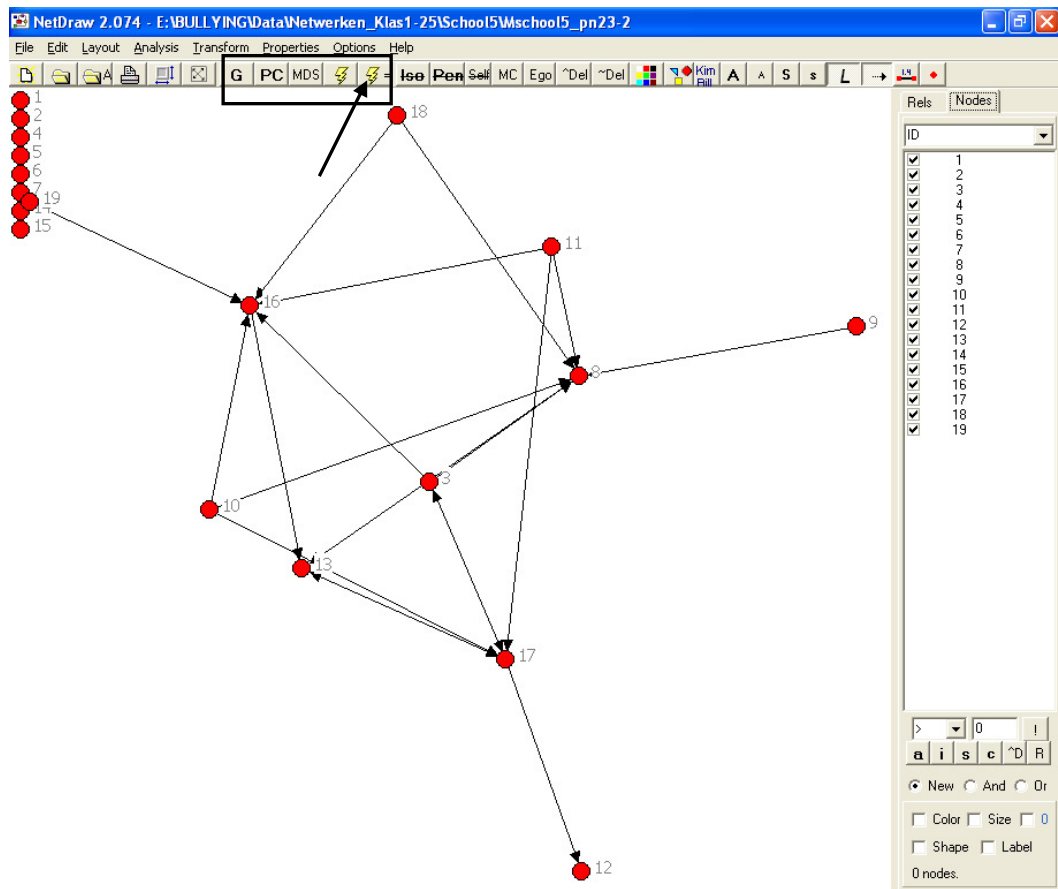


There you will see the following scheme:



Click the circled button, search for the imported network-file, press “OK”, and the network will appear.

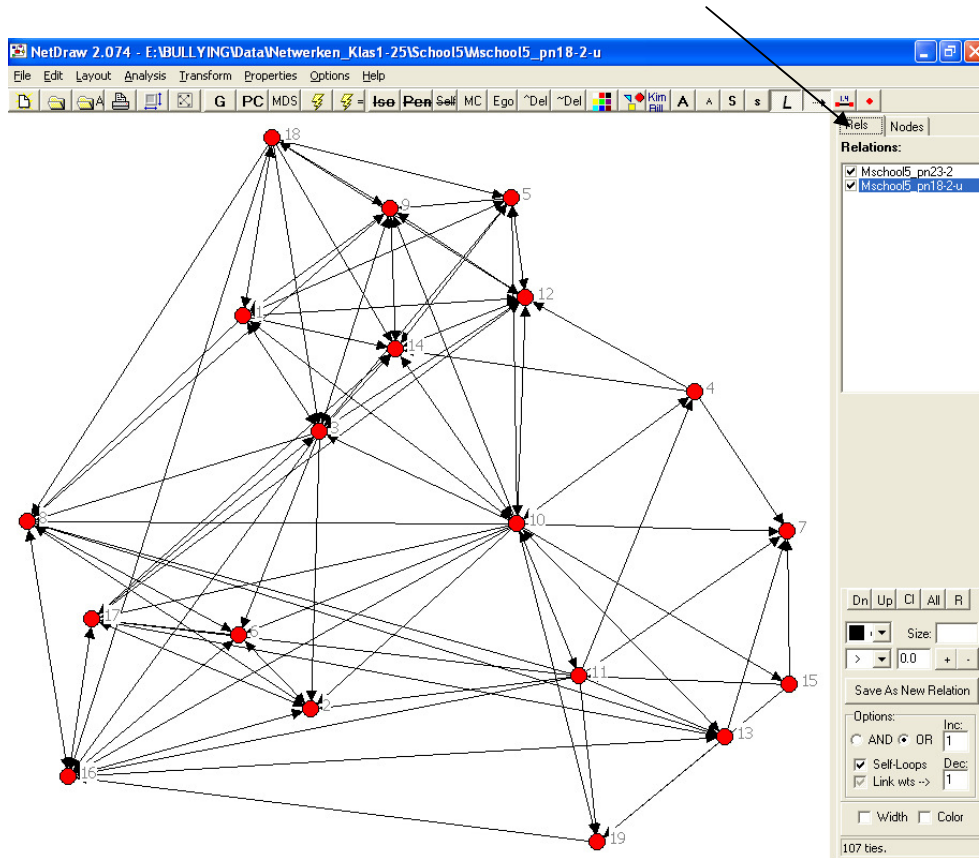
Netdraw has integrated some features which are helpful for a good scaling of the actors over the screen:



Of them, the right “thunderbolt” often works the best (it is above signed with an arrow). In addition to automatically assigning nodes to a position in the network, you can also move them by yourself: just click on a node, keep the mouse button pressed, and move it to the desired position.

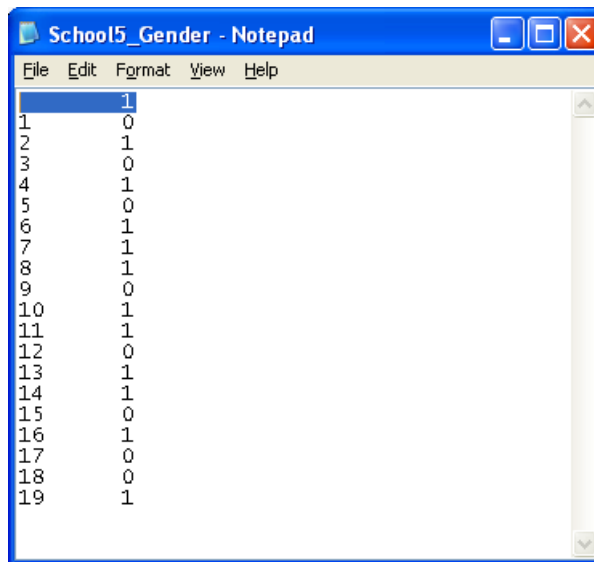
Step 5: Draw More Networks

Step 4 can be repeated for networks of the same classroom (e.g., bullying, defending, best friends, etc.). Netdraw recognizes that networks are from the same classroom when the networks have an equal number of students. Under the heading “relations” you can select the networks that you want to visualize.



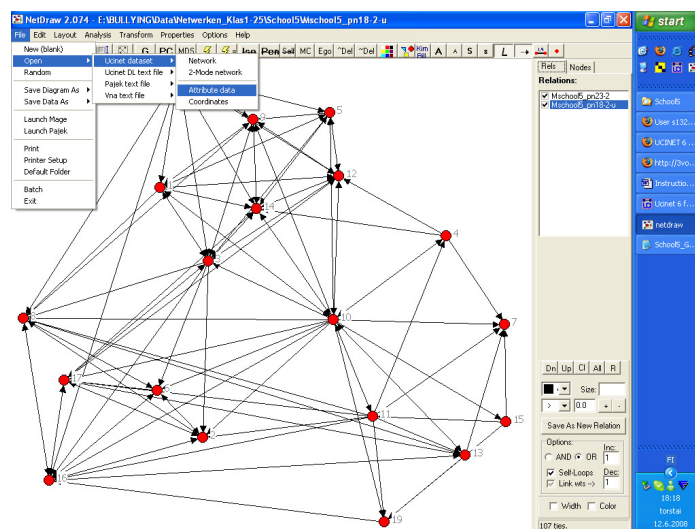
Step 6: Upload Actor Covariates

Besides the networks, it is possible to display the actors with colors and shapes to represent actor attributes like gender, smoking behavior, etcetera. To do this, upload as in Step 2 a file with the actor covariates. Make sure that the number of rows equals the number of actors in the network, and the number of columns represent the covariates you want to include. For example, the data-file might look like this (the first column are the actors id-numbers):



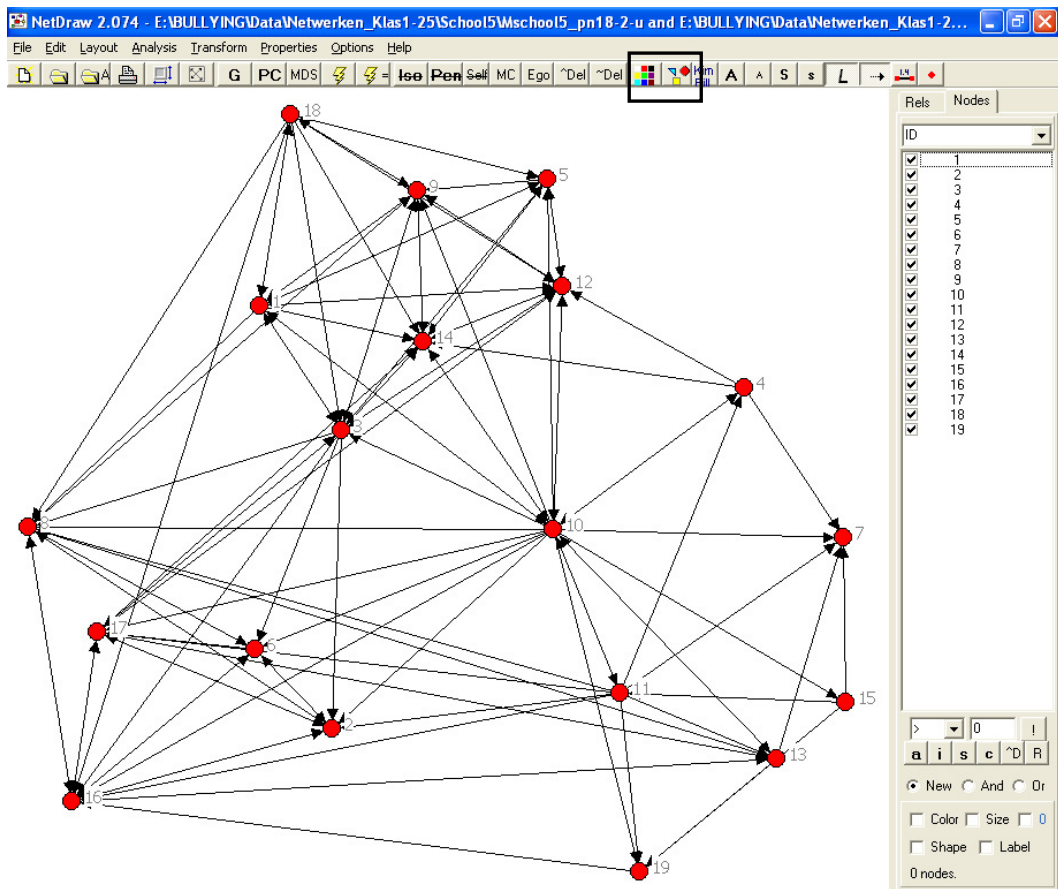
| Actor ID | Gender |
|----------|--------|
| 1 | 0 |
| 2 | 1 |
| 3 | 0 |
| 4 | 1 |
| 5 | 0 |
| 6 | 1 |
| 7 | 1 |
| 8 | 1 |
| 9 | 0 |
| 10 | 1 |
| 11 | 1 |
| 12 | 0 |
| 13 | 1 |
| 14 | 1 |
| 15 | 0 |
| 16 | 1 |
| 17 | 0 |
| 18 | 0 |
| 19 | 1 |

If the file with actor attributes has been imported to a UCINET-dataset as described in Step 2, go to Netdraw and select the tabs FILE, OPEN, UCINET DATASET, ATTRIBUTE DATA. If you select the file and press “OK”, it is available in Netdraw.

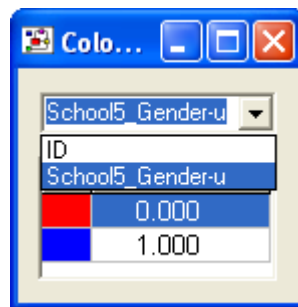


Step 7: Assign Actors with Their Attributes

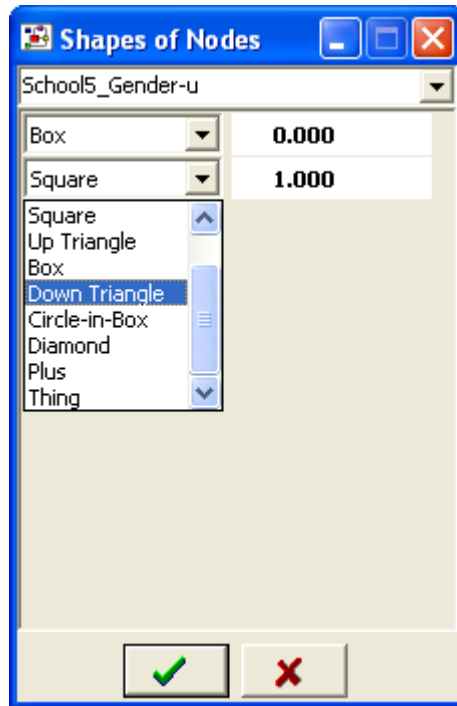
The buttons for shaping or coloring actors according their attributes are shown in the picture below:



For example, for coloring (the left button in the signed picture above), you can select the attribute you want and subsequently changes the colors by clicking on them:



The same can be done for shaping of the nodes (the right button):



Step 8: Save the network-picture

If the actors are positioned on a position that suffices you, and they have the right attributes assigned, you can save the picture. The easiest way is to save the picture as a “JPG” file, which is recognized by most programs (e.g., Microsoft Word). Go in Netdraw to FILE, SAVE DIAGRAM AS, JPEG.