

Facial Attractiveness

What make faces attractive?

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Evolutionary hypothesis



Judgement
(Individual's health)



Choosing mates
to increase gene
propagation.

Previous Research

Does attractiveness reflect phenotypic conditions?

Averageness

Hypothesis: “Beauty detecting mechanism” averages observed faces. We select faces closer to these averages.
Experimental: Composite images vs Individual images

Symmetry

Hypothesis:
Environmental pressures increase asymmetry.
Symmetry may reflect phenotypic quality.
Experimental:
Mirroring images, quantifying symmetry.

Dimorphic features

Hypothesis: Dimorphic features are hormone indicators. Feminised female and male faces preferred by both sexes in humans.
Experimental:
Exaggerating feminine and masculine features.

Methodology

Averageness:

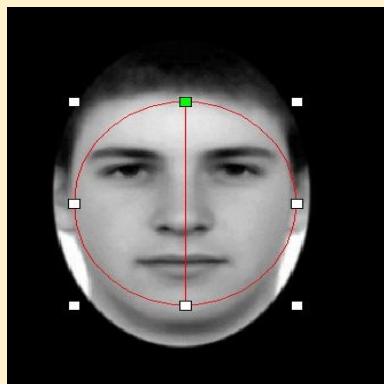
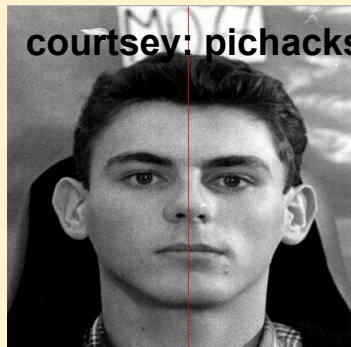
- Creating composite images of 3-13 images using Sqirlz Morph.
- Dividing images into 2 sets.



Methodology

Symmetry

- Image mirroring to create perfect symmetrical images.
- Quantifying symmetry of images.



Zoom:
To Fit

Area of Interest:
Ellipse Add

Rotate AOI:
0 Left Right

Type of Measurement:
☒ Bi-lateral ☐ Radial

Symmetry Value: 99.4674813023 %
Calculate AutoScale
[Load Another Image...](#)

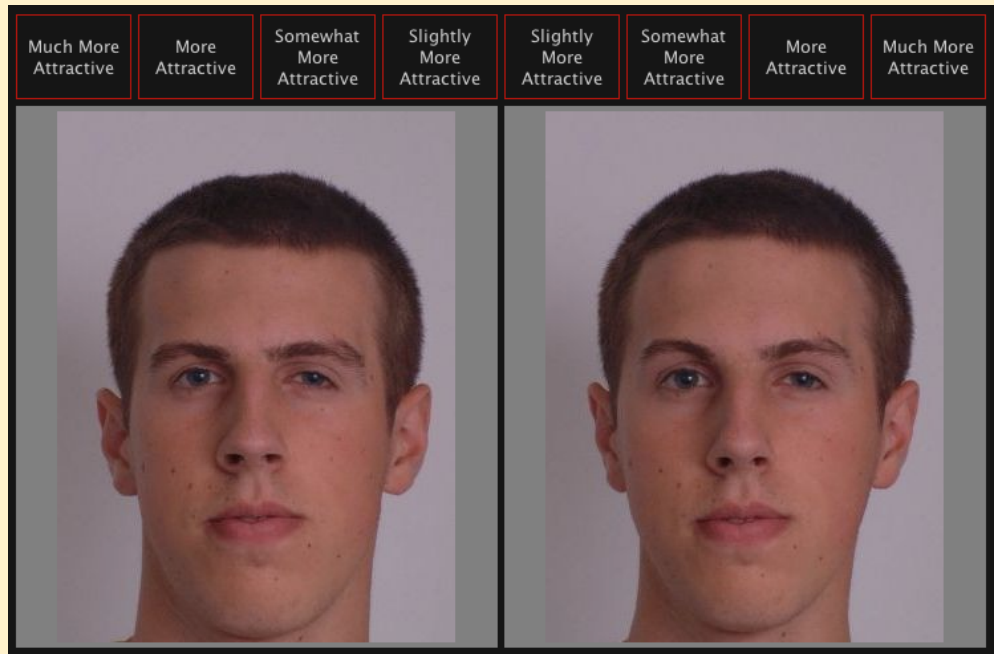
Courtesy: symmeter.com

Methodology

Dimorphic features

Using existing database.

courtesy: Rhodes, G., Hickford, C., & Jeffery, L. (2000). Sex typicality and attractiveness: Are supermale and superfemale faces super attractive? *British Journal of Psychology*, 91, 125-140.



Normal image

feminised image

image courtesy: Welling Research Lab

Our Approach

We created two different surveys using google forms having images. Each image can have any of the following property:

- Original un-edited.
- Averaged composite image of 3-13 images.
- Mirrored symmetrical image.
- Quantified symmetrical image.
- Feminised image.
- Masculinized image.

We had common audience fill take one survey per person randomly. We then compare the results of the two surveys.

Results

Image Id	Mean rating +- S.D.	Image annotation
1	2.37+-1.08	Original
5	3.79+-0.76	Average 3
6	2.33+-0.85	Original
7	2.66+-0.74	Average 4
8	2.08+-1.07	Average 6
9	2.33+-1.14	Original
10	2.57+-1.04	Average 6
11	3.125+-0.98	Average 8
12	2.91+-0.93	Average 6
13	2.5+-0.96	Original
14	2.66+-1.06	Average 6
15	3.16+-0.95	Original
16	2.83+-0.89	Average 3
17	4.29+-0.79	Original
18	3.91+-1.2	Original
19	3.86+-0.85	Original
20	3.09+-1.13	Average 13
21	1.13+-1.12	Original
23	3.2+-1.14	M. symmetric
24	2.52+-0.88	Symmetry 97.73
25	1.78+-0.93	Symmetry 96.5
26	4.26+-1.15	Symmetry 95
27	2.74+-1.1	Symmetry 92.7
28	2.56+-0.96	Original
29	3.09+-1.2	Original
30	2.74+-0.93	Original
31	3+-0.75	Original

Image Id	Mean rating +- S.D.	Image annotation
1	2.84+-1.03	Average 6
5	3.72+-0.73	Original
6	2.44+-0.76	Average 5
7	2.4+-0.89	Original
8	1.68+-0.74	Original
9	1.72+-0.63	Average 9
10	2.56+-1.03	Original
11	2.64+-0.81	Original
12	2.9+-1.02	Original
13	2.4+-0.88	Average 5
14	1.92+-0.73	Original
15	2.72+-1.02	Average 5
16	2.88+-0.89	Original
17	4.8+-0.6	Average 3
18	4.2+-0.81	Average 3
19	3.92+-0.87	Average 3
20	2.52+-0.75	Original
21	1.4+-0.57	Average 13
23	3+-1.27	Original
24	2.28+-0.76	Symmetric: 97.6
25	1.64+-0.70	Symmetric 94.3
26	4.64+-0.74	Symmetric 97.5
27	2.4+-0.99	Symmetric 96.1
28	2.4+-0.89	Masculine
29	2.52+-0.9	Feminine
30	2.56+-0.8	Feminine
31	2.16+-0.71	Feminine

Conclusion:

1. Symmetry preferred over asymmetry.
2. Photos closer to Average are preferred. Average images generated by larger number of images create more difference in ratings, (20 & 21).
3. Boys don't like feminised male photos, but feminised female photos.
4. Girls like feminised photos for both boys and girls.

Sources of error and suggestions:

- Subject number (especially female) not too large and of mean age 21.4 with S.D. of just 1.64. Large number of subjects from varied age groups will give more correct results.
- Due to 30 images in a set, people get tired at the half and started giving random ratings afterwards. Better to have 10 images in a set and large number of subjects.

References

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