Mock Exam

PSY721 - Tests & Measurements

In this part, researchers are building a measure of the Social Anxiety Disorder, which they conceptualize as comprised of three facets: Negative Thoughts (`nt`), Concern for Social Appropriateness (`csa`), and Lack of Social Skills (`lss`). They are using a questionnaire to measure them.

Each subscale is composed of 4 items, and each item is scored on a 7-point Likert scale, from 1 (strongly disagree) to 7 (strongly agree).

1. Social Anxiety Disorder is the psychological attribute researchers want to measure. Psychometricians generally refer to this as the _____ .

2. The researchers have previously selected the items by asking Subject Matter Experts to rate them. This is to maximize the _____ _____ (2 words) of the test.

3. Below is the correlation matrix between all the `csa` items. The researchers argue that one item should be removed. Which one would you suggest to delete?

   → _____

	csa1	csa2	csa3	csa4
csa1	1	0.18	0.46	0.46
csa2	0.18	1	0.15	0.14
csa3	0.46	0.15	1	0.41
csa4	0.46	0.14	0.41	1

4. Within the cluster of `csa` items, the weakest correlation is between items _____ and _____ .

5. The researchers want to investigate internal consistency. What statistical index would they use for this?

   → _____ _____ (2 words)

6. For the `csa` subscale, they found an internal consistency of 0.65. Is this value usually considered acceptable?

   → _____

7. Below are internal consistencies of the same subscale if each item were dropped. Which item would you delete based on this output?

   → _____

	??? if deleted
csa1	0.4971
csa2	0.7032
csa3	0.5307
csa4	0.5344

8. The researchers want to know how many items they would need to achieve an internal consistency of .85. They may want to use the _____ _____ formula.

   → _____

9. By increasing reliability, they would also reduce the standard _____ of measurement.

10. If the reliability is high, then the confidence intervals around the scores should be narrow / wide (circle the correct answer).

11. The measure of internal consistency typically used assumes essential _____ - equivalence, which is generally discussed as form of _____ Test Theory.

12. The researchers want to use another measure of reliability. One researcher suggests to use a Kolmogorov-Smirnov normality test for this purpose. Is this appropriate ? _____ .

13. The researchers want to study the questionnaire using Exploratory and Confirmatory Factor Analysis. The quality that they want to verify here is... (be specific)

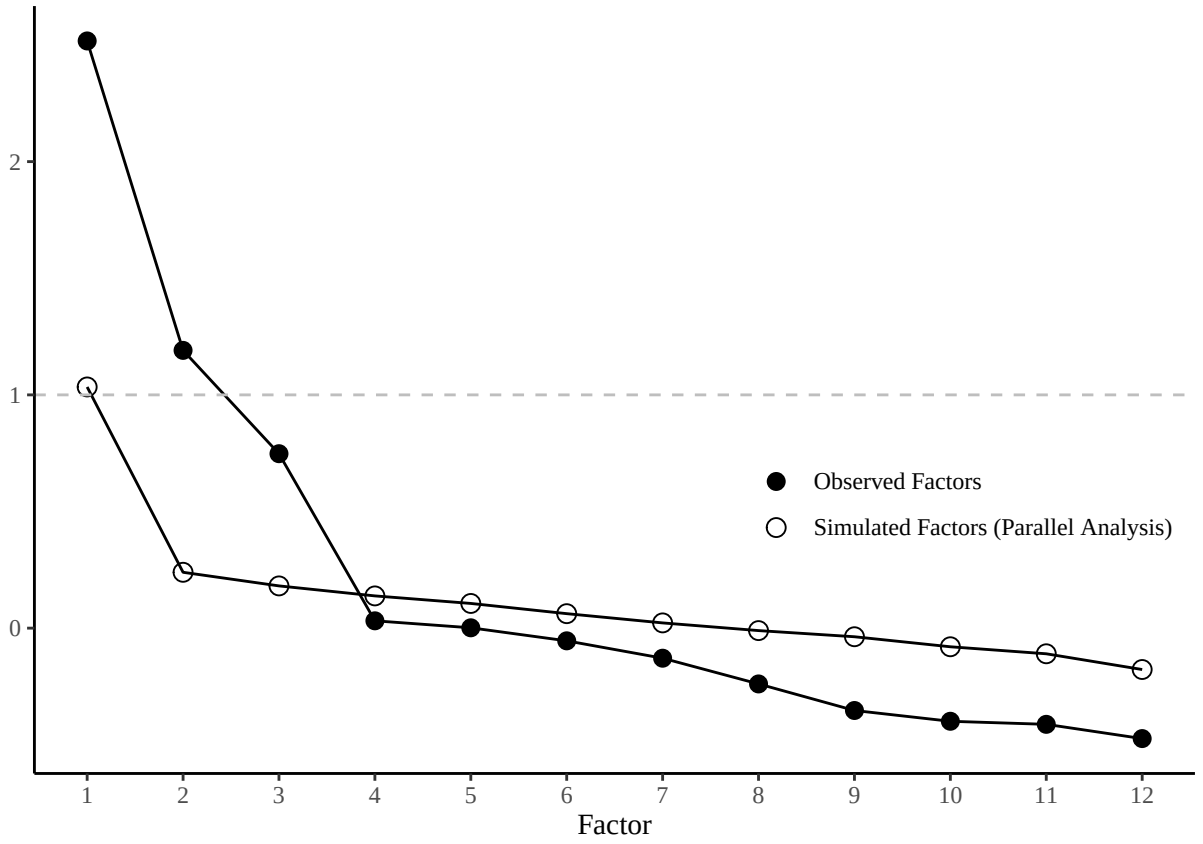
    → _____ _____

14. For that EFA, the researchers are not sure that the items are normally distributed. We could suggest that, instead of Maximum Likelihood Estimation, they use...

    → _____ _____ Factoring

15. SPSS outputs a graph similar to the one below. This is known as a...

    → _____ _____



16. The y axis presents the _____ of the factors.

17. The criterion consisting in keeping factors that precede a substantial drop in eigenvalue is called _____ 's criterion (a researcher's name is expected).

18. An alternative method consists in keeping _____ above 1. This is called _____'s criterion.

19. Horn suggested to simulate factors several times instead to identify which factors are likely spurious and which are not. This is referred to as a _____ _____ .

20. This last criterion seems to suggest to retain _____ factors.

21. To interpret these factors, it is generally preferable to perform a _____ first. If we assume the factors to be independent, it should be of the _____ type. An example of this type is _____ .

22. If the table below is the pattern matrix, then the table below presents the _____ of the different items by factors.

23. Based on it, what does factor 2 seem to correspond to?

    → _____

	Factor 1	Factor 2	Factor3
nt1	0.2002	0.7767	0.1807
nt2	0.1686	0.5521	0.1728
nt3	0.1822	0.683	0.1841

	Factor 1	Factor 2	Factor3
nt4	0.1921	0.6387	0.2028
csa1	0.1493	0.2363	0.7239
csa2	-0.0303	0.0251	0.2366
csa3	0.135	0.2056	0.6327
csa4	0.1562	0.089	0.6407
lss1	0.7487	0.1788	0.1274
lss2	0.7256	0.2275	0.2198
lss3	0.6772	0.179	0.154
lss4	0.7045	0.1947	0.1214

24. The researchers fit the theoretical structural model of the questionnaire to the data. They are thus performing a _____ _____ _____ .

25. A structure with only one general factor is generally called a _____ structure.

26. A structure where the three facets explain the items, and where the factors themselves are explained by a second-order factor is generally called a _____ structure.

27. Below are the fit indices of the model fit to the data. Are these indices satisfactory regarding the property that is studied here? _____

CFI	TLI	RMSEA	SRMR
0.9967	0.9958	0.01341	0.03021

28. The researchers do not plan to use sum scores or average scores, but instead to use this model for scoring. This is called using _____ scores.

29. Below is a scatter plot of the first measure and the second one week after. The researchers are likely trying to study here _____ - _____ _____ .

30. The correlation below seems null / weak negative / weak positive / strong positive / strong negative (circle the correct answer).

31. The researchers study the correlation between their measure of social anxiety and an already existing instrument to measure a similar construct. They are probably studying the _____ _____ of their test.