Facial resemblance of spouses through the eyes of neural networks (#13932)

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1) Have any data been collected for this study already?
No, no data have been collected for this study yet.

2) What's the main question being asked or hypothesis being tested in this study?
Do faces of married couples more similar than those of random pairs of men and women? Do they become more similar over time?

3) Describe the key dependent variable(s) specifying how they will be measured.
Facial similarity of spouses at marriage and at least ten years later. Facial similarity of random pairs of man and woman at marriage. A facial recognition system will be used to represent a face as a vector (which we will call face-vector), and the facial similarity between a pair of faces will be evaluated from the Euclidean similarity of the face-vectors.

4) How many and which conditions will participants be assigned to?
N/A.

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.
We will use Welch's t-test to determine whether the facial similarity of spouses is different from that of non-spouses, and paired t-test and linear regression to determine whether the facial similarity of spouses increase or decrease over time.

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.
We will exclude photos that the facial recognition system cannot recognise the face. We will also exclude photos that has resolution of the cropped face below 30 x 30 pixels.

7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.
We will collect photographs at marriage and at least ten years later of about 500 couples. The sample size will be determined by the number of public online photos that are available publicly on the internet.

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)
Nothing else to pre-register.