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A holistic advantage in face drawing: higher accuracy when drawing upright faces

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Abstract: This study looks into the conception that drawing or copying a face that is vertically inverted will improve the accuracy of the drawing by preventing holistic interference. We had participants draw parameterized face profiles (both upright and inverted) that were sampled from face space (see Davidenko, 2007). In each trial, participants were shown a face on the left side of the screen and asked to copy it on the right side. We then recorded the location of 66 landmark points on each face drawing, allowing us to compute a distance metric between each drawing and its corresponding original face. This distance metric served as a measure of accuracy, with higher distances corresponding to greater errors. Contrary to common belief, people's drawings were significantly more accurate for upright versus inverted faces ($t(15) = 4.9$; $p=0.0002$). Our results suggest that holistic processing improves, rather than impairs, the accuracy of face drawing.