**Abstract**

The purpose of this study was to assess both fear of flying and positive emotions regarding air travel. A sample of participants recruited at the local airport and from a university campus completed a questionnaire measuring fear of flying (Flight Anxiety Situations Questionnaire) as well as positive emotions toward flying. Regression analyses were used to examine a model for predicting both fear of flying and positive emotions regarding air travel. Fear of flying was predicted by sex, recent flying experience, and stress/worry regarding check-in and security checks. Positive emotions were unrelated to demographic variables and flying experience, but were predicted by satisfaction with check-in and security checks.

Martinussen, M., Gundersen, E., & Pedersen, R. (2011). Predicting fear of flying and positive emotions towards air travel. *Aviation Psychology and Applied Human Factors*, 1, 70-74.

**Dataset:**

* Gender of the participant
* Fear of flying: an average score of the flight anxiety situations questionnaire ranging from 1 (no fear) to 7 (very afraid)
* Recent flying experience: number of flights taken in the last year
* Stress: worry of the participant about check-in and security check points ranging from 1 (no worry) to 7 (very worried)
* Positive emotion: how positive participants felt about air travel in general (higher scores are more positive, ranges from 1 to 7).

**Data Screening**:

1. Accuracy:
   1. Include output that indicates if the data are or are not accurate.
   2. If the data are not accurate, delete the inaccurate scores.
   3. Include a summary that shows that you fixed the inaccurate scores.
2. Missing:
   1. Since any accuracy errors will create more than 5% missing data, exclude all data pairwise for the rest of the analyses.
3. Outliers:
   1. Include a summary of your mahal scores.
   2. What are the *df* for your Mahalanobis cutoff?
   3. What is the cut off score for your Mahalanobis measure?
   4. How many outliers did you have?
   5. Delete all outliers.
4. Assumptions:
   1. Linearity:
      1. Include a picture that shows how you might assess multivariate linearity.
      2. Do you think you’ve met the assumption for linearity?
   2. Normality:
      1. Include a picture that shows how you might assess multivariate normality.
      2. Do you think you’ve met the assumption for normality?
   3. Homogeneity:
      1. Include a picture that shows how you might assess multivariate homogeneity.
      2. Do you think you’ve met the assumption for homogeneity?
   4. Homoscedasticity:
      1. Include a picture that shows how you might assess multivariate homoscedasticity.
      2. Do you think you’ve met the assumption for homoscedasticity?

**Hypothesis Testing / Graphs:**

1. Create a scatter plot of fear of flying and stress.
   1. Be sure to check x/y axis labels and length.
   2. What type of relationship do these two variables appear to have?
2. Create a scatter plot of recent flights and positive emotion.
   1. Include a linear line on the graph.
   2. Be sure to check x/y axis labels and length.
   3. What type of relationship do these two variables appear to have?
3. Create a scatter plot of recent flights and stress, grouping by gender.
   1. Include a linear line on the graph.
   2. Be sure to check x/y axis labels and length.
   3. What type of relationship do these two variables appear to have for each group?
4. Include a correlation table of all of the variables (cor).
   1. Include the output for Pearson.
   2. Include the output for Spearman.
   3. Include the output for Kendall.
   4. Which correlation was the strongest?
5. For the correlations with gender, would point biserial or biserial be more appropriate? Why?
6. Calculate confidence interval for stress and fear of flying.
7. Calculate the difference in correlations for 1) recent flights and fear of flying and 2) fear of flying and positive emotions.
   1. Include the output from the test through Pearson’s test.
   2. Is there a significant difference in their correlations?
8. Calculate the difference in correlations for gender on fear of flying and stress.
   1. Include the output from the test.
   2. Is there a significant difference in their correlations?
9. Calculate the partial correlations for all variables, and include the output.
   1. Are any of the correlations significant after controlling for all other relationships?
10. Calculate the semipartial correlations for all variables, and include the output.

**Theory:**

1. What are we using as our model for understanding the data in a correlational analysis?
   1. How might we determine model fit?
2. What is the difference between correlation and covariance?
3. What is the difference between *R* and *r*?
4. When would I want to use a nonparametric correlation over Pearson’s correlation?
5. What is the distinction between semi-partial and partial correlations?