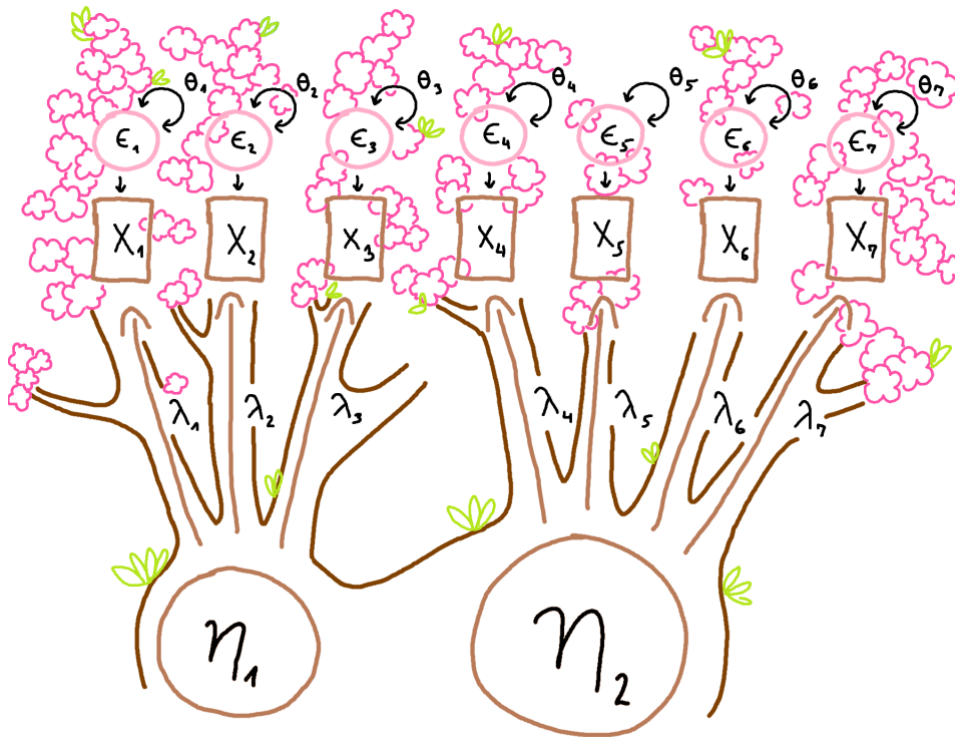


Final assignment



Perfection in statistics is an interesting concept. Contrary to its usual meaning, having something that is *perfect*, a model for example, has negative connotations. Who wants a model that fits perfectly? That's just a description of the data, not a model. So, the statistical objects are inherently imperfect because that's the way statistics are. Yet, there are ways one can infuse perfection in them anyway – conducting the procedure of modelling imperfection perfectly.

Daniël Lakens, a Dutch statistician, bouldering aficionado, and certainly not my celebrity crush, once wrote about [the perfect t-test](#). It's a script that computes and reports a t-test in the most perfectest way possible. Isn't that a beautiful concept? 'Take a simple analysis and make it perfect – sounds like the statistical version of a haiku.

*Two groups – different?
Much or slightly, who can tell?
The perfect t-test*

But in real research, you are under so many constraints that pulling a perfect anything is impossible. Luckily, that's where this assignment comes in. Your goal is to conduct and report the perfect factor analysis.

*Narrate, my latent,
common factors, the story
of these messy data*

First, you'll need some data. Obtain them any way you want. There are many free datasets that are not used to their full potential, so I suggest getting one of these. Check out [this directory](#) or the [Journal of Open Psychology Data](#).

Second – and this is where the individual lectures we've had start to converge – you need to have a strong case for the appropriateness of applying the common factor model to these data. Don't overdo it, but this entails at least glancing over the theory to be able to fulfill this point.

*Formed or reflected
oh tell me, my sweet measure,
how you came to be*

Third, you need to do the factor analysis itself. You can choose restricted/unrestricted, exploration/confirmation and you can use any software you want. The point here is to match the analysis to the data so that it makes sense. You can, e.g., try to create a new latent structure of something based on theory or you can pit a few expectations against each other.

*TLL, chi square,
do you have your tickets yet?
Model corrida*

Finally, you need to report everything according to best practices. Nothing important should be missing, so that the reader has a clear understanding of the sequence of steps from digging into the theory to specifying the model to finally fitting it and evaluating it.

*Are you clear as sky
path from data to model
or are you muddy?*

*Do my boot heels need
to dance to avoid all the bad
research steps you took?*

*Or are your standards
as high as one's TLL
is when all is well?*

I've overdone the haiku thing, I'm sorry. I'll move on.

I wish you good luck. If you need more info, please, send me an e-mail. **The deadline is by the end of January** but sooner you turn it in, the sooner you will be free! And remember – no need to be worried, I really want to give everyone at least 8/10.

Grading-wise, I will look for the following:

1. Is the case for using the common factor model built well enough? Is there a clear goal to the analysis? Does the analysis match the stated goal? (max. 5 points)
2. Technically, is the FA conducted correctly? Are the results interpreted correctly? (max. 5 points)
3. Are any challenging techniques (like GORIC) used? (+1 bonus point)
4. How many poems and cultural references did you manage to smuggle into the assignment?