# Lab #8

Discriminant Function Analysis

Copy and paste any results and write out your answers in the space provided.

## SPSS

1. Open “star\_trek.sav”.

1.a. Predict group membership using the 5 continuous variables.

1.a.i. Click on statistics and select Means, Univariate ANOVAs, Box’s M, within groups covariance matrix 🡪 continue.

1.a.ii. Click on classify and select all groups equal, summary table, within-groups (under use covariance matrix) and combined groups (under plots) 🡪 continue.

1.a.iii. Click on save and select all three choices (predicted group membership, discriminant scores and probabilities of group membership) 🡪 continue 🡪 OK.

1.a.iv. Copy, paste, annotate and interpret the results.

**HIGHTLIGHT HERE AND CPAI OUTPUT FOR #1.a**

**1.b. Write and APA style results section for #1.a.**

1.c. If a new person came along, and her scores were 16 on aggression, 25 on logic, 65 on verbal skills, 71 on intelligence, and 20 on physical strength – to which group would you predict she longs? (Hint: you need to use the pooled within covariance matrix and some syntax to solve this)

1.d. Rerun “a” above switching the method from “enter independents together” to “use stepwise function”. Click on method and select Wilk’s Lambda, Use probability of F and summary of steps 🡪 continue 🡪 OK. How did the analysis change? Was the classification any better or worse?

1. Open “DISCRIM.sav”.

2.a. Do any needed data screening.

2.b. Follow all the screening steps in the book.

2.c. Run a MANOVA predicting **control**, **attmar**, **attrole** and **atthouse** by **workstat**. Is there a significant difference between the groups (don’t paste the output)?

2.d. To run analysis, go to Analyze 🡪 Classify 🡪 Discriminant…

2.d.i. Move **workstat** into grouping variable and hit define range 🡪 min = 1 max = 3 🡪 continue. Move **control**, **attmar**, **attrole** and **atthouse** into independents. Click on statistics and select Means, Univariate ANOVAs and Box’s M 🡪 continue.

2.d.ii. Click on **classify** and select all groups equal, case wise results, limit to first 20 cases, summary table, within-groups (under use covariance matrix) and separate groups (under plots) 🡪 continue.

2.d.iii. Click on **save** and select all three choices (predicted group membership, discriminant scores and probabilities of group membership) 🡪 continue 🡪 OK.

2.d.iv. Copy, paste, annotate and interpret the results and explain the new variables in the data matrix. **Are the groups significantly separable by the predictors? Did the classification work well?**

**HIGHTLIGHT HERE AND CPAI OUTPUT FOR #2.d**