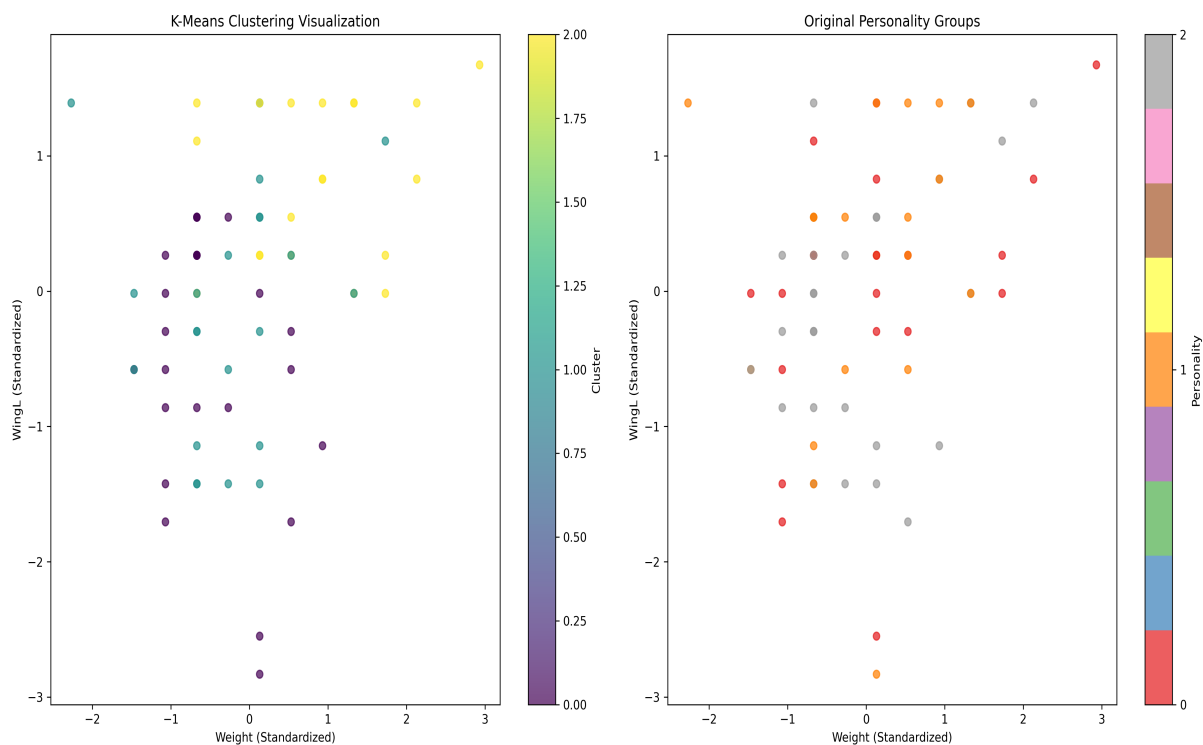# Cardinal Personalities Analysis Report

Figure 1: Cluster Analysis Results

Left: K-means clustering visualization Right: Original personality groups
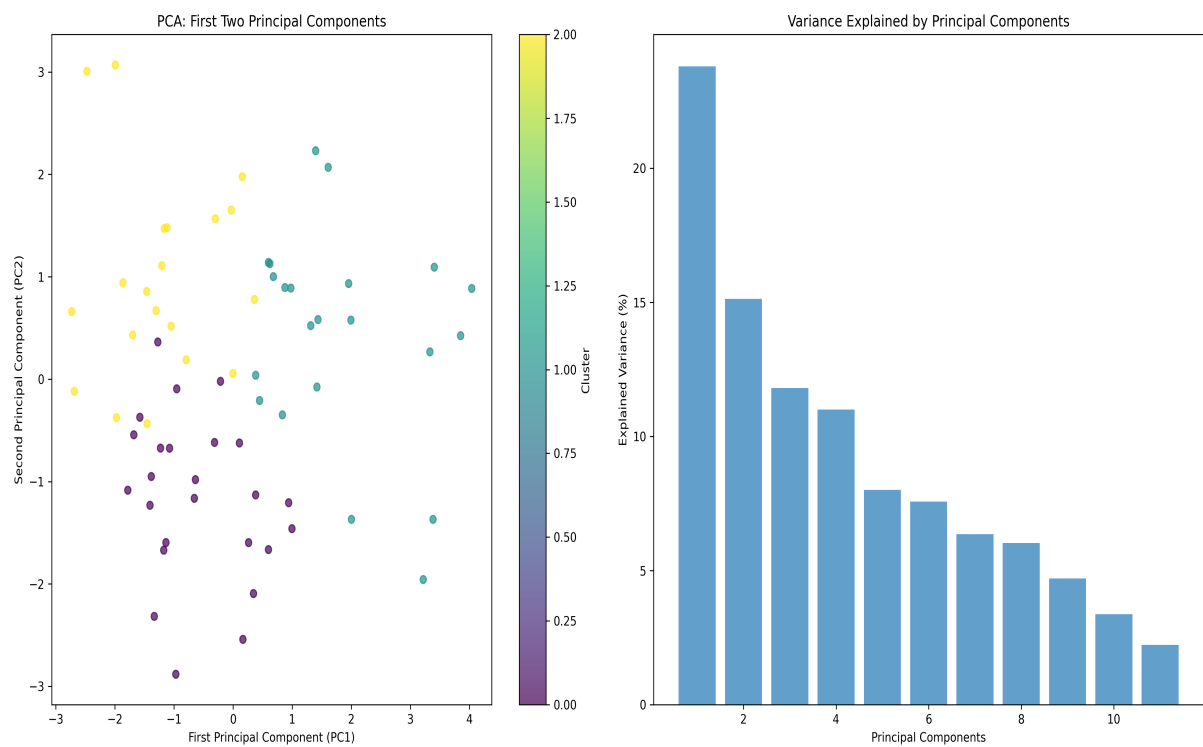
Figure 2: Principal Component Analysis

Left: First two principal components Right: Explained variance by components

Analysis Results

Clustering Results:

    Cluster 0:
        Standard Bird: 40.00%
        A Pretty Chill Bird: 32.00%
        Angry Bird: 28.00%

    Cluster 1:
        Standard Bird: 54.55%
        Angry Bird: 27.27%
        A Pretty Chill Bird: 18.18%

    Cluster 2:
        A Pretty Chill Bird: 35.00%
        Angry Bird: 35.00%
        Standard Bird: 30.00%

Chi-square test results:
    χ^2 statistic: 3.03
    p-value: 0.5532

PCA Results:
    PC1 explained variance: 23.80%
    PC2 explained variance: 15.13%
    PC3 explained variance: 11.80%