Psychological Measurement Week 4

This week you will be assigned a measure from one of the big five and in groups asked to discuss what you think the construct is from the items, what you think it would predict, and a think of what someone who would score really high and really low on the measure would 'be like'.

# Task 1 – Short Group Activity

Using the list of 10 items you have been provided please answer the following questions:

|  |  |
| --- | --- |
| List the possible attributes or constructs that you think this measure trying to capture |  |
| What would someone who scored really high on this measure 'be like' do you think? i.e. what behaviours would be common? |  |
| What would someone who score very low on the measure 'be like' |  |
| Do you think the measure is missing any items? i.e. is it missing something important about the attribute? |  |
| Do you think any of the items are redundant? |  |

# Task 2 - Running a Parallel Analysis to check for dimensionality on our mock construct

Now you have identified your construct (one of the Big Five), your next task in groups will be to import our dataset and run a Parallel Analysis on them to see what happens.

Step 1: On the *Analyses* tab click Factor and select *Exploratory Factor Analysis*

Graphical user interface, application

Description automatically generated

Step 2: Select the items you want to check and click the arrow button to move them into the variables box.

Graphical user interface, application

Description automatically generated



Step 3: Check how many Factors can be identified from your data – ideally we want just a single factor.

Table

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Step 3: Check assumptions

Text

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*Bartlett’s test of sphericity* checks a the assumption that at least some of the items are correlated which is required for Factor Analysis. It compares the correlations between items with a case where there are no correlations at all to see if the items could possibly be correlated by chance. A significant Chi Squared suggests that this is not the case.

*Kaiser Meyer Olkin Test* Lets us know whether the number of participants we have is appropriate for factor analysis. Anything below 0.5 is unacceptable, but realistically we want anything above 0.7 for each item.

## Questions

Do the items appear to be describing a single construct? Are there any irregularities? Dimensionality is a primary assumption for many of the statistics that we will be using throughout this module - and so we need to make sure that our datasets meet this assumption. Based on the group's reports, please fill in the items below:



|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Extraversion | Openness | Conscientiousness | Agreeableness | Neuroticism |
| Sample size? |  |  |  |  |  |
| Unidimensional? |  |  |  |  |  |
| Reversed items? |  |  |  |  |  |
| Any differences when using PCA vs EFA? |  |  |  |  |  |

# Task 3 - Running a Parallel Analysis to check for dimensionality on your construct

|  |  |  |
| --- | --- | --- |
|  | Construct 1 | Construct 2 |
| Sample size? |  |  |
| Unidimensional? |  |  |
| Reversed items? |  |  |
| Any differences when using PCA vs EFA? |  |  |