**SPSS: Reliability Assignment Instructions**

**Overview**

Beginning with the data set from **SPSS: Descriptive Statistics Assignment**, you will learn how to compute and interpret a reliability coefficient for the subscales in the dataset.

Recall that our data set contains data for the Grit Scale (Duckworth, Peterson, Matthews, & Kelly, 2007). At this point, Grit Scale items **1, 4, 6, 9, 10, and 12** should be reverse-scored as separate variables. We will need these for this assignment.

The data set also contains the Big-Five Inventory (BFI; Goldberg, 1992), a measure of five personality constructs. Items are labeled based on the subscale to which it belongs.

|  |  |  |
| --- | --- | --- |
| **Subscale** | **Item ID** | **Item Text** |
| Extraversion | E1 | I am the life of the party. |
| E2\* | I don't talk a lot. |
| E3 | I feel comfortable around people. |
| E4\* | I keep in the background. |
| E5 | I start conversations. |
| E6\* | I have little to say. |
| E7 | I talk to a lot of different people at parties. |
| E8\* | I don't like to draw attention to myself. |
| E9 | I don't mind being the center of attention. |
| E10\* | I am quiet around strangers. |
| Neuroticism | N1 | I get stressed out easily. |
| N2\* | I am relaxed most of the time. |
| N3 | I worry about things. |
| N4\* | I seldom feel blue. |
| N5 | I am easily disturbed. |
| N6 | I get upset easily. |
| N7 | I change my mood a lot. |
| N8 | I have frequent mood swings. |
| N9 | I get irritated easily. |
| N10 | I often feel blue. |
| Agreeableness | A1\* | I feel little concern for others. |
| A2 | I am interested in people. |
| A3\* | I insult people. |
| A4 | I sympathize with others' feelings. |
| A5\* | I am not interested in other people's problems. |
| A6 | I have a soft heart. |
| A7\* | I am not really interested in others. |
| A8 | I take time out for others. |
| A9 | I feel others' emotions. |
| A10 | I make people feel at ease. |
| Conscientiousness | C1 | I am always prepared. |
| C2\* | I leave my belongings around. |
| C3 | I pay attention to details. |
| C4\* | I make a mess of things. |
| C5 | I get chores done right away. |
| C6\* | I often forget to put things back in their proper place. |
| C7 | I like order. |
| C8\* | I shirk my duties. |
| C9 | I follow a schedule. |
| C10 | I am exacting in my work. |
| Openness | O1 | I have a rich vocabulary. |
| O2\* | I have difficulty understanding abstract ideas. |
| O3 | I have a vivid imagination. |
| O4\* | I am not interested in abstract ideas. |
| O5 | I have excellent ideas. |
| O6\* | I do not have a good imagination. |
| O7 | I am quick to understand things. |
| O8 | I use difficult words. |
| O9 | I spend time reflecting on things. |
| O10 | I am full of ideas. |
| **\*Reverse-scored.** | | |

Respondents used the following scale for the BFI:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 |
| Disagree |  | Neutral |  | Agree |

As noted in the first table, there are also several items in the BFI that are worded to be the opposite of the construct. Just like the Grit Scale in **SPSS: Descriptive Statistics Assignment**, these items, denoted with an asterisk (\*), will need to be reverse-scored prior to any analyses. **Use the naming convention for reverse-scored items:** “E2” becomes “E2r” as a separate variable. After reverse-scoring, your items are ready to assess the internal consistency of the scale.

**Instructions**

For this assignment, you will:

1. **Reverse-score the appropriate BFI items.** As described above, reverse-score the BFI items just like you did with the Grit Scale. *Again, this is so that higher scores mean higher levels of the construct.*
2. **Calculate Cronbach’s coefficient alpha (α) for the Grit Scale and each BFI subscale.** Be sure to click all boxes as shown in the SPSS Tutorial. Create an APA-formatted table in Word that displays the sample size (*n*), number of items (*k*), and Cronbach’s alpha for each of the **six subscales** (Grit, Extraversion, Neuroticism, Agreeableness, Conscientiousness, Openness).
3. **Examine the Cronbach’s alpha output for each subscale.** Look at the “Corrected Item-Total Correlations” columns. Are any negative? Did you analyze the reverse-scored items? If you used the reverse-scored items, move on to the next step.
4. **Write a verbal summary** discussing the results of your internal consistency analysis. This summary section will include 2 elements:
5. ***Summarize*** the results of the reliability analysis. What sample size are these results based on? How many items are in each scale and what was the response scale given?
6. ***Interpret*** the values that you found from the various analyses. Are the Cronbach’s alphas of acceptable magnitude? Are there any items that correlate negatively with the total scores? Would you suggest removing any items based on these findings?
7. Format your table headings and figure captions according to current APA guidelines.

Each of these steps are to be completed in SPSS using the SPSS Tutorials as a guide. Please submit a Word document with your table and verbal summary.

**Note: Keep your data set handy. The next assignment will build upon the progress you have made on this data set.**

**References**

Duckworth, A.L., Peterson, C., Matthews, M.D., & Kelly, D.R. (2007). Grit: Perseverance and passion for long-term goals. *Journal of Personality and Social Psychology, 9*, 1087-1101.

Goldberg, L. R. (1992). The development of markers for the Big-Five factor structure. *Psychological Assessment, 4*, 26-42.