

(SPSS test 2) Output generation 1

The study involves examining the efficacy of a new approach to substance abuse treatment-this approach is known as motivational interviewing. The file **spsspresentation2data** contains data collected from 45 participants randomly assigned to one of three treatment conditions: (1) control (no therapy); (2) cognitive-behavioral therapy; (3) motivational interviewing, who were tested on their coping skills on two separate occasions (before treatment/after treatment). Therefore, this study represents a 3 (**treatment:control/cog.behavioral/mot. interviewing**) x 2 (**testing: before/after**) mixed factorial design, where treatment is the between subjects factor and testing is the within subjects factor. All participants rated their coping on a scale of 1 to 10 (1=very poor coping, 10=excellent coping). Participants also indicated their age and gender, and rated therapist competence (1= poor, 10=excellent) after treatment was completed.

Please complete the following analyses

1. Determine whether age of males and females differ significantly from each other by conducting an independent samples t-test on age for the factor gender.
2. Determine whether those receiving **cognitive behavioral** treatment increased overall coping by conducting a related samples t-test (paired samples t-test) on coping **coping1** and **coping2**. Remember to use the **select if** command to choose only those in the cognitive behavioral group. Do the same analysis for those in the motivational interviewing group. Don't forget to turn off the select if commands after you have completed the analyses.
3. Create a new variable called **motivational** (0=no, 1=yes) and use the recode into new variables command to do this. Recode condition (1=control, 2=cognitive behavioral, 3=motivational interviewing) so that the control and cognitive behavioral are recoded as 0's and participants in the motivational interviewing group are recoded as 1's. For **coping2** scores (scores after treatment), conduct an independent samples t-test to determine if the motivational group differs significantly from the non motivational group.
4. Past research has shown that clients tend to rate their psychotherapists as relatively competent (i.e., $\mu = 7.2$). Looking only at participants in the motivational group (i.e., use select if **motivational = 1**), conduct a one-sample t-test to determine if their therapist competency ratings differ significantly from that of the population. Note: you will need to reset the select if command in order to select based on the motivational variable. Calculate a 90% confidence interval on the data and don't forget to turn the select if command off when you've finished.
5. Use the transform command to create difference scores between **coping1** and **coping2** (coping1-coping2) and name the difference variable **copediff**. Conduct an independent samples t-test on **copediff** scores using **motivational** as your independent variable to assess whether the motivational interviewing therapy produced a significantly greater change in coping than the control and cognitive behavioral groups combined. Create a bar graph to show the mean **copediff** scores across the two levels of **motivational** and display error bars (with standard errors) on this graph.