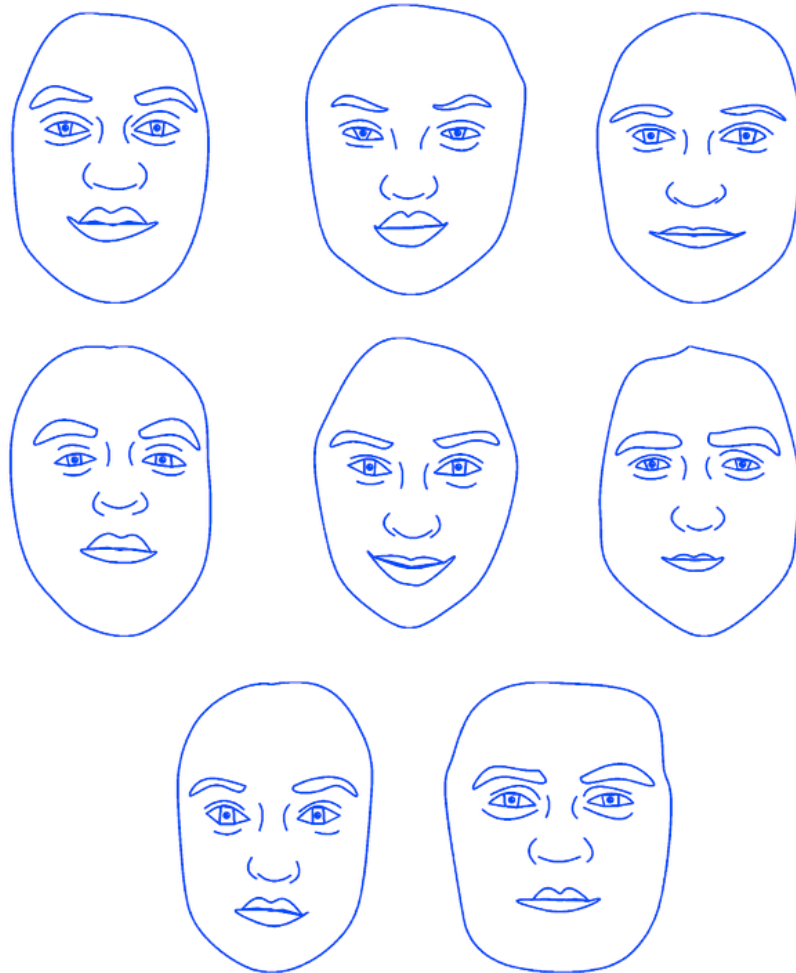


# Data example: face drawings



From Day & Davidenko, *CogSci 2015*

# Experiment details

- Participants (N=8 Psyc 1 students) completed 16 face drawings using a stylus on a touch screen
- 8 different target faces were presented, in both upright and inverted orientations, in blocks of 4:
  - 4 upright, 4 inverted, 4 upright, and 4 inverted (or reversed)
- Participants had 90 seconds to copy each face
- The accuracy of each drawing was computed by:
  - (a) identifying 85 keypoints on the drawing
  - (b) normalizing the drawing to scale with the target face
  - (c) summing distances between the corresponding keypoints

# Two example drawings

Target face

Drawing

Upright



# Two example drawings

Target face

Drawing

Upright



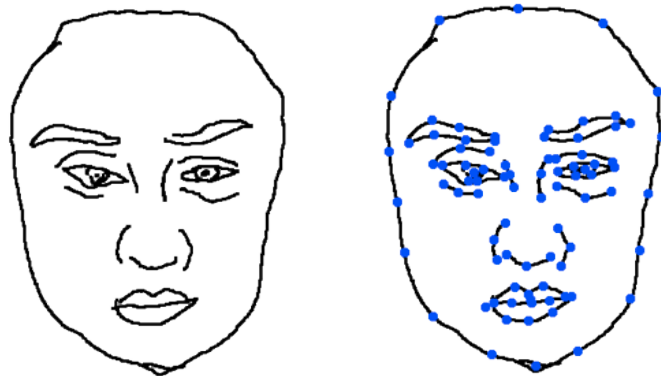
Inverted



# Computing an error measure

- Encode each drawing with 85 keypoints (based on *face space*)

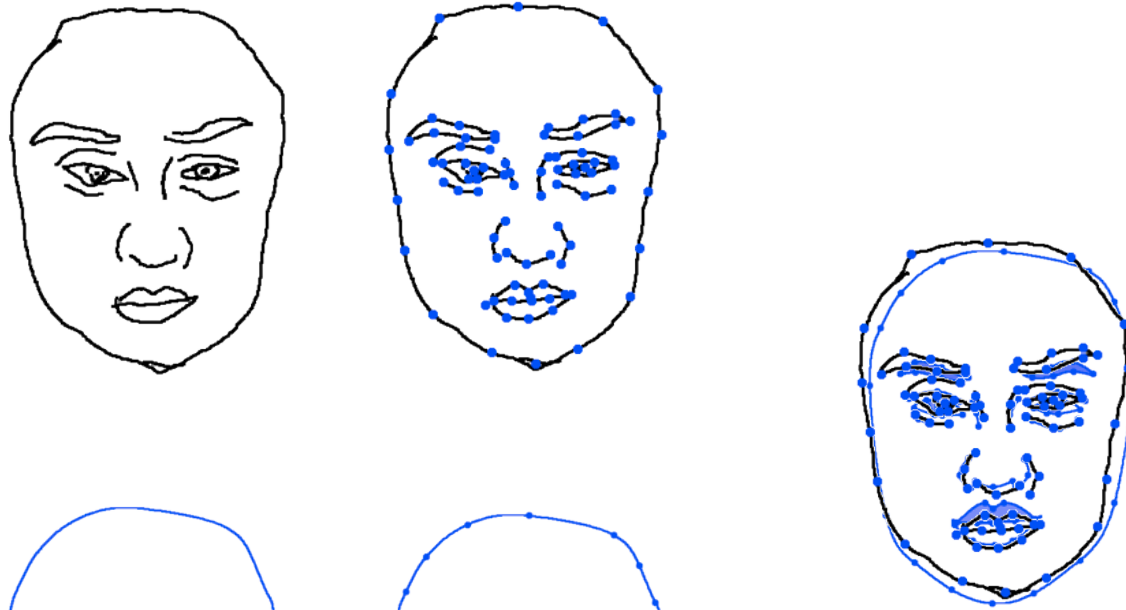
Drawing:



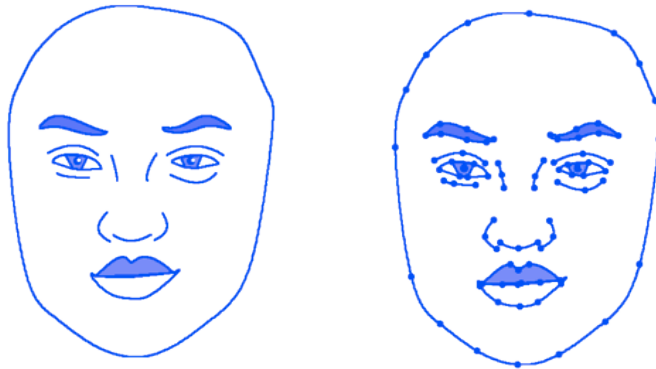
# Computing an error measure

- Encode each drawing with 85 keypoints
- Normalize and superimpose with target face

Drawing:

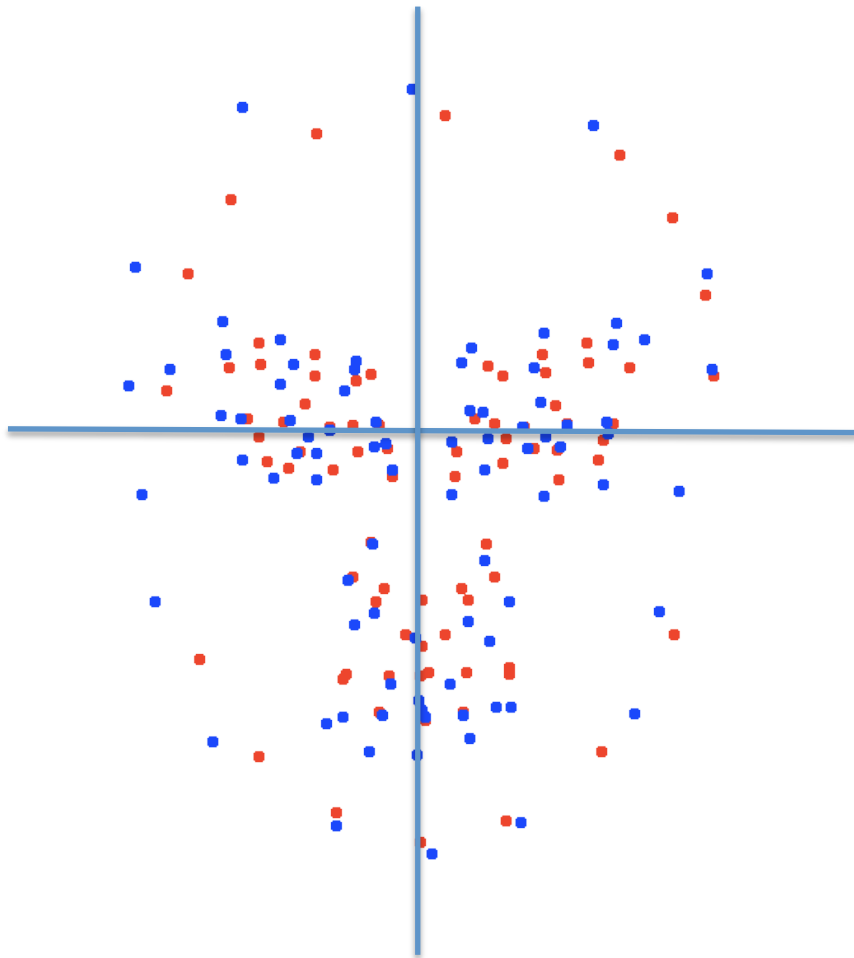


Target:



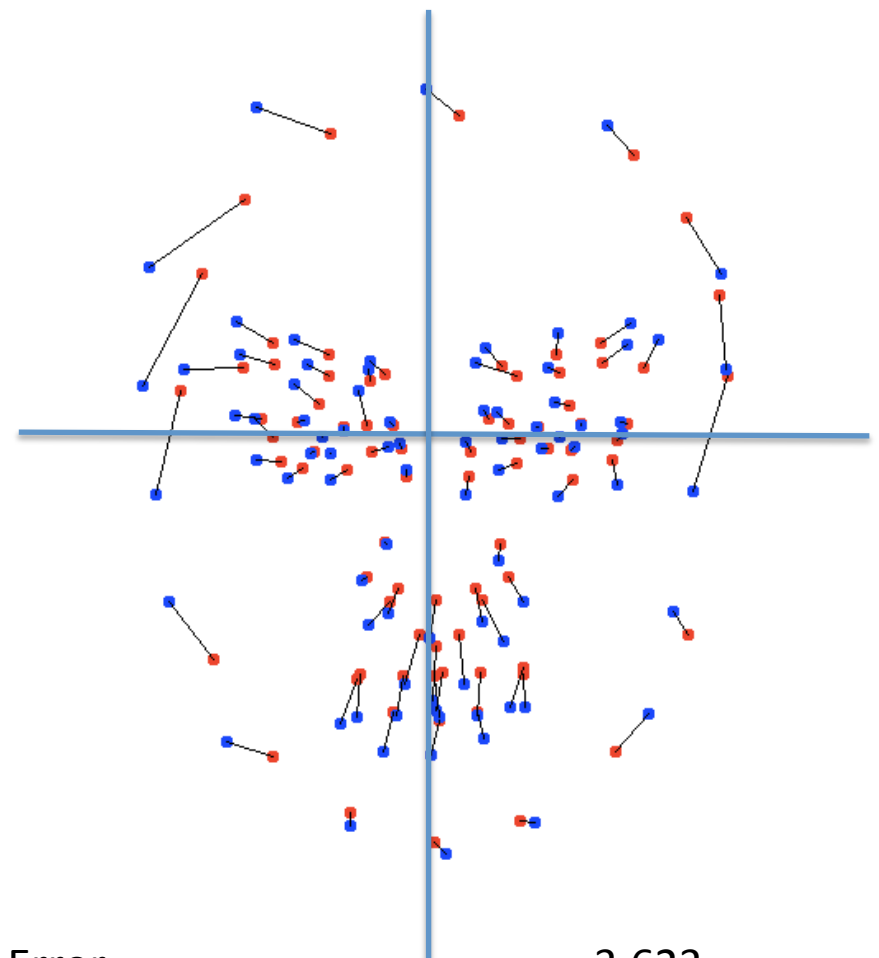
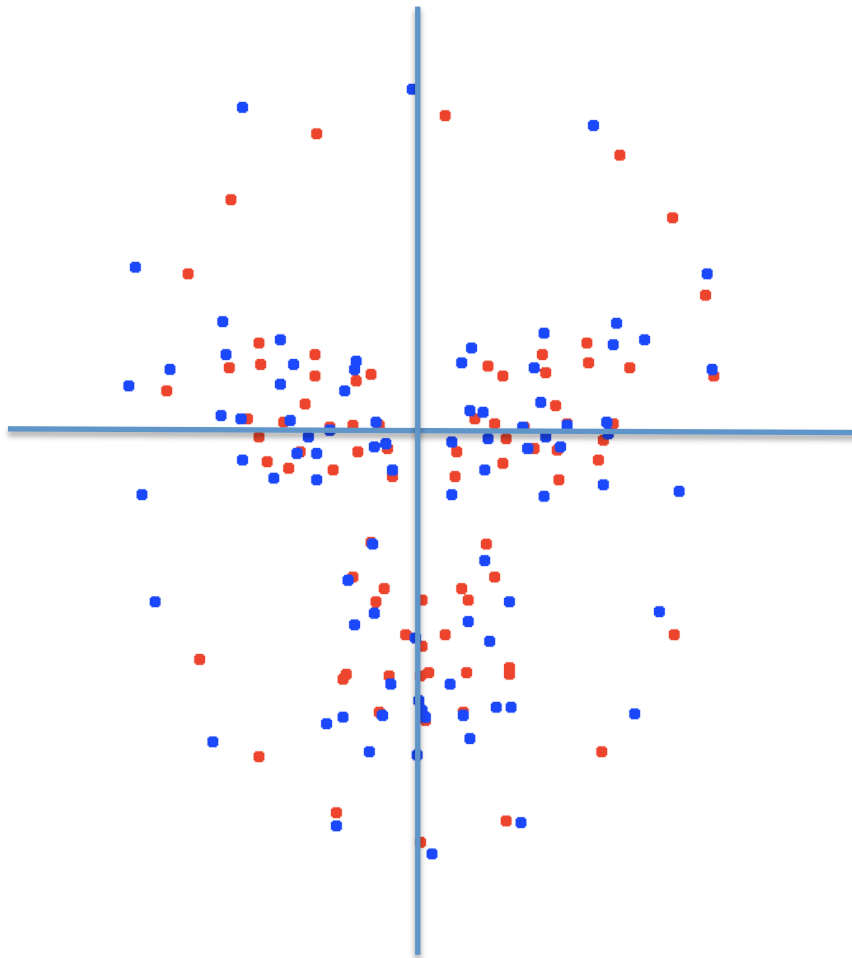
# Error measure

- Sum of distances between pairs of corresponding keypoints



# Error measure

- Sum of distances between pairs of corresponding keypoints



Error<sub>subject 1, face 3, upright</sub> = 3.623



# Hypothesis 1

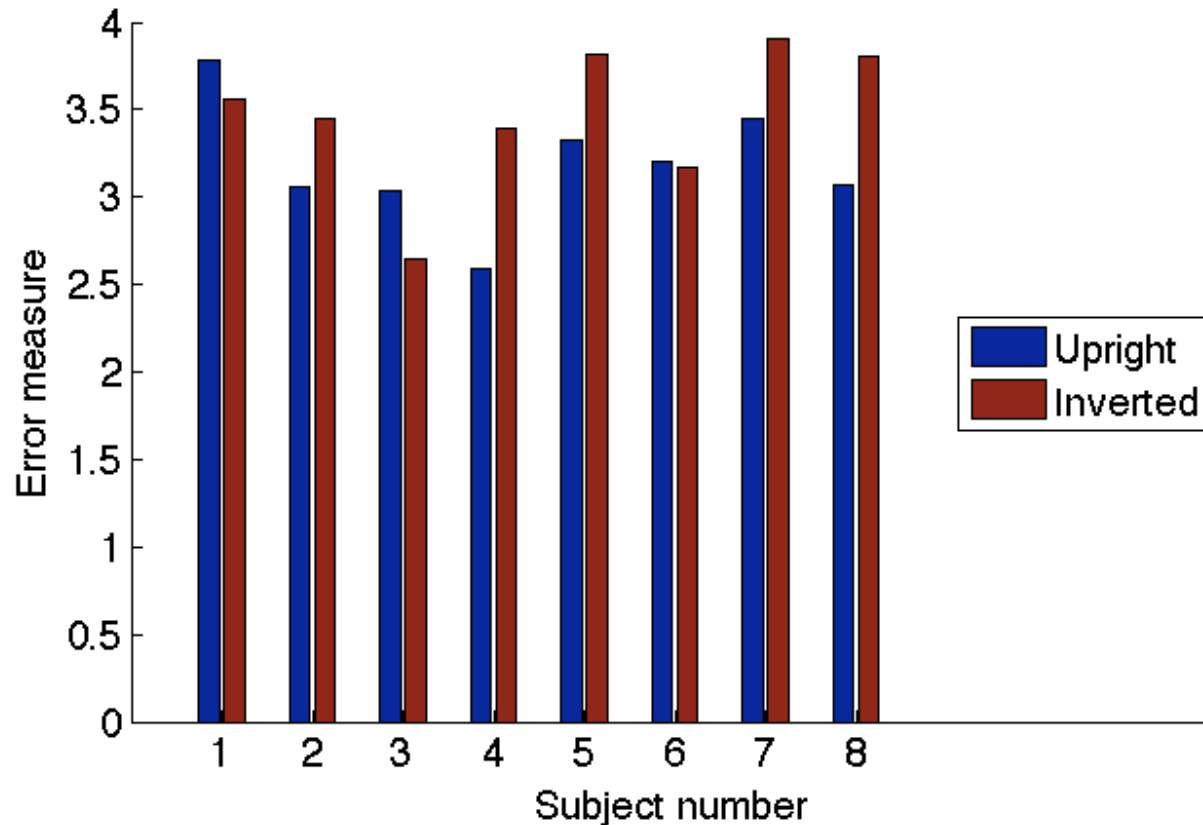
- Based on previous results with profile faces, we predicted **errors would be smaller for upright vs. inverted drawings.**
- Each subject's data averaged across 8 upright and 8 inverted faces:

Non-artists (real data)

subject number	error-upright	error-inverted
1	3.7795	3.559
2	3.0596	3.452
3	3.0415	2.6484
4	2.5876	3.3977
5	3.3241	3.8161
6	3.2086	3.1721
7	3.454	3.9078
8	3.0654	3.8079
mean	3.1900375	3.470125

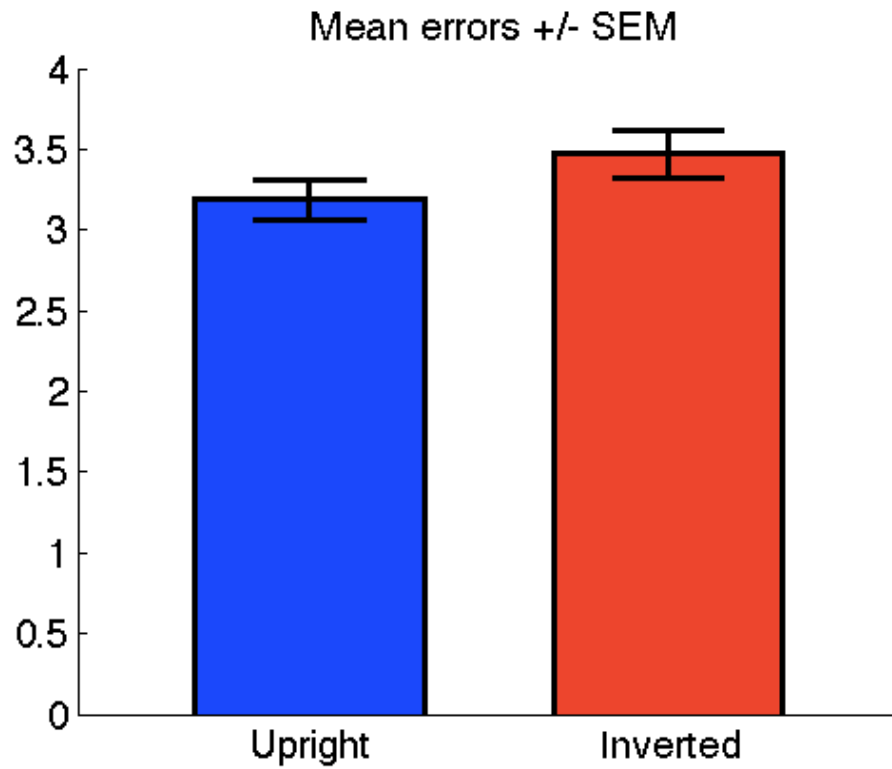
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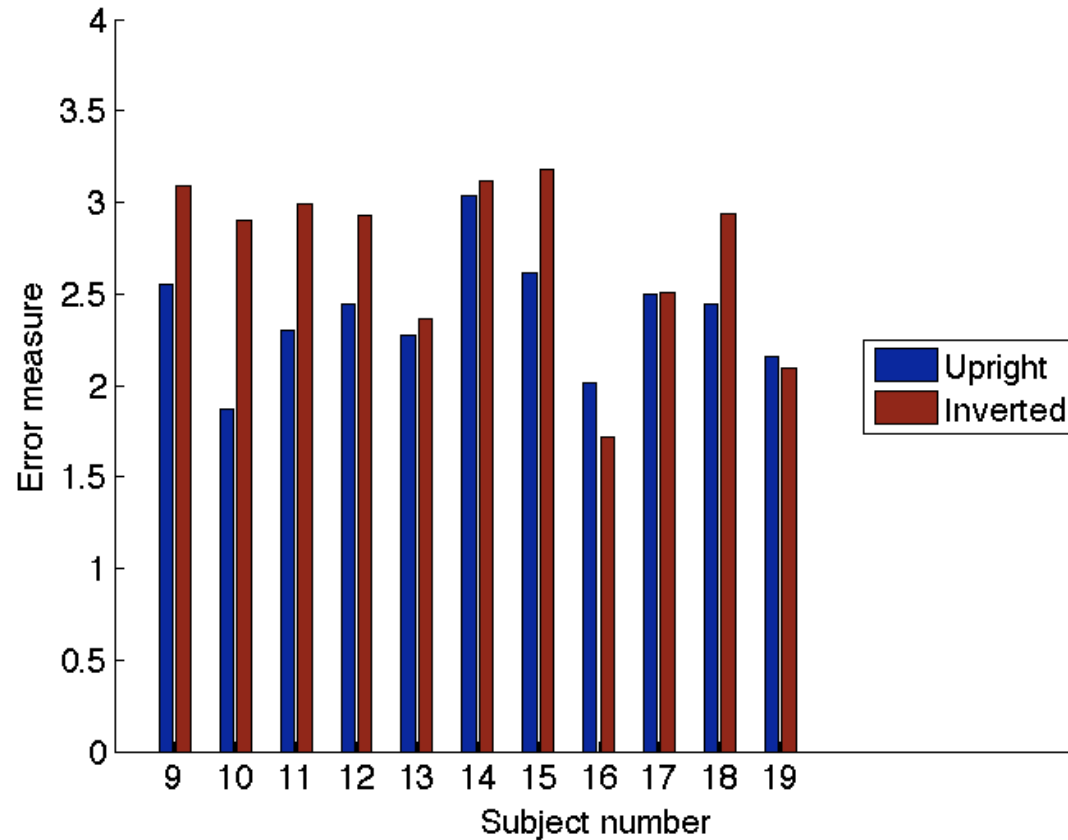
# Hypothesis 2

- (Hypothetical) **We predict a similar “inversion effect” for artists.**
- Made up data:

	Artists (made up data)	
subject number	error-upright	error-inverted
9	2.556	3.0886
10	1.8738	2.9012
11	2.2997	2.9874
12	2.443	2.9289
13	2.2778	2.3658
14	3.0333	3.1168
15	2.6106	3.1793
16	2.0156	1.7134
17	2.4974	2.5091
18	2.4454	2.9406
19	2.1585	2.0977
mean	2.382827273	2.711709091

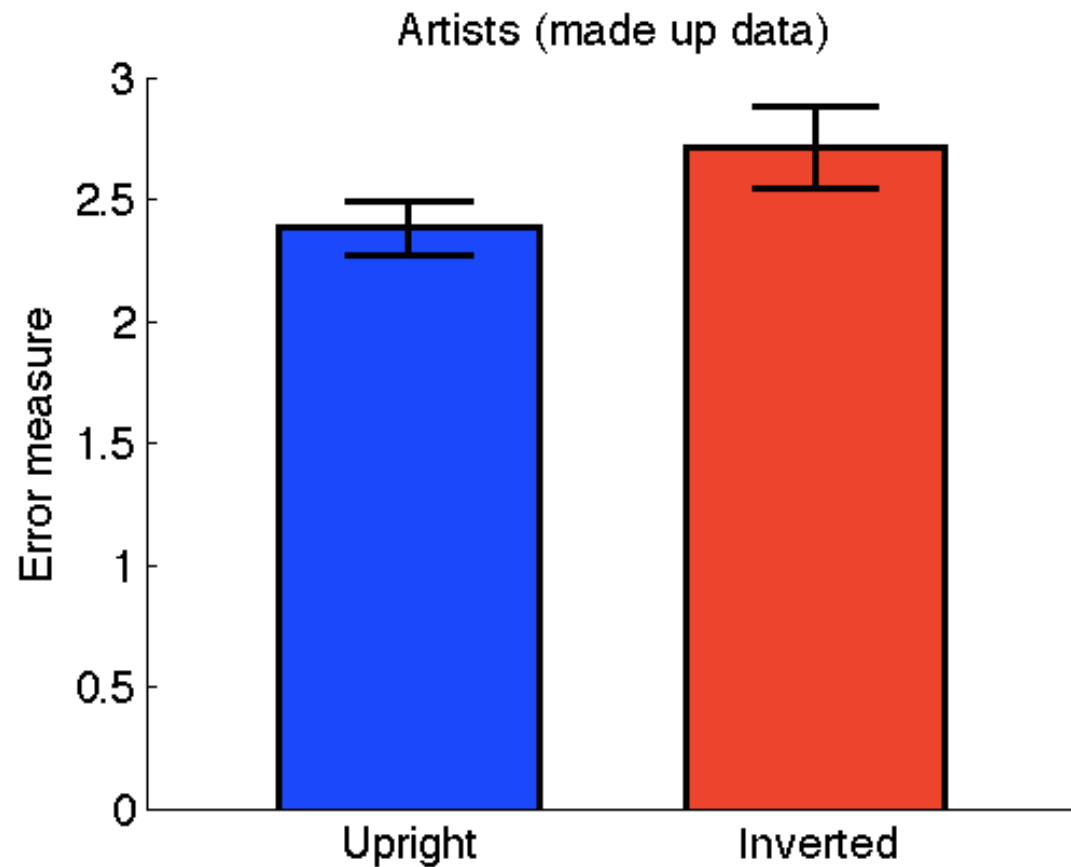
# Hypothesis 2

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- Made up data:



# Hypothesis 2

- (Hypothetical) **We predict a similar “inversion effect” for artists.**
- Made up data:



# Hypothesis 3

- (Hypothetical): Artists will show a greater (or more significant) inversion effect than non-artists

