PSY 3071 – Research Methods Lab

Lab #6 – Results Section

Write a brief two paragraph results section for the data from lab 1. Present a correlation matrix then a multiple regression. Follow the format in this sample results section. Your goal is to first examine how scores were related to each other (the correlations), then examine how anxiety and skills predicts math quiz scores.

In your first paragraph, calculate and report the correlations among scores (bmsq, GPA, act\_math, act\_reading, AMAS, and the GAD-7. Report your correlations as Table 2 in your paper. Use the raw score (not the z score) values of tests for the correlations. Write about a few predicted relationships in your paragraph.

In your second paragraph, present the results of a multiple regression, examining how scores on the BMSQ (DV) are related to math anxiety (AMAS), general anxiety (GAD-7), and math skills (ACT math). Use the z score transformed variables for the regression. Include standardized coefficients under options. Include the model summary as Table 3 in your paper.

You may modify this sample document, updating the contents with the correct values that you will calculate using the data set in the lab 6 folder.

**Results**

Scores in the test battery were presented in Table 1. A correlation matrix was run to examine relationships among scores in the test battery; specifically, the extent to which measures of pre-existing math skills and measures of anxiety were related to scores on the BMSQ. The variable ACT reading was included to explore relationships that should not be related to math. The results of the correlation matrix are presented in Table 2. As predicted, there was a significant negative correlation between scores on the AMAS and the BMSQ. There were no other significant correlations with AMAS. Also as predicted, scores on the BMSQ were significantly correlated with ACT math scores.

Many of the scores in the test battery were correlated with each other. Consequently, a multiple linear regression was calculated to examine the unique variance in BMSQ scores that was associated with measures of math skills, math anxiety, and generalized anxiety. All variables were z score transformed before the regression. A significant regression equation was found, *F*(4, 40) = 7.72, *p* < .001, with an *r*2 of 0.436. A summary of results for this regression is shown in Table 3.

*Table 2*

| Correlation matrix for selected scores from the test battery. | | | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | |  | | **bmsq** | | **gpa\_f19** | | **act\_math** | | **act\_read** | | **amas** | | **gad\_7** | |
| BMSQ |  | Pearson's r |  | — |  |  |  |  |  |  |  |  |  |  |  |
|  |  | p-value |  | — |  |  |  |  |  |  |  |  |  |  |  |
| GPA |  | Pearson's r |  | 0.360 |  | — |  |  |  |  |  |  |  |  |  |
|  |  | p-value |  | 0.037 |  | — |  |  |  |  |  |  |  |  |  |
| ACT math |  | Pearson's r |  | 0.542 |  | 0.554 |  | — |  |  |  |  |  |  |  |
|  |  | p-value |  | < .001 |  | < .001 |  | — |  |  |  |  |  |  |  |
| ACT Reading |  | Pearson's r |  | 0.359 |  | 0.455 |  | 0.735 |  | — |  |  |  |  |  |
|  |  | p-value |  | 0.040 |  | 0.009 |  | < .001 |  | — |  |  |  |  |  |
| AMAS |  | Pearson's r |  | -0.445 |  | -0.230 |  | -0.208 |  | -0.045 |  | — |  |  |  |
|  |  | p-value |  | 0.003 |  | 0.190 |  | 0.238 |  | 0.804 |  | — |  |  |  |
| GAD-7 |  | Pearson's r |  | -0.077 |  | -0.172 |  | -0.036 |  | 0.119 |  | 0.541 |  | — |  |
|  |  | p-value |  | 0.625 |  | 0.330 |  | 0.841 |  | 0.510 |  | < .001 |  | — |  |
|  | | | | | | | | | | | | | | | |

*Note*. BMSQ = Brief Math Skills Quiz; GPA = grade point average for Fall 2019 semester, AMAS = Abbreviated Math Anxiety Scale; GAD-7 = Generalized Anxiety Disorder – 7 question version.

*Table 3*

| *Linear Regression Predicting Brief Math Skills Quiz Scores* | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |  |  |
| **Predictor** | | **B** | | **SE** | | ***t*** | | ***p*** | | **** | |
| Intercept |  | -0.0198 |  | 0.115 |  | -0.172 |  | 0.864 |  |  |  |
| ACT math |  | 0.5399 |  | 0.131 |  | 4.135 |  | < .001 |  | 0.533 |  |
| AMAS |  | -0.1911 |  | 0.115 |  | -1.660 |  | 0.105 |  | -0.209 |  |
| BRS |  | 0.1065 |  | 0112 |  | 0.952 |  | 0.347 |  | 0.112 |  |
|  | | | | | | | | | | | |

*Note*. AMAS = Abbreviated Math Anxiety Scale; BRS = Brief Resiliency Scale.