Behavioral Analysis Report

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Executive Summary

This report presents a comprehensive analysis of behavioral and physiological data using clustering and principal component analysis (PCA). The analysis identified distinct behavioral patterns and their relationships with physiological characteristics.

Cluster Analysis Results

Cluster Analysis in PCA Space

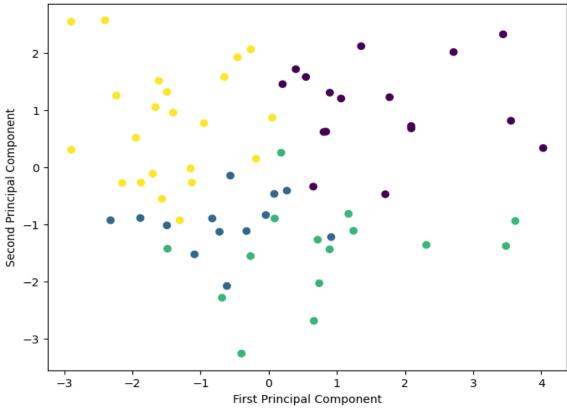


Figure: Cluster Pca

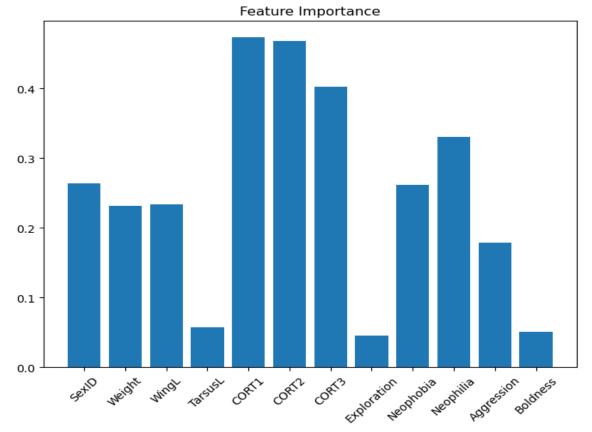


Figure: Feature Importance

Distribution of First Principal Component by Cluster

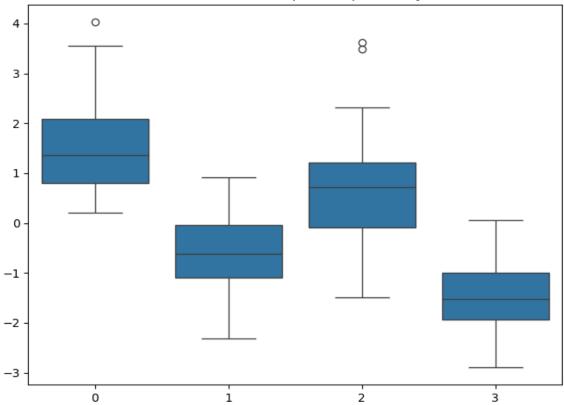


Figure: Detailed Analysis

Statistical Analysis

PCA Variance Explained

| Component | Variance Explained |
|-----------|--------------------|
| PC1 | 0.228 |
| PC2 | 0.150 |
| PC3 | 0.118 |
| PC4 | 0.101 |
| PC5 | 0.083 |

Cluster Statistics

| SexID | Weight | WingL | TarsusL | CORT1 | CORT2 | CORT3 | Exploratio | Neophobia | Neophilia | Aggression | Boldness |
|-------|--------|-------|---------|-------|-------|-------|------------|-----------|-----------|------------|----------|
| -0.16 | -0.10 | -0.02 | 0.40 | 0.68 | 0.92 | 0.87 | -0.25 | 1.09 | 0.64 | 0.00 | -0.45 |
| -0.52 | 0.29 | -0.86 | 0.20 | -0.57 | -0.48 | -0.52 | -0.08 | -0.35 | -0.63 | -0.55 | 0.27 |
| -0.59 | -0.88 | -0.45 | -0.90 | 0.61 | -0.09 | 0.01 | 0.09 | -0.62 | 0.56 | -0.30 | 0.49 |
| 0.83 | 0.51 | 0.83 | 0.19 | -0.60 | -0.36 | -0.37 | 0.18 | -0.22 | -0.50 | 0.52 | -0.14 |