Book: Measurement in medicine
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Instruction for creating an anchor-based MIC distribution Figure using SPSS and Excel.

1. **Start SPPS**
2. Create a new variabele 'improvement' improved (=1), not improved (=0).
3. Choose split file based on your new 'improvement' variable.
4. Make a frequency table in SPPS of the change score variable that you are interested in. Now you have the distribution of the change scores in the two subgroups 'improved' and 'not improved'.

Note: higher change scores should represent more improvement

5. **Start Excel**
6. STEP 1: Manually copy the SPSS output (two frequency tables) to Excel (copy/paste)
7. STEP 2: two extra data points should be added for each table . This is necessary otherwise the distribution curves will not hit the vertical line.
    a. Insert 2 extra rows 1 above the maximum change score and 1 below the minimal change score. Determine and enter the change score for these rows. This depends on the amount of change for each step (see example)
    b. Add a the valid percentage of 0 for both extra scores.
8. STEP 3: The valid percentages of (only!) the improved group should be negative. Add a negative sign to the numbers in this column or make a new column *(e.g.* **= - *D5)***.

Note: sometimes Excel does not understand the change scores, you will see a green mark in the upper corner of the cell, the solution is to change the data format of the cells to numerical.

Creating the graph in Excel:

1. tab *insert*: choose *chart*
2. choose: *XY (scatter)*, with sub-type '*scatter with data points connected by smoothed lines* (with markers)'
3. press: *next*
4. go to the tab *series* and press *add*; fill in:
a. name: improved
b. X-value: = *manually select your cells (valid percentages)*
c. Y-value: = *manually select your cells (change scores)*
5. press *add* again, and fill in:
a. name: unchanged
b. X-value: = *manually select your cells (valid percentages)*
c. Y-value: = *manually select your cells (change scores)*
6. press *next*, *next*, *finish*