Figure 1. A hypothetical illustration of a 3-dimensional face space (Valentine, 1991). The origin of face space represents the central tendency of each feature dimension, and is densely populated with faces of typical appearance. Each dashed line represents an identity vector that codes a unique face identity (A-D). Long vectors, e.g., A, indicate individuals of distinctive appearance in that their features are far from average, while short vectors, e.g., D, reflect typical individuals in that their features are more similar to the average.
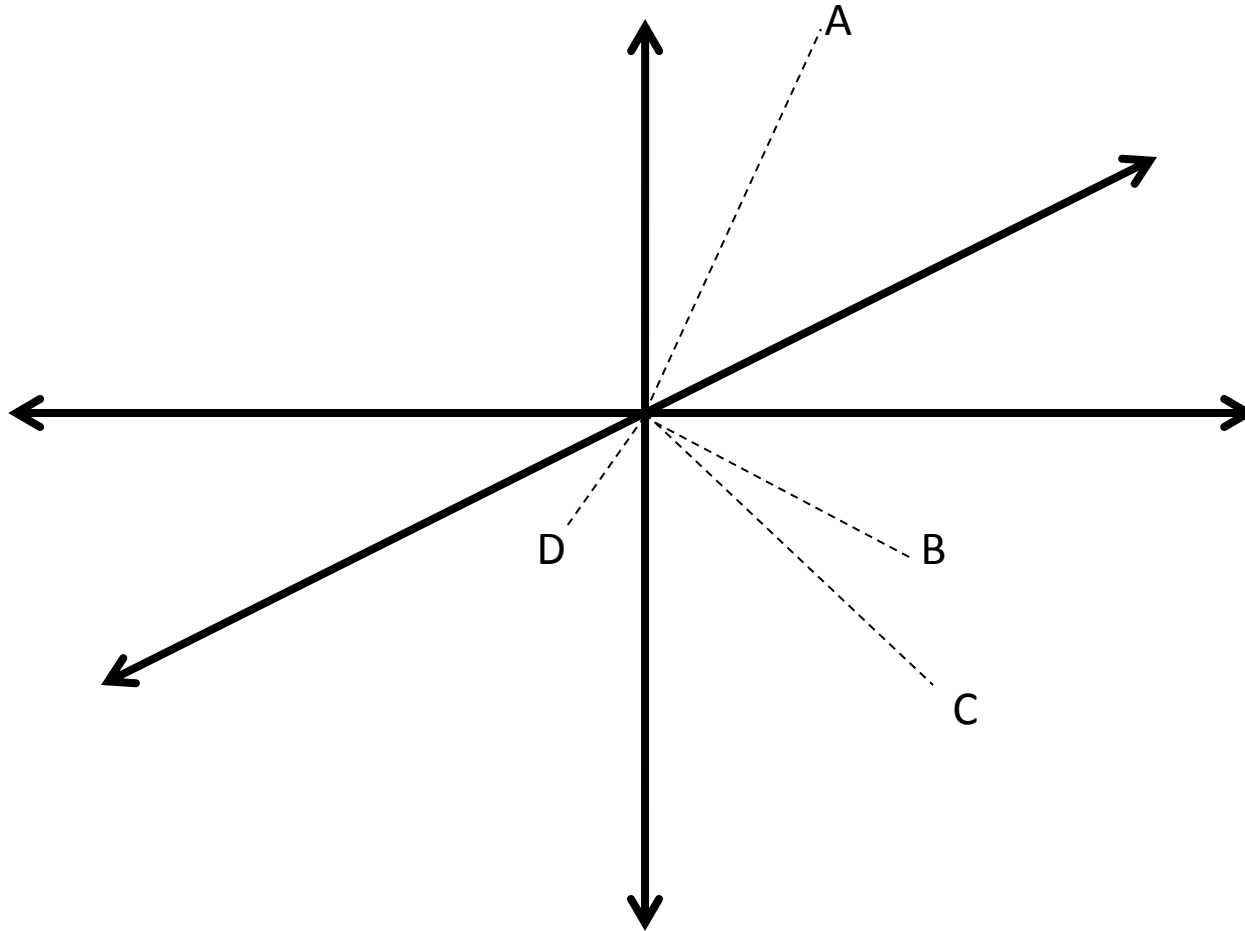
Figure 2. An illustration of the Matching-to-Sample (MTS) paradigm used for chimpanzees. Subjects first contact the sample image (left panel) with the joystick-controlled cursor. (cross) Then they select between one of two comparison images (right panel), the correct image being identical to the sample face (lower right). This example shows female chimpanzee composites. The task was identical for the rhesus monkeys only they selected images on a touchscreen.
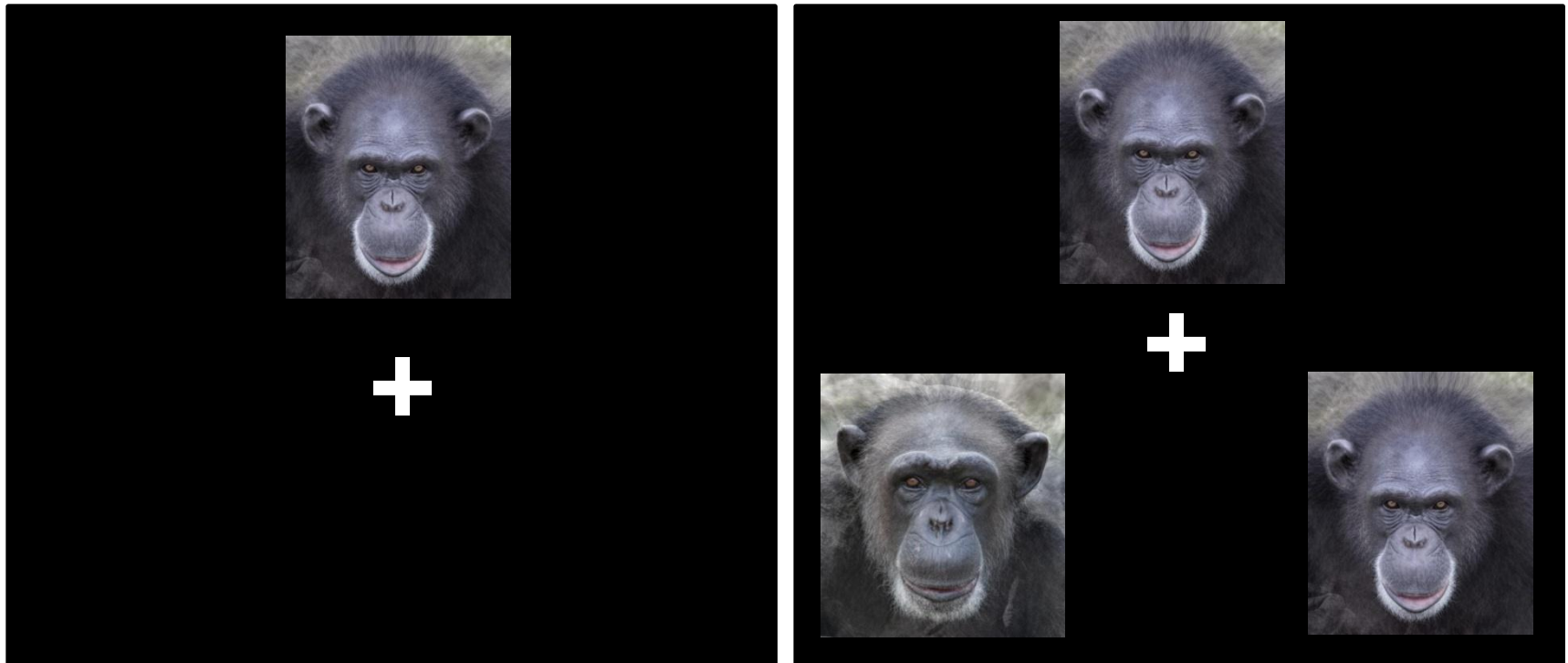
Figure 3. The mean performance of chimpanzees (Ch) and rhesus monkeys (Rh) over the 76, 50-trial sessions (m =slope values for the group means)

slope comparisons by subject
species $F_{(1,9)} = 45.92$, $p < 0.001$

Ch female
m=0.012

Ch male
m=0.025
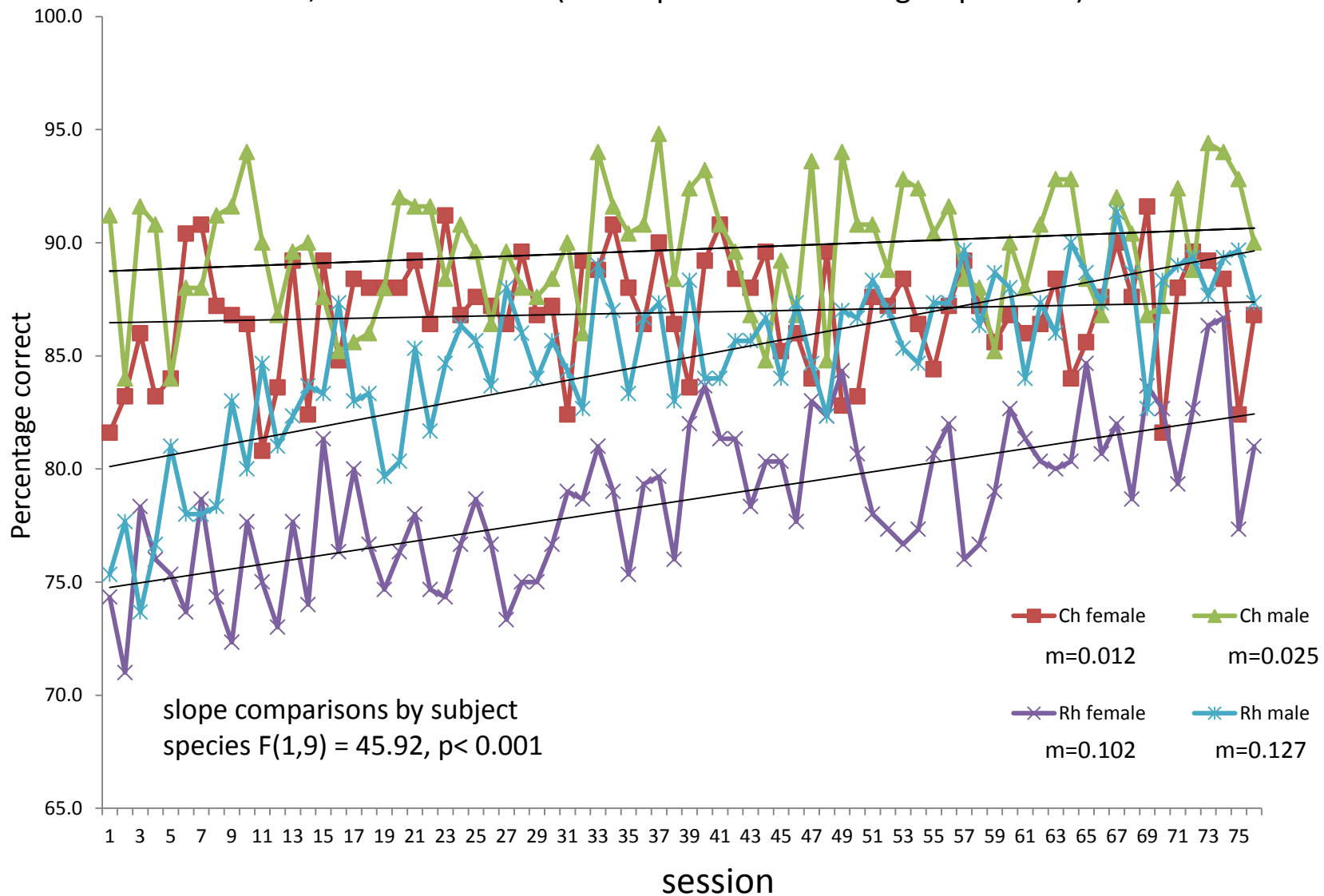
Rh female
m=0.102

Rh male
m=0.127

Figure 4. The derived stimulus configuration for female chimpanzee faces based on a 2D MDS analysis of subjects' discrimination performance. The average face is outlined.
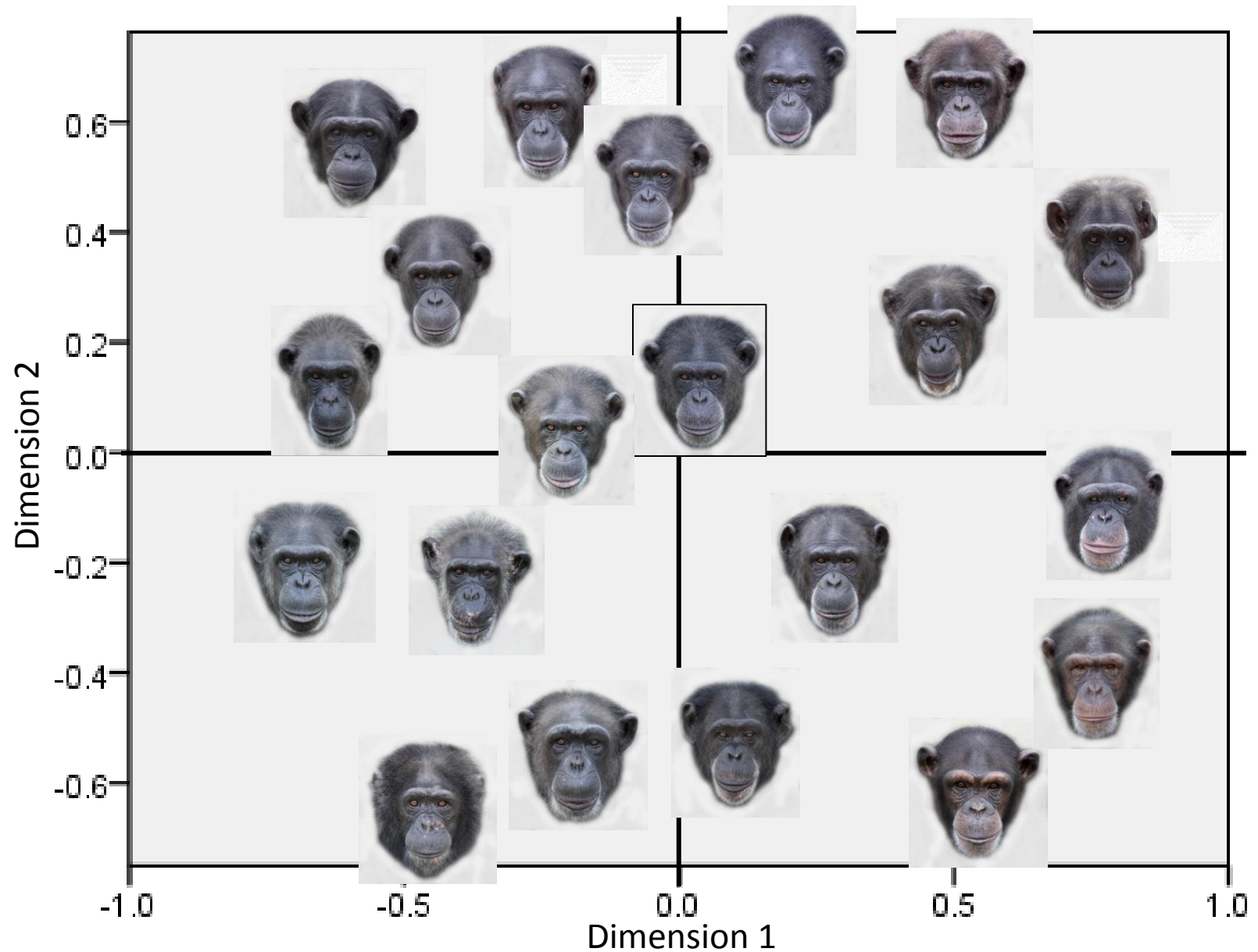
Figure 5. The derived stimulus configuration for male chimpanzee faces based on a 2D MDS analysis of subjects' discrimination performance. The average face is outlined.
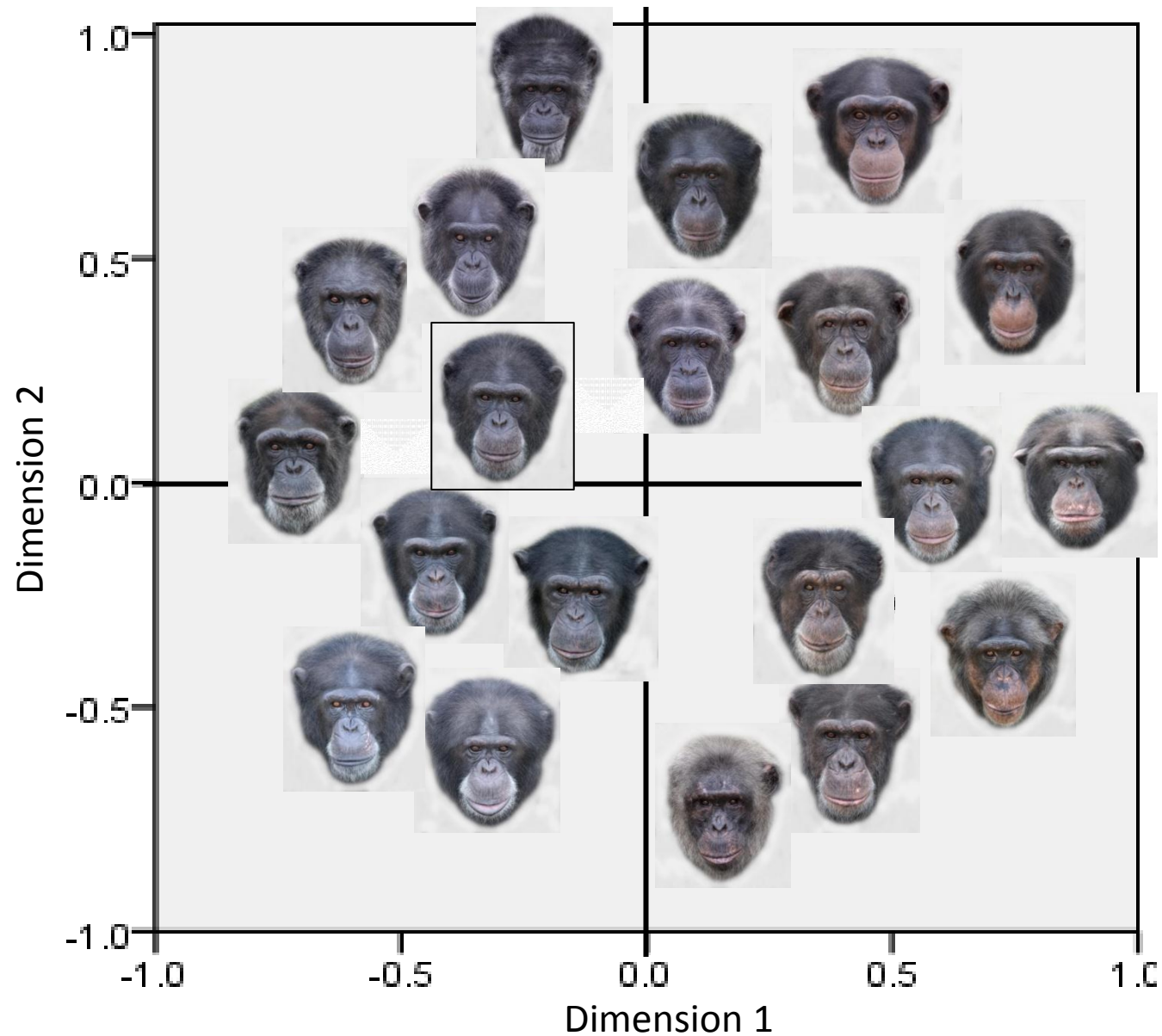
Figure 6. The derived stimulus configuration for female rhesus monkey faces based on a 2D MDS analysis of subjects' discrimination performance. The average face is outlined.
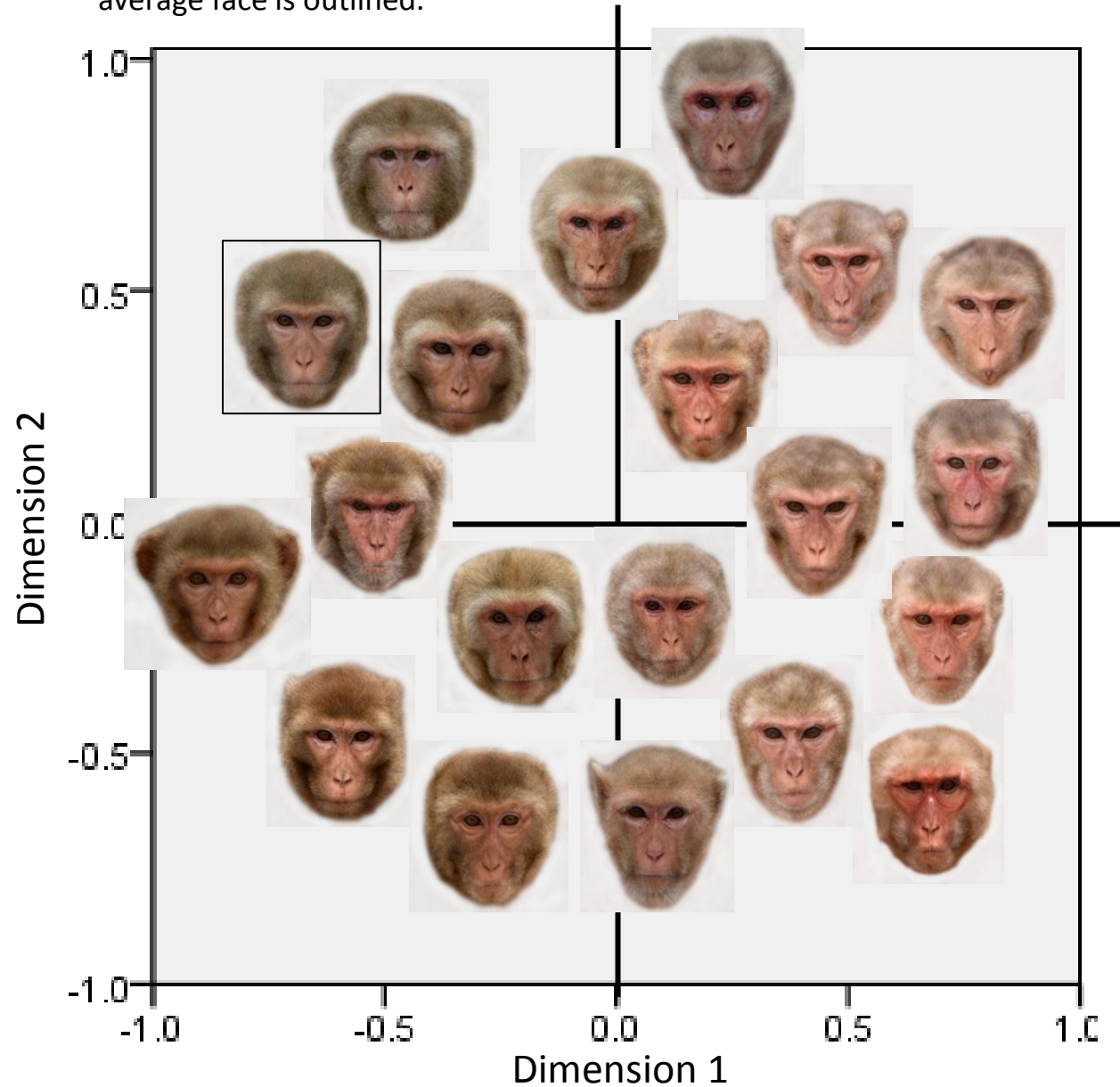
Figure 7. The derived stimulus configuration for male rhesus monkey faces based on a 2D MDS analysis of subjects' discrimination performance. The average face is outlined.
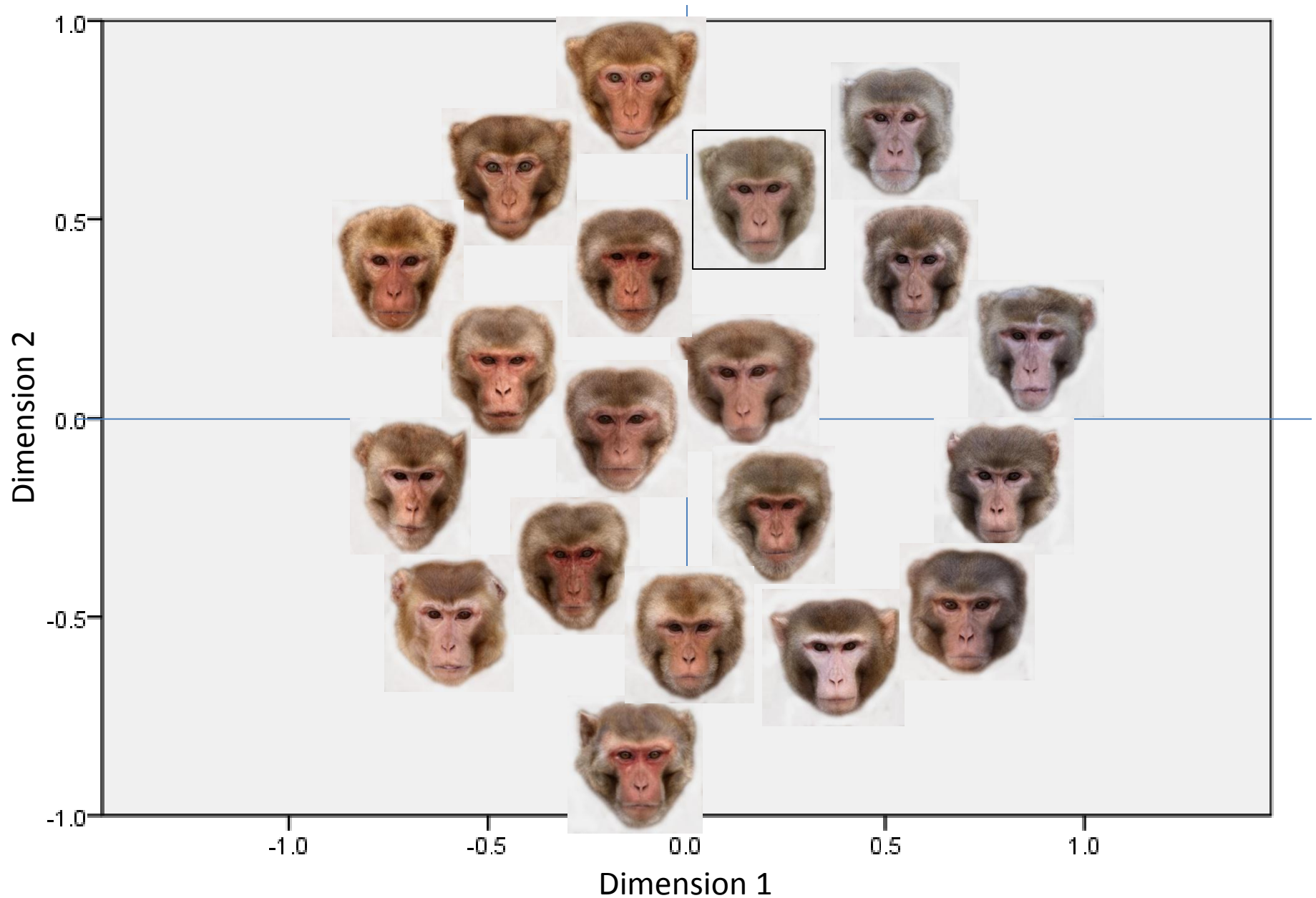
Figure 8. Visualization of the perceptual dimensions of female and male chimpanzee face space by transforming the population average face into the template space of each of the 4 high/low dimension averages.
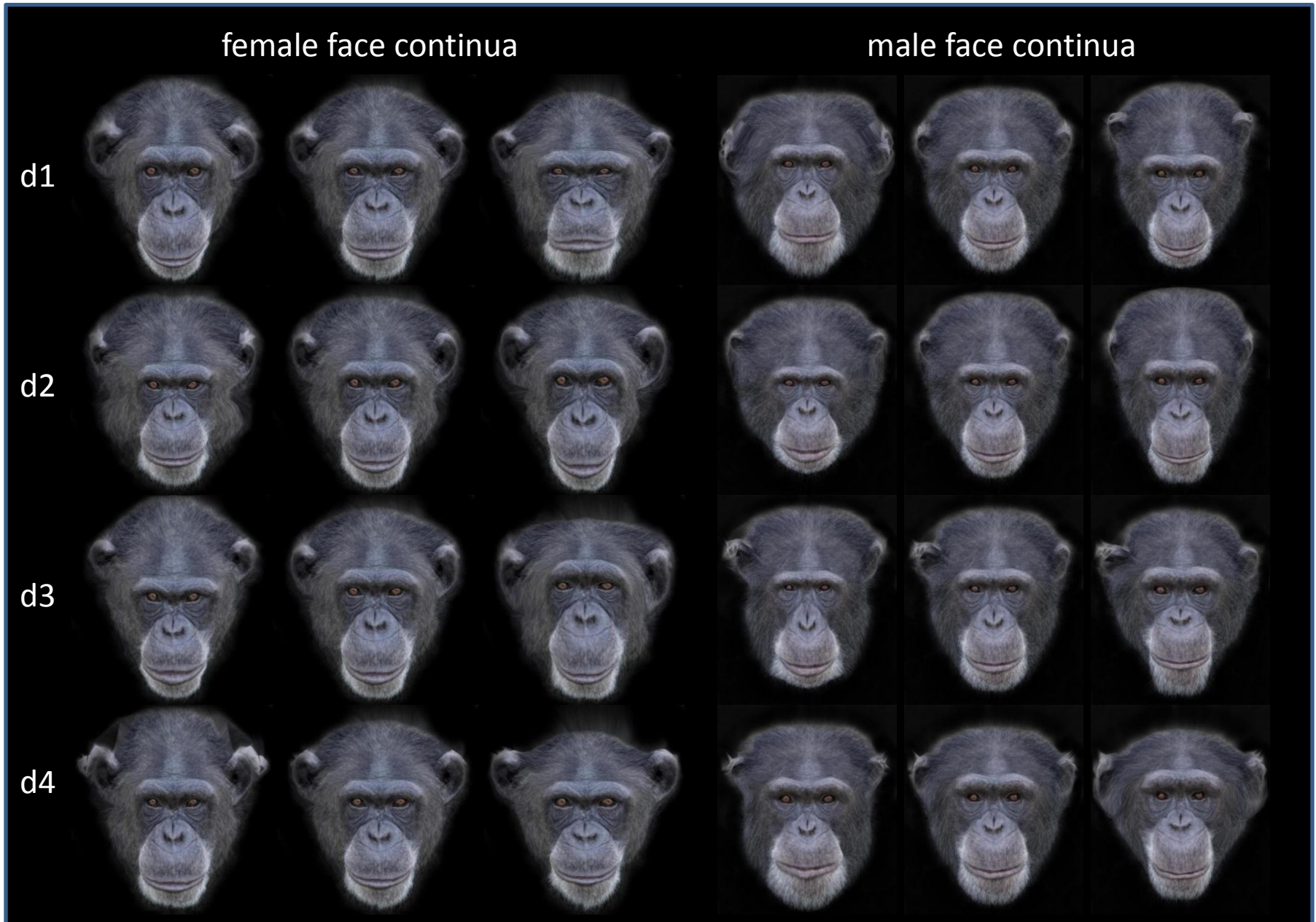
Figure 9. Visualization of the perceptual dimensions of female and male rhesus monkey face space by transforming the population average face into the template space of each of the 4 high/low dimension averages.