NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_

The assignment contains 5 problems (20 points total). You are required to do most of the questions by SPSS and one by hand (Question 3). Please upload your answers (in a word document) and the SPSS dataset, syntax, and/or output files. **ALL the SPSS Document please each question in each file, don’t put together. Other answer please, mark the question number in 1-word document.**

1. Imagine that we would like to know the effect of being on a cell phone on mothers’ reaction to a crying baby. We recruited 60 mothers, 30 of whom completed a baby cry detection task when talking on the phone, and the other 30 completed the same task without talking on the phone. Determine whether the two groups differ in their reaction times.
2. Create an SPSS dataset, perform the analysis in SPSS; Upload the dataset, syntax, and output to 1 files [sav./ spv. ] (please label them as Question 1) (2 points)
3. Interpret the SPSS results and report your findings in APA style. Please make sure to include descriptive statistics in your report as well. (2 points)

|  |  |
| --- | --- |
| **Cell phone** | **No cell phone** |
| 355 | 310 |
| 326 | 275 |
| 420 | 374 |
| 281 | 365 |
| 325 | 324 |
| 372 | 312 |
| 296 | 374 |
| 419 | 297 |
| 411 | 293 |
| 587 | 527 |
| 301 | 301 |
| 346 | 361 |
| 287 | 352 |
| 275 | 285 |
| 515 | 557 |
| 381 | 299 |
| 297 | 324 |
| 411 | 332 |
| 401 | 299 |
| 385 | 320 |
| 356 | 311 |
| 419 | 398 |
| 421 | 401 |
| 286 | 398 |
| 299 | 297 |
| 314 | 285 |
| 375 | 322 |
| 345 | 307 |
| 300 | 289 |
| 346 | 310 |

1. Imagine that the reaction time study was actually conducted as a within-subject design, such that each pair of data came from the same person. Rerun the analysis and determine whether the results differ.
   1. Create an SPSS dataset, perform the analysis in SPSS; Upload the dataset, syntax, and output to 1 files [sav./ spv. ] (please label them as Question 2; 2 points)
   2. Interpret the SPSS results and report your findings in APA style. Please make sure to include descriptive statistics in your report as well. (2 points)
2. Scores for Math majors taking the GRE Math Subject Test in a certain year were approximately normally distributed with a mean of 651 and a standard deviation of 140. **Show all steps necessary to arrive at your conclusions** (e.g., use equations such as (3-2)/10 = 0.1 to show your calculation process)**.**
   1. If 10,000 Math majors took the test, how many would be expected to have scores above 690? (Hint: you will need to use the Z score formular and the z-table here: http://www.z-table.com/) (2 points)
   2. Complete the following statement "If you draw a student at random from this population, 95% of the time his or her score will lie between \_\_\_\_\_\_ and \_\_\_\_\_\_\_." (2 points)

1. In a study, the researchers assessed participants’ feeling about themselves on a 7-point Likert scale using 6 items (Variables feeling\_1 to feeling\_6).
   1. Open dataset “Question 4.sav”
   2. Reverse code some of the items so that higher scores indicate more positive and less negative feeling (1 point)
   3. Check the reliability of the 6 items by computing Cronbach’s Alpha (1 points)
   4. Compute a variable called Feeling\_Mean by calculating the mean of the relevant items (1 point)
   5. Calculate the mean and SD for Feeling\_Mean (1 point)
   6. Report descriptive statistics and reliability in APA style. (2 points)
   7. Upload the SPSS dataset (with the computed and recoded variables), syntax, and output (Label them as Question 4)
2. A researcher wants to examine whether maternal education is related to toddlers’ likelihood of being a late talker. A late talker is defined as being at the bottom 10% on a standard vocabulary assessment at 24 months. The researcher has conducted a chi-square test.
   1. Open the SPSS output file “Question 5.spv”
   2. Please interpret the SPSS output and report the proportions and chi-square findings in APA style. (2 points)