**PRACTICAL WORKSHEET: Correlation and Regression analyses**

SPSS TIPS:

**Correlation:** Analyze > Correlate > Bivariate. Move the variables indicated to the variables box on the right. The options ‘Pearson’, ‘two tailed’ and ‘Flag significant correlations’ should be ticked. Then click OK.

**Regression:** Analyze > Regression > Linear. Move the dependent variable into the dependent variable box. Move the predictor variables (independents) into the independent box. Make sure Method is on **Enter**. Click Statistics: tick estimates, confidence intervals, model fit, descriptives, part and partial correlations, and collinearity diagnostics – click continue. Click options: In the missing values section, click Exclude cases listwise – click continue. Click plots: Click histogram, normal probability plots, and produce all partial plots – click continue. Click save: Click Mahalanobis – click continue and OK.

**USE YOUR SPSS DATASET FILE.**

1. **Run the Pearson’s r correlation test for all 6 of the motivation sub-scales together and fill in the table below:-**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Motivation Subscale** | **1. Achievement** | **2. Mastery** | **3. Power** | **4. Fear of Failure** | **5. Authority** | **6. Peer Acceptance** |
| **1. Achievement** | -- | .555\*\* | 0.102 | -0.162 | 0.07 | -0.03 |
| **2. Mastery** | .555\*\* | -- | 0.054 | -.263\*\* | -0.019 | 0.064 |
| **3. Power** | 0.102 | 0.054 | -- | .192\* | .301\*\* | .443\*\* |
| **4. Fear of Failure** | -0.162 | -.263\*\* | .192\* | -- | .358\*\* | .232\* |
| **5. Authority** | 0.07 | -0.019 | .301\*\* | .358\*\* | -- | .363\*\* |
| **6. Peer Acceptance** | -0.03 | 0.064 | .443\*\* | .232\* | .363\*\* | -- |

Note: \*p<.05, \*\*p<.01, \*\*\*p<.001

1. **Write up the significant results in full as per the example in your lecture slides, and at the end, indicate the relationships that are not significant but do not report these results in full.**

A **positive and significant correlation** was found between achievement and mastery **(r = .555, p < .01)**. This indicates that individuals with higher mastery motivation also tend to have higher achievement motivation. Similarly, a **negative correlation** was observed between mastery and fear of failure **(r = -.263, p < .01**), suggesting that as mastery motivation increases, fear of failure decreases.

Power motivation showed significant relationships with multiple variables. There was a **positive correlation** between power and fear of failure **(r = .192, p < .05)**, indicating that individuals with higher power motivation also tend to experience higher levels of fear of failure. Additionally, power motivation was **positively correlated** with authority motivation **(r = .301, p < .01**) and peer motivation **(r = .443, p < .01)**. These results suggest that individuals motivated by power are more likely to value authority and peer acceptance.

Fear of failure also showed significant relationships with authority and peer motivation. A **positive correlation** was observed between fear of failure and authority **(r = .358, p < .01),** indicating that individuals with higher fear of failure are likely to place greater importance on authority motivation. Additionally, there was a **positive correlation** between fear of failure and peer motivation **(r = .232, p < .05**), suggesting that fear of failure is associated with valuing peer acceptance.

Finally, a **positive correlation** was found between authority and peer motivation **(r = .363, p < .01).** This indicates that individuals with higher authority motivation are more likely to value peer acceptance.

The relationships between other variables **( Achievement and Power, Achievement and Peer Motivation)** were not statistically significant and are not reported in detail.

1. **Run a multiple regression with the dependent variable being expected overall result and the independents being gender, paid employment hours, university expenses, study hours, self-esteem, academic stress, lecturer expectations and the 6 motivation subscale variables. Fill in the table below:-**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Predictors** | **R** | **Adj. R²** | **β** | **t** | **Sig.** |
| **Gender** | 0.593 | 0.263 | 0.14 | 0.069 | 0.945 |
| **Paid employment hours** | 0.251 | 0.418 | 0.677 |
| **University expenses** | 0.647 | 0.857 | 0.393 |
| **Study hours** | -0.216 | -0.333 | 0.74 |
| **Self-esteem** | 0.131 | 0.842 | 0.402 |
| **Academic stress** | 0.202 | 1.577 | 0.118 |
| **Lecturer expectations** | -0.104 | -1.389 | 0.168 |
| **Need for achievement** | 0.094 | 0.546 | 0.586 |
| **Mastery goals** | 0.486 | 2.459 | 0.016 |
| **Power motivations** | 0.014 | 0.088 | 0.93 |
| **Fear of failure** | -0.31 | -2.568 | 0.012 |
| **Authority expectations** | -0.013 | -0.097 | 0.923 |
| **Peer acceptance** | 0.464 | 2.895 | 0.005 |

1. **Write up the significant results in full as per the example in your lecture slides, and at the end, indicate the relationships that are not significant but do not report these results in full.**

**Significant Results:**

1. **Mastery Goals**:  
    The analysis revealed that mastery goals have a positive and significant relationship with students' expected results after the first year. Specifically, for every unit increase in students' mastery goals, their expected result increases by 0.49 points. This means that students who focus more on mastering their subjects tend to expect better results in their academic performance, β=0.486\beta = 0.486β=0.486, t=2.459t = 2.459t=2.459, p=0.016p = 0.016p=0.016.
2. **Fear of Failure**:  
    The analysis also found a significant negative relationship between fear of failure and the expected results. For each unit increase in fear of failure, the expected result decreases by 0.31 points. This suggests that students who are more fearful of failing tend to expect lower academic results, β=−0.31\beta = -0.31β=−0.31, t=−2.568t = -2.568t=−2.568, p=0.012p = 0.012p=0.012.
3. **Peer Acceptance**:  
   Finally, **peer acceptance** was found to have a positive and significant impact on the expected overall result. For every increase in peer acceptance, students’ expected results increased by 0.46 points. This indicates that students who feel more accepted by their peers are more likely to expect better academic results, β=0.464\beta = 0.464β=0.464, t=2.895t = 2.895t=2.895, p=0.005p = 0.005p=0.005.

**Non-Significant Results:**

While several other factors were included in the analysis, they did not show a statistically significant relationship with students' expected results. These include gender, paid employment hours, university expenses, study hours, self-esteem, academic stress, lecturer expectations, need for achievement, power motivations, authority expectations, and university expenses provided by family or significant other. These variables did not significantly predict students’ expected results, indicating that their influence was not strong enough to reach statistical significance in this analysis.