

(a)

| Validation Measures | Male 1 | | | | | Male 2 | | | | |
|---------------------|----------------|-------------|-------|-------|-------------|----------------|-------------|-------------|-------------|-------------|
| | Cluster number | | | | | Cluster number | | | | |
| | 2 | 3 | 4 | 5 | 6 | 2 | 3 | 4 | 5 | 6 |
| Hierarchical | | | | | | | | | | |
| Connectivity | 11.03 | 13.81 | 16.74 | 32.10 | 33.14 | 11.46 | 19.21 | 23.28 | 26.34 | 26.65 |
| Dunn | 0.17 | 0.17 | 0.17 | 0.11 | 0.11 | 0.12 | 0.15 | 0.15 | 0.15 | 0.15 |
| Silhouette | 0.48 | 0.43 | 0.20 | 0.29 | 0.29 | 0.48 | 0.37 | 0.31 | 0.23 | 0.22 |
| K-means | | | | | | | | | | |
| Connectivity | 17.02 | 38.41 | 48.50 | 73.19 | 74.79 | 19.84 | 47.61 | 37.79 | 55.60 | 73.01 |
| Dunn | 0.08 | 0.07 | 0.06 | 0.08 | 0.10 | 0.06 | 0.06 | 0.11 | 0.11 | 0.04 |
| Silhouette | 0.37 | 0.30 | 0.27 | 0.26 | 0.27 | 0.38 | 0.33 | 0.34 | 0.28 | 0.25 |
| PAM | | | | | | | | | | |
| Connectivity | 18.88 | 43.51 | 57.39 | 71.35 | 76.69 | 22.73 | 43.60 | 54.07 | 70.30 | 75.05 |
| Dunn | 0.05 | 0.07 | 0.04 | 0.04 | 0.05 | 0.04 | 0.06 | 0.06 | 0.11 | 0.06 |
| Silhouette | 0.37 | 0.28 | 0.26 | 0.26 | 0.27 | 0.38 | 0.31 | 0.25 | 0.25 | 0.25 |

PAM: Partitioning Around Medoids.

(b)

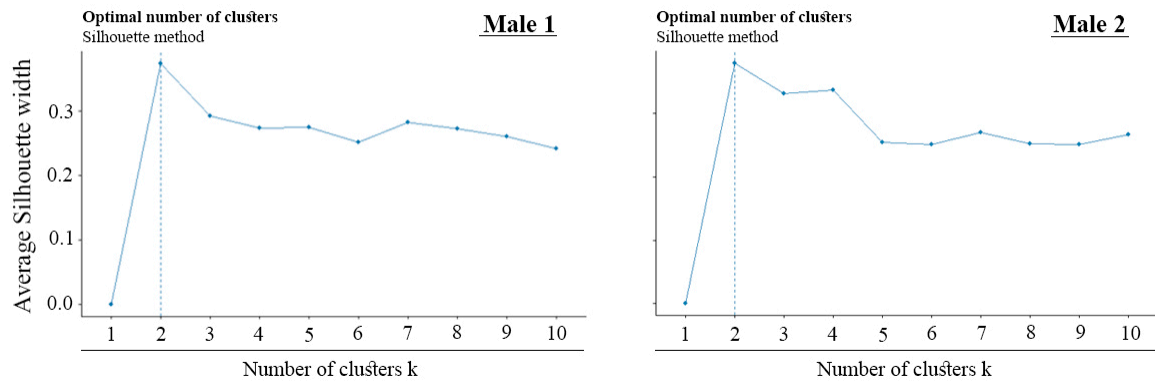


Figure S1. (a) Validation clustering algorithms (Hierarchical, K-means and PAM) and cluster numbers by internal measures (Connectivity, Silhouette width and Dunn index) in the two males of the study and (b) graphic showing the optimal number of clusters as average silhouette width in both males.