



**‘The eye of the beholder’:
individual differences in aesthetic
preferences**

Jeremy B. Wilmer



“There is no accounting for taste”
- ancient proverb

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- ancient proverb



Taking one more step back...
**How much does individual taste
actually influence preferences?**



Is beauty in the eye of the beholder?

Ask artists, philosophers, writers:

“There exists an absolute beauty.”

-Plato, ~400 BC

“Loveliness...comes...in Ideal-Form.”

-Plotinus, 22 AD

“Our definition...beauty is...intrinsic.”

-Santayana, 1896

Is beauty in the eye of the beholder?

Ask artists, philosophers, writers:

“Beauty is bought by judgement of the eye.”

-Shakespeare, Love's Labours Lost, 1588

“Beauty in things exists merely in the mind which contemplates them.”

-David Hume, 1742

“The judgment of taste...can be no other than subjective.”

-Kant, 1790

Is beauty in the eye of the beholder?

Ask artists, philosophers, writers:

“The debate over whether beauty is objective or subjective...is perhaps the single most-prosecuted disagreement in the literature.”

--The Stanford Encyclopedia of Philosophy, 2014

Individual differences in face preferences

Individual differences in perception

Individual differences in **color** preferences

Individual differences in face preferences

Is beauty in the eye of the beholder?



Please rate

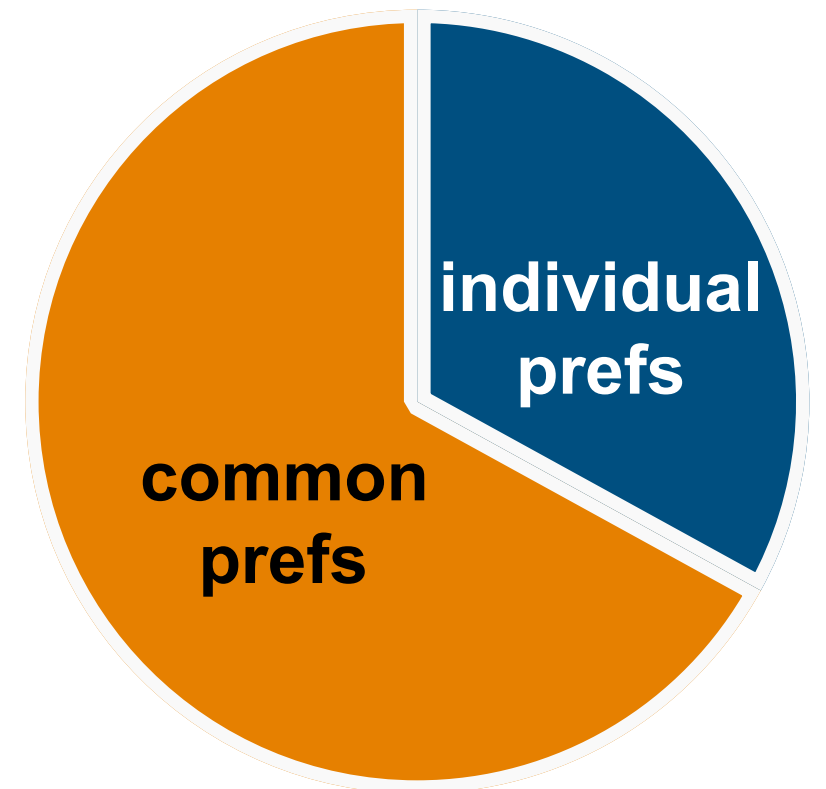
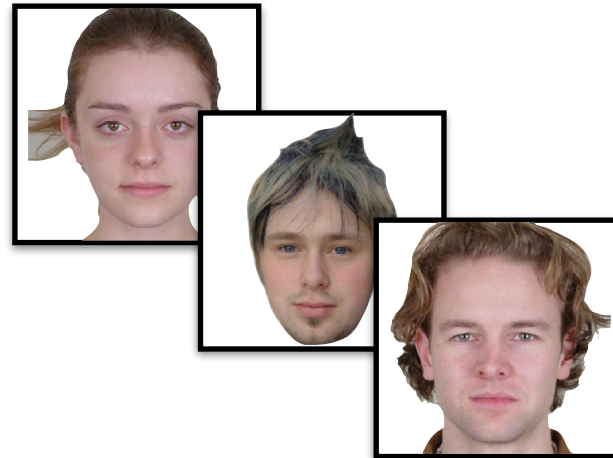
1 2 3 4 5 6 7

very very

unattractive attractive

Is beauty in the eye of the beholder?

Yes, ~50%
(for reasonable arrays of faces)

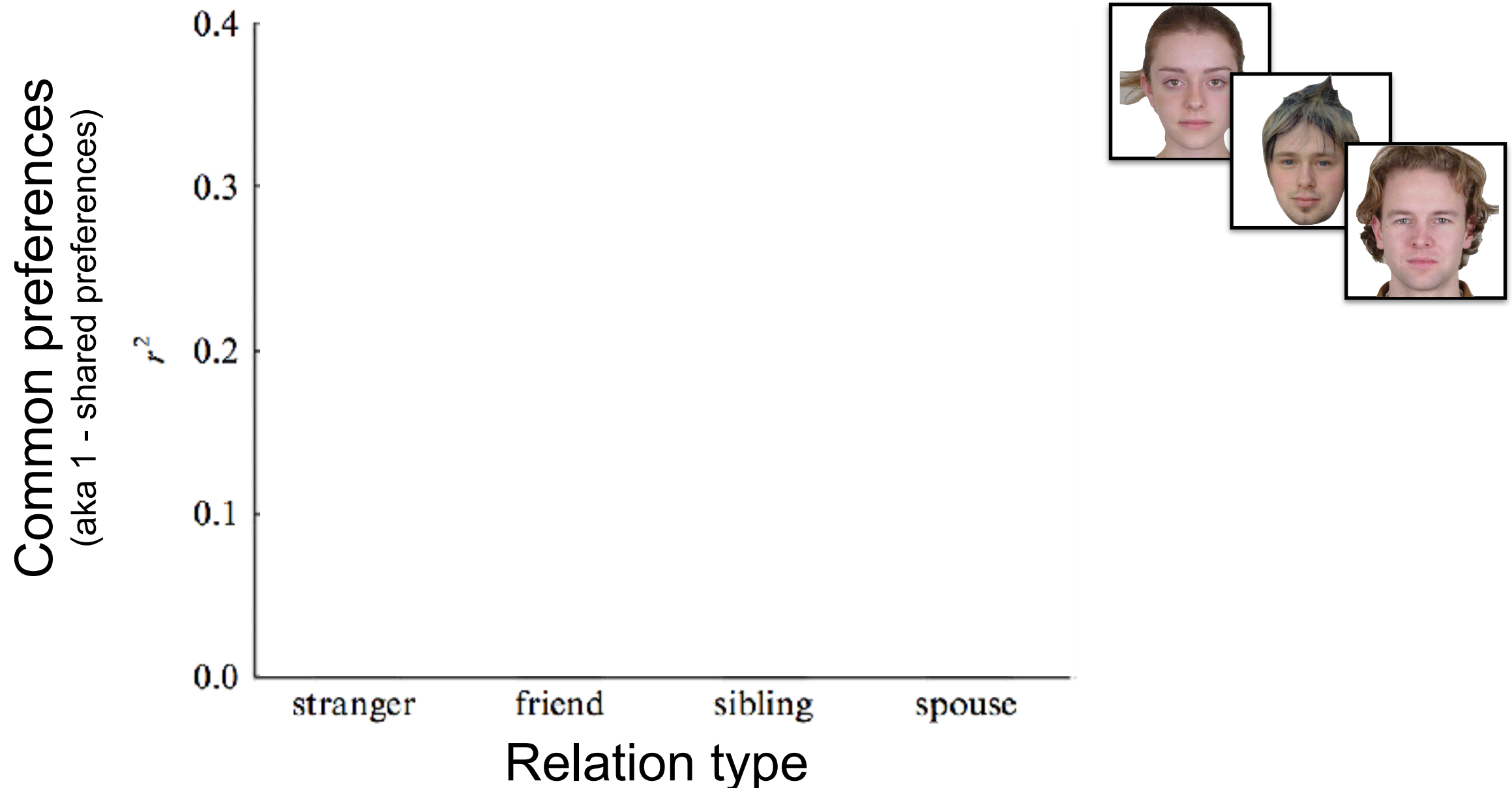


Where does the eye of the beholder come from?

Initial clue:

Odd...most traits show substantial heritability.

...here, we will more *directly* and *quantitatively* probe the impact of genes and environments on individual preferences.



Study twins (raised together)

Study twins (raised together)

Identical twins



Share a family

Share 100% of genes

Study twins (raised together)

Identical twins



Share a family
Share 100% of genes

Fraternal twins



Share a family
Share 50% of genes
(+/- 10%)

Study twins (raised together)

high identical twin correlation =
genes and/or family environment are important

Identical twins



Share a family
Share 100% of genes

Fraternal twins



Share a family
Share 50% of genes
(+/- 10%)

Study twins (raised together)

low identical twin correlation =
neither genes nor family environment are important

Identical twins



Share a family
Share 100% of genes

Fraternal twins



Share a family
Share 50% of genes
(+/- 10%)

Study twins (raised together)

identical twin correlation $>$ fraternal twin correlation =
genes are important

Identical twins



Share a family
Share 100% of genes

Fraternal twins



Share a family
Share 50% of genes
(\pm 10%)

Where does the eye of the beholder come from?

The case of face aesthetic preferences:

But first...

Something else about faces

The case of face recognition:

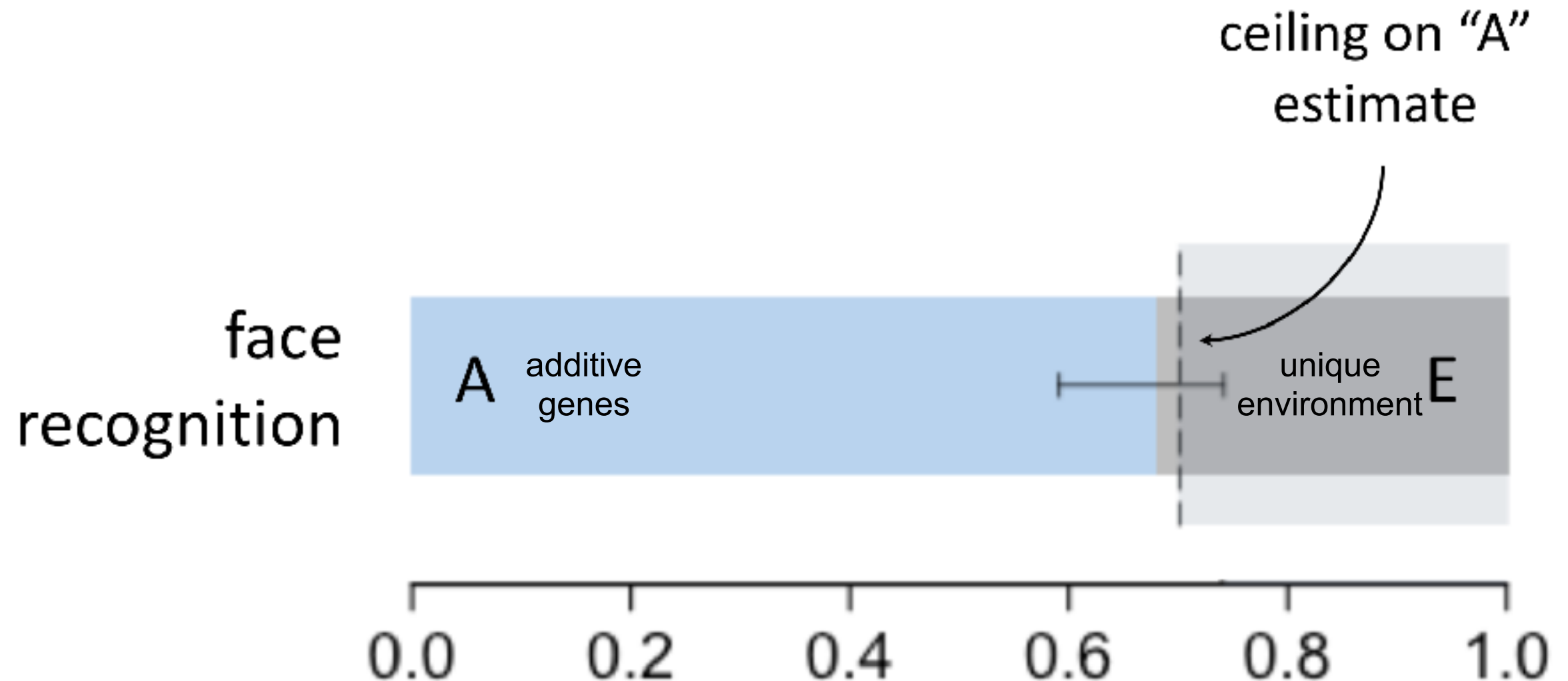
Something else about faces

The case of face recognition:



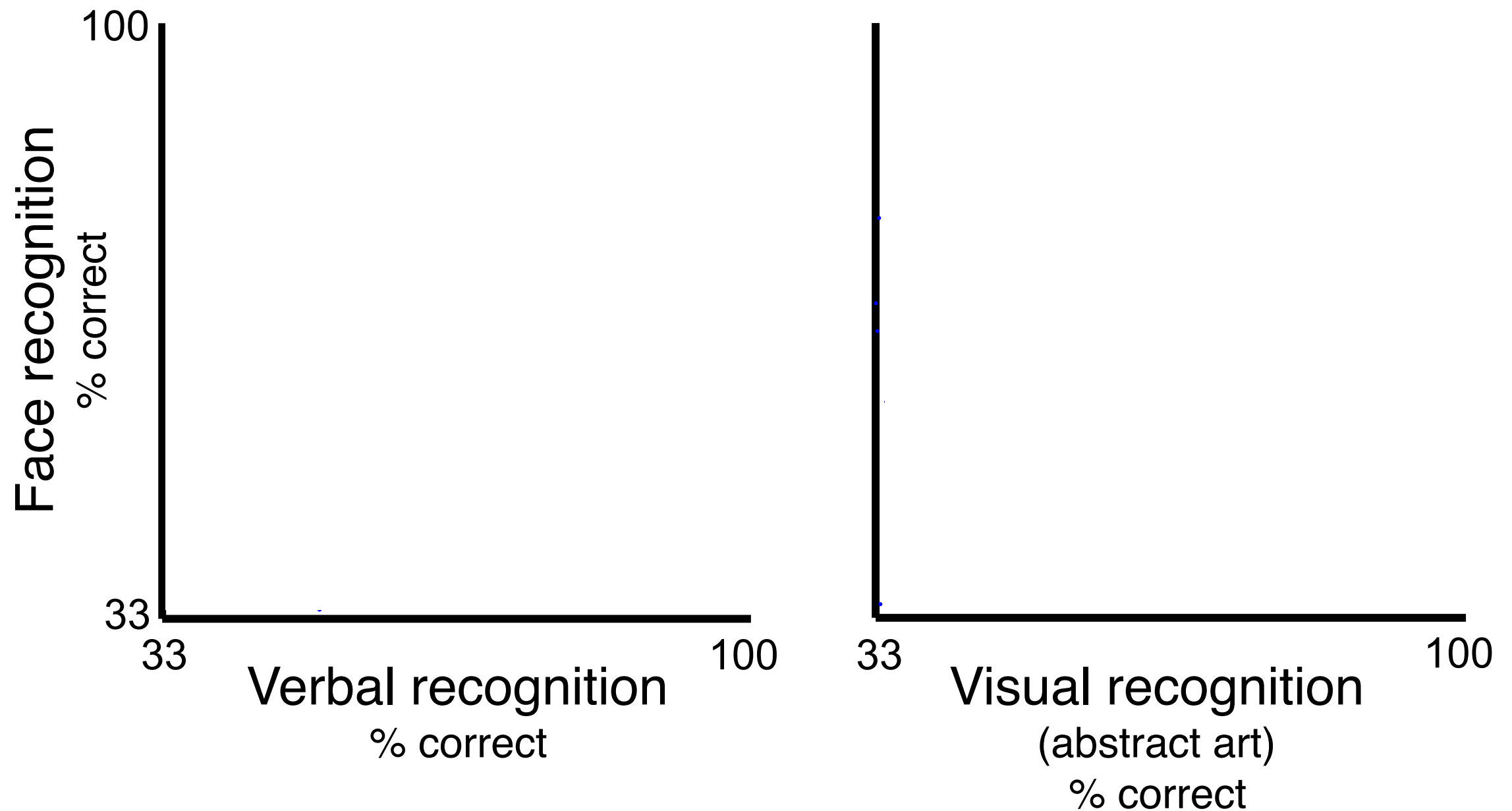
Something else about faces

The case of face recognition:



Face recognition is *also* specific

(rare for a heritable trait)



Twin study of *individual face preferences*...



Please rate

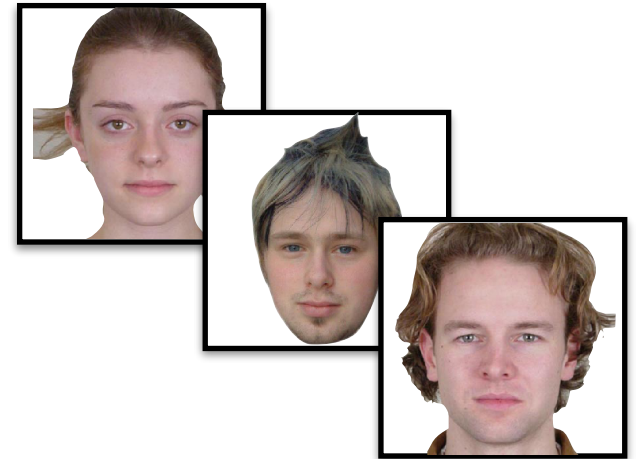
1 2 3 4 5 6 7

very very

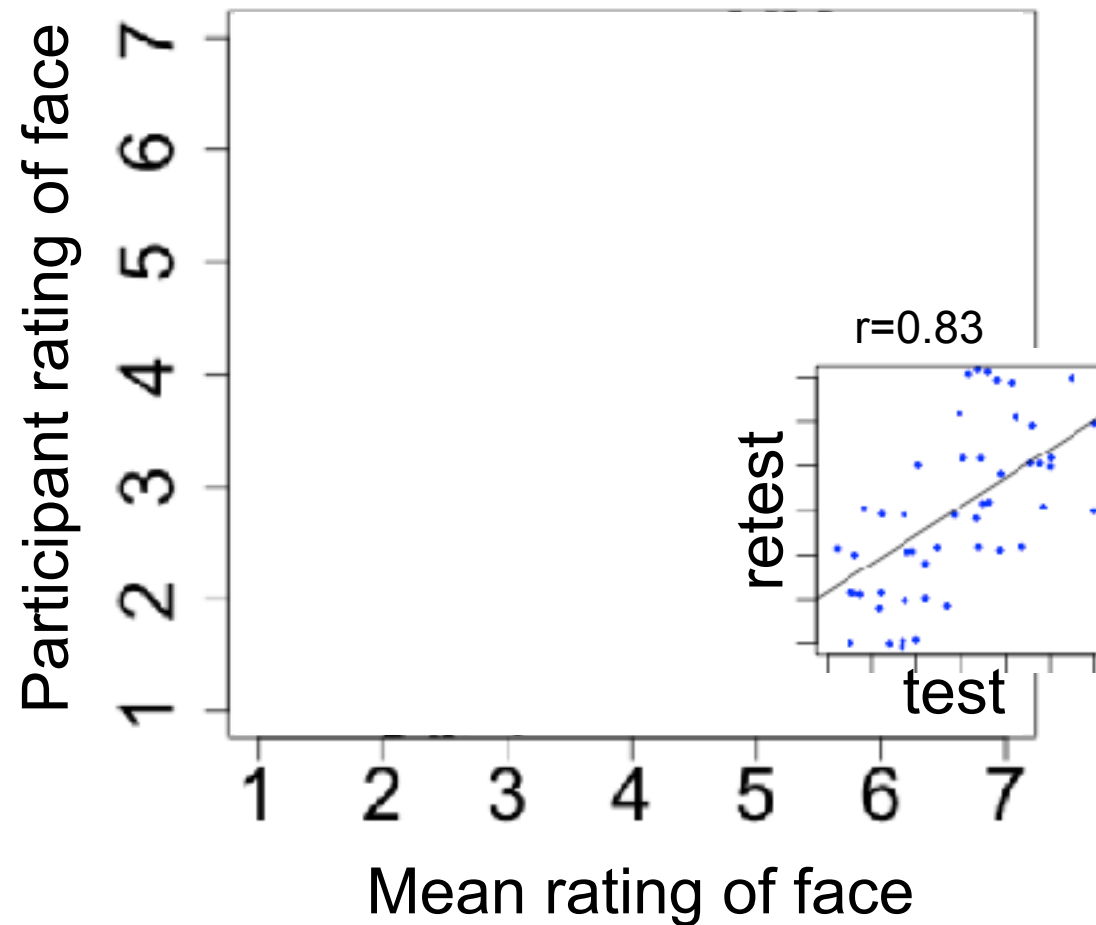
unattractive attractive

Twin study of *individual face preferences*...

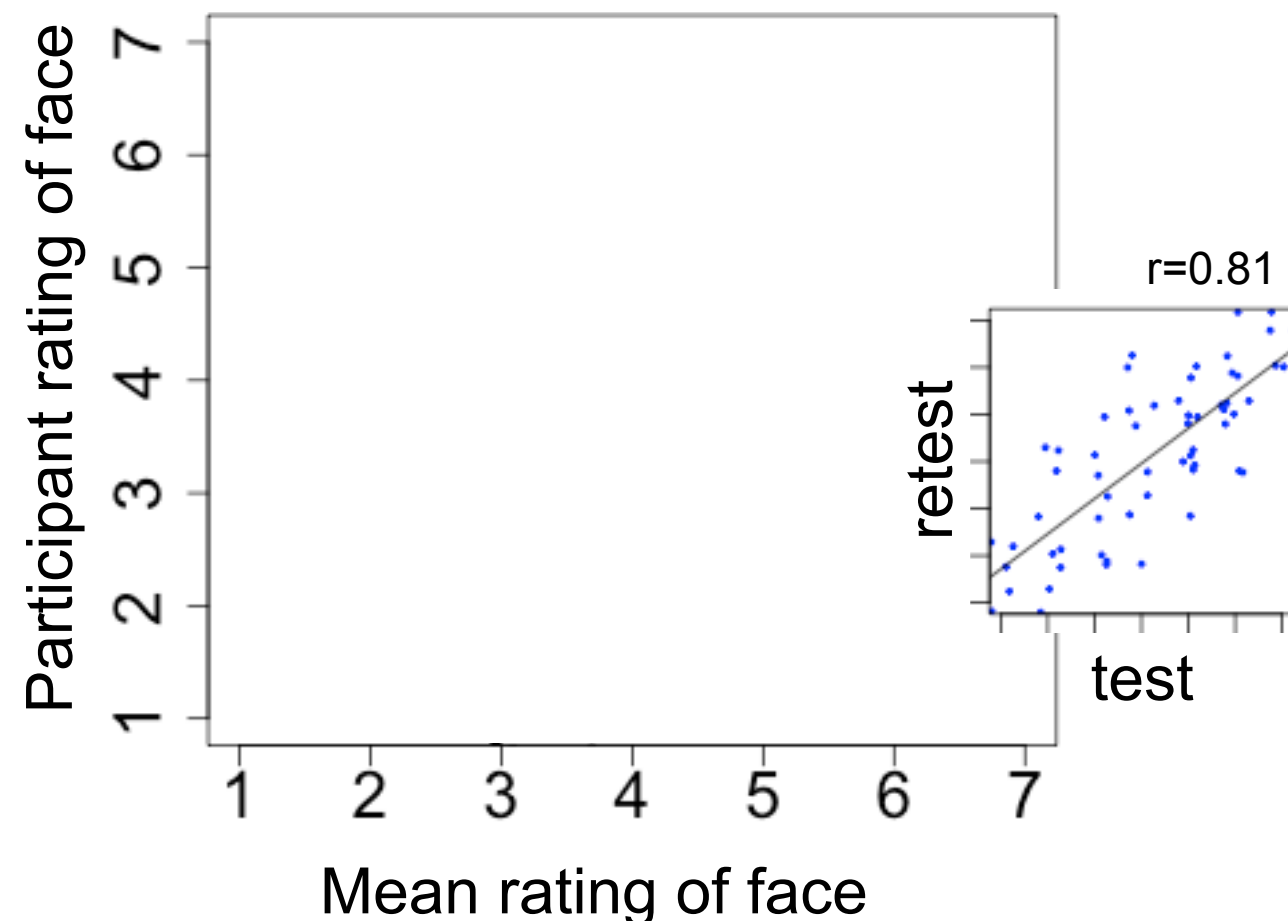
Measure: Individual preferences =
agreement/disagreement with mean rating



High agreement participant:

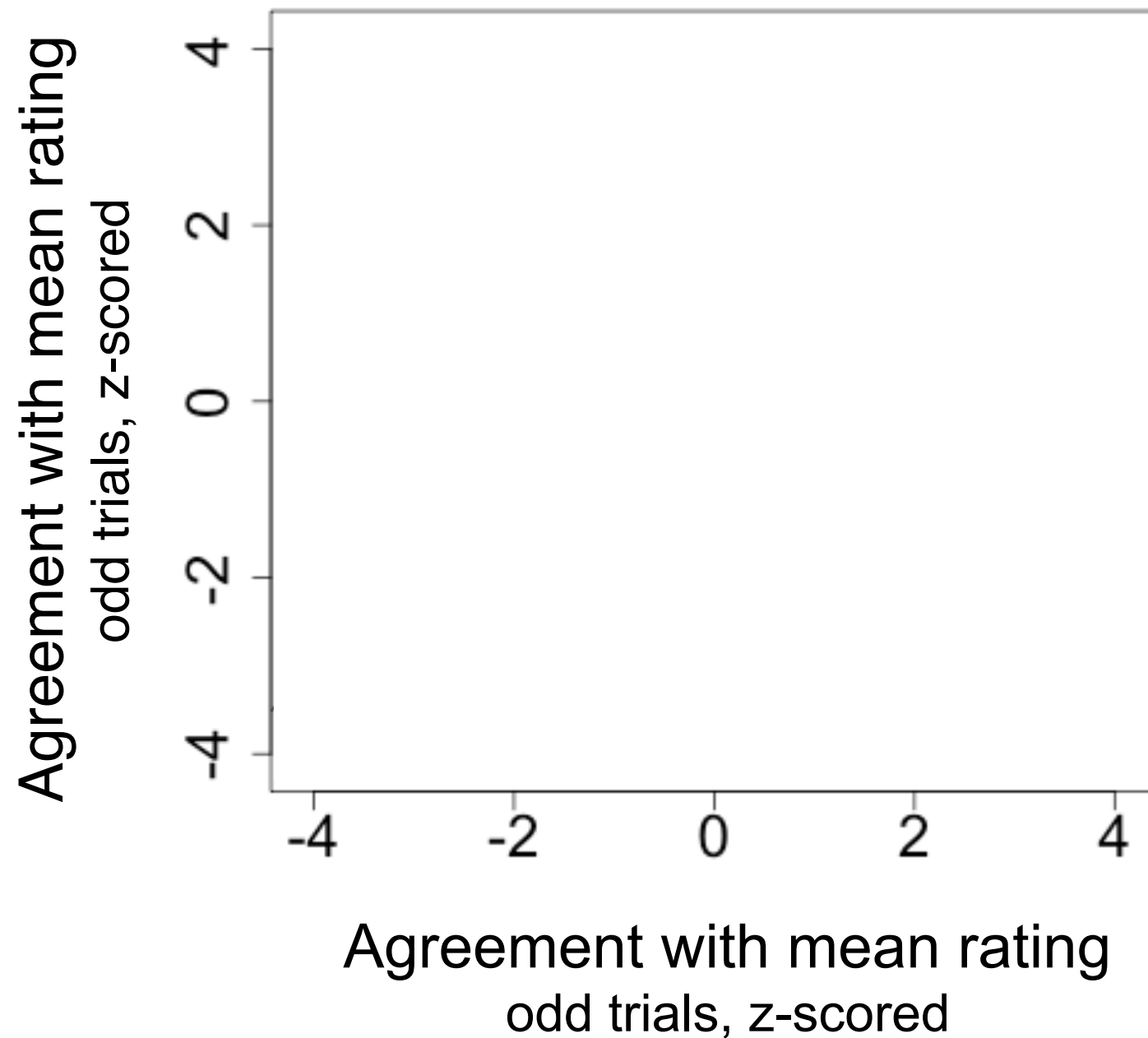
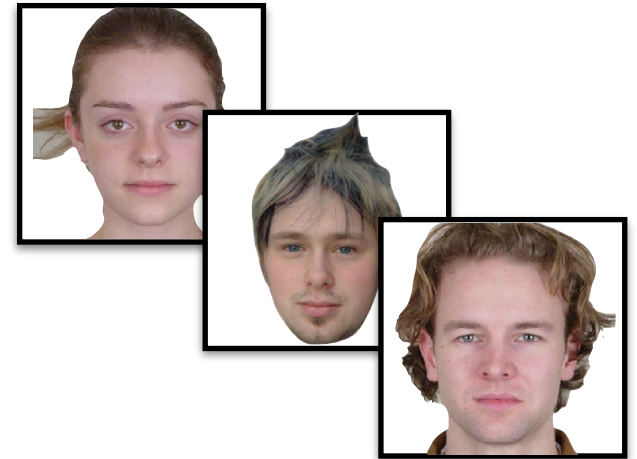


Low agreement participant:



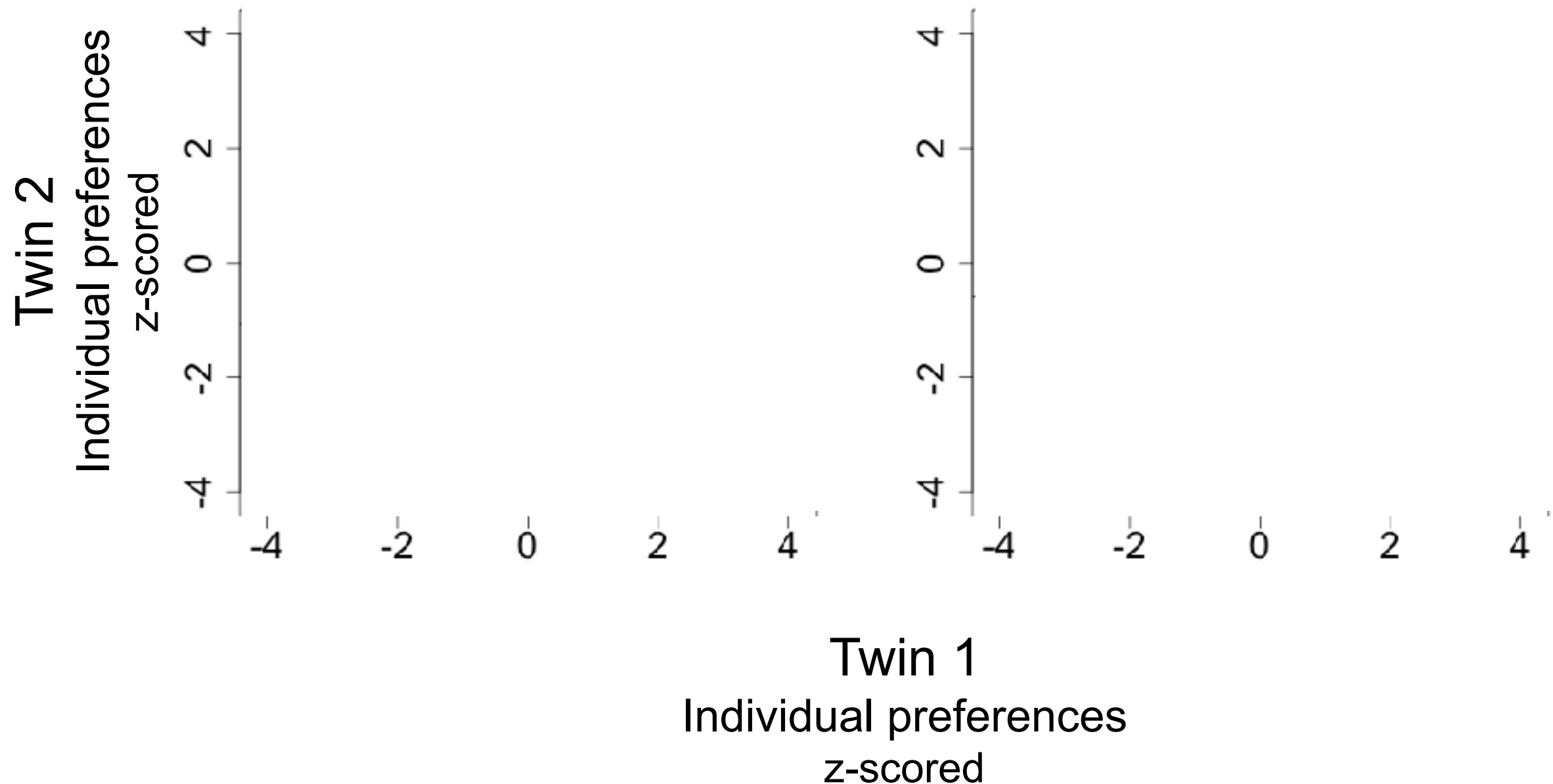
Twin study of *individual face preferences*...

Reliability: high
(both split-half and test-retest)



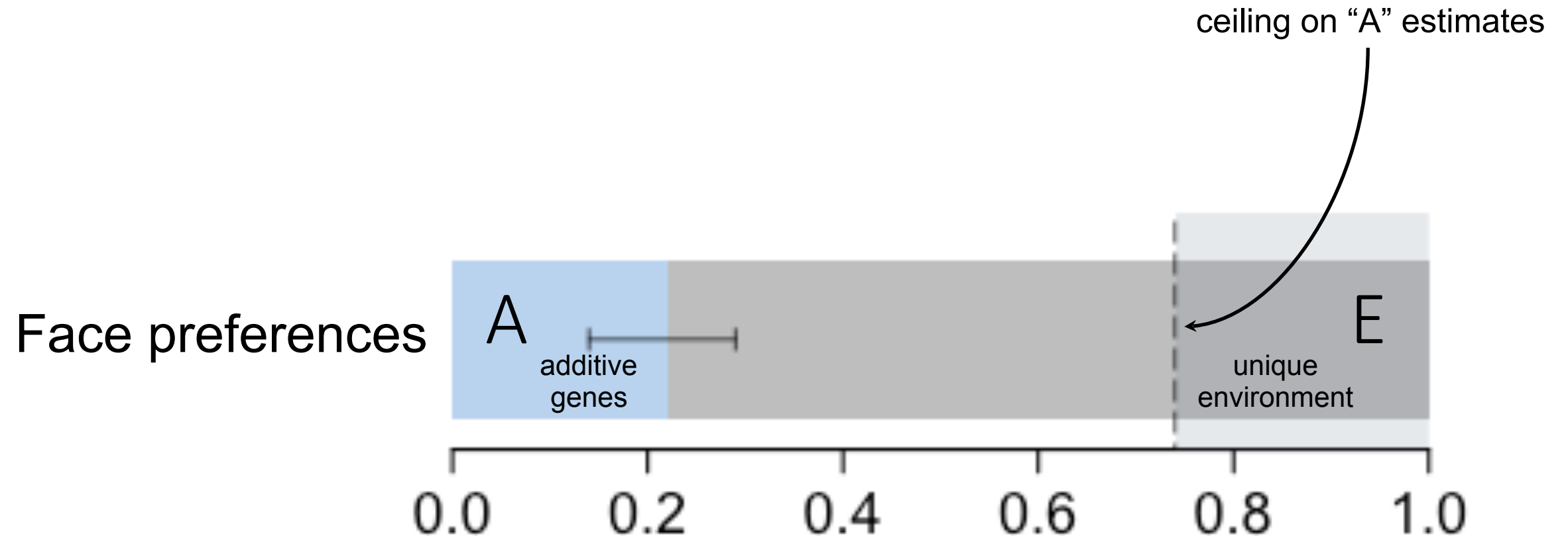
Twin study of *individual face preferences*...

High (unique) environmental influence



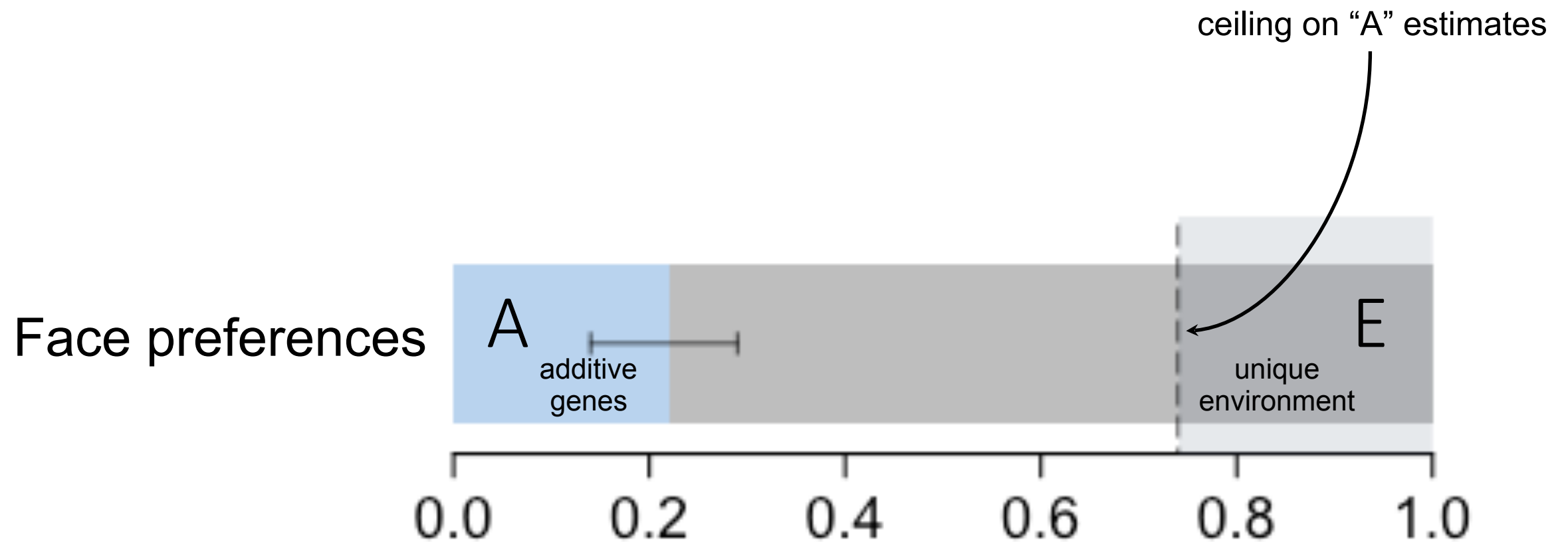
Twin study of *individual face preferences*...

High (unique) environmental influence



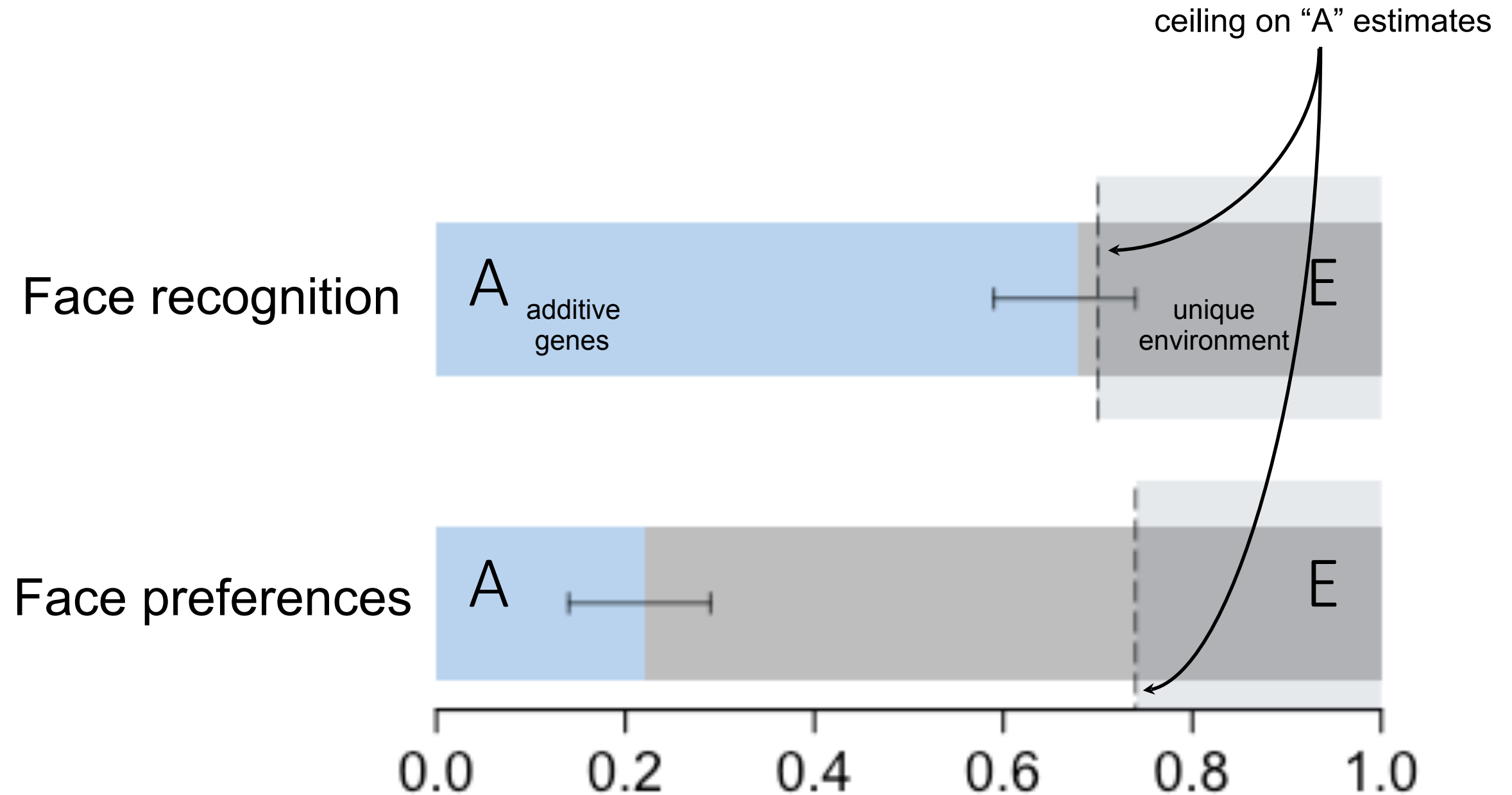
Twin study of *individual face preferences*...

An etiological dissociation with face recognition



Twin study of *individual face preferences*...

An etiological dissociation with face recognition



Face aesthetic preferences conclusions:

For artists & philosophers:

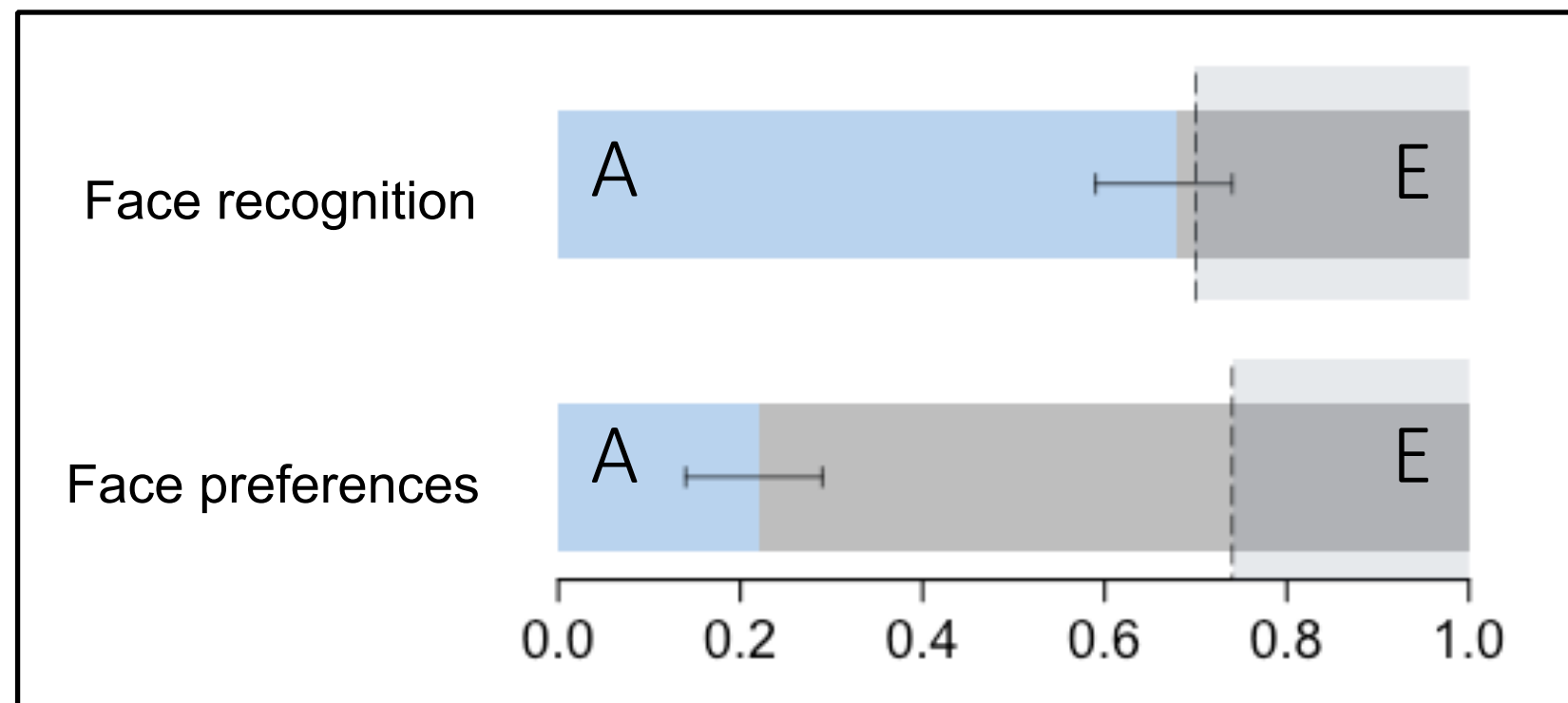
The ***eye of the beholder***,
for faces at least, appears to
arise primarily from
individual-specific life
history and experience.

For BG researchers:

...such ***high***
environmental impact
for a reliably measured trait
is ***uncommon in***
behavioral genetics.

For cognitive psychologists:

Face preferences dissociate etiologically
from ***face recognition.***



Face aesthetic preferences conclusions:

(conclusions of the press)



Face aesthetic preferences conclusions:



Face aesthetic preferences conclusions:



What's Beautiful? It Depends on What Your Eyes Have Already Beheld

Opinions about beauty may be shaped just as much by past social interactions as by our genes

Hot or Not? Why We Don't Agree



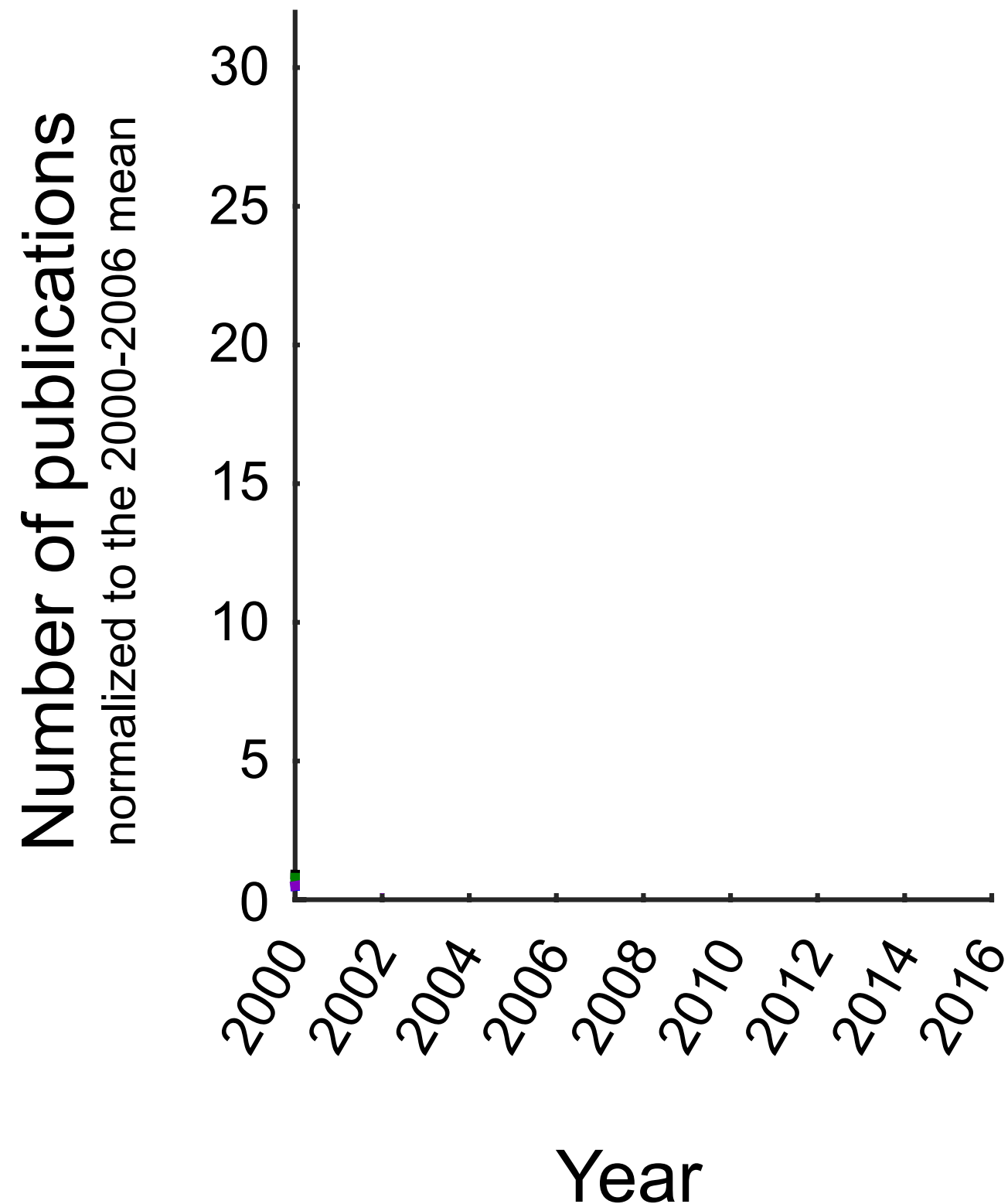
Individual differences in face preferences

Individual differences in perception

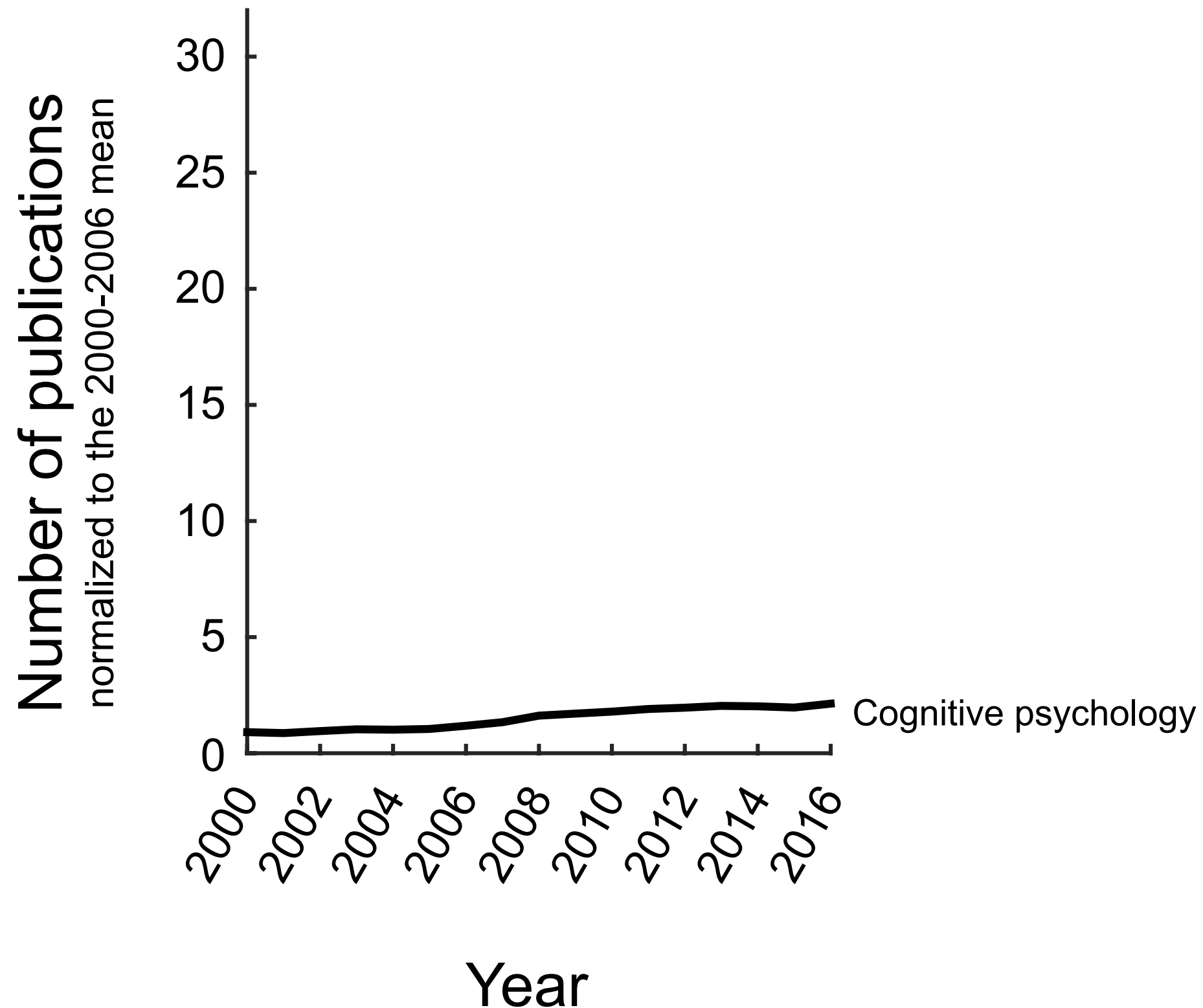
Individual differences in **color** preferences

Individual differences in perception

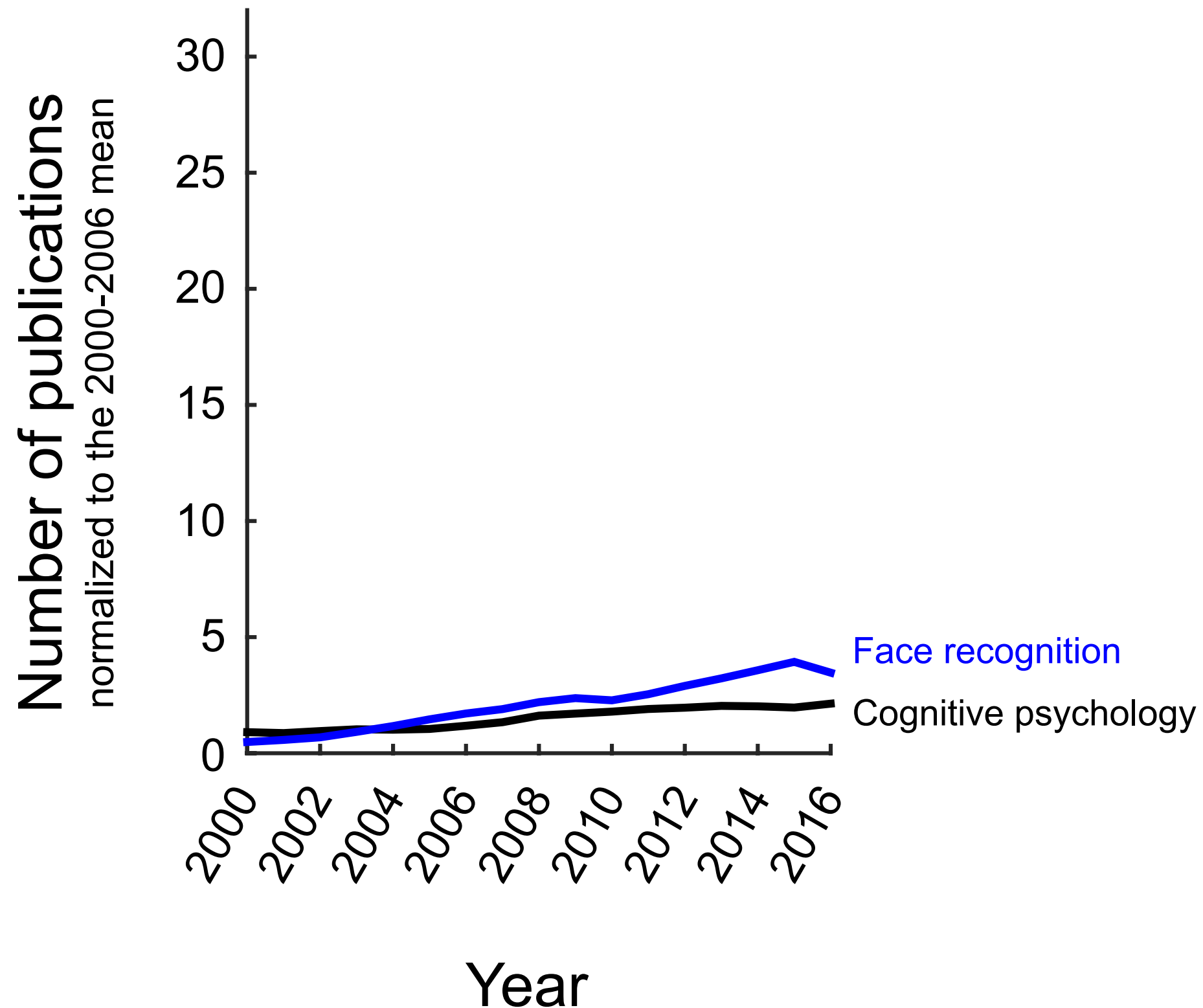
Individual differences in perception



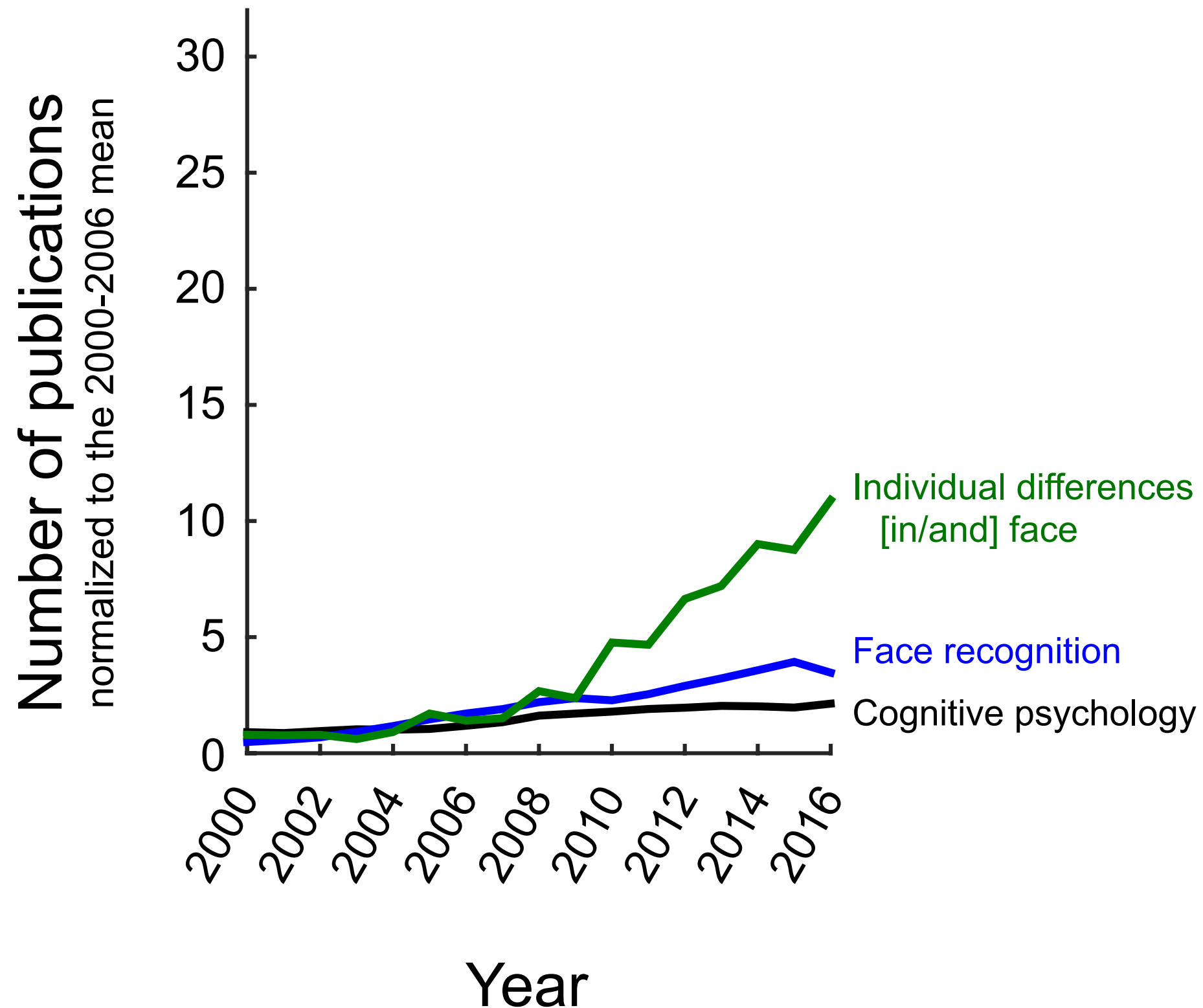
Individual differences in perception



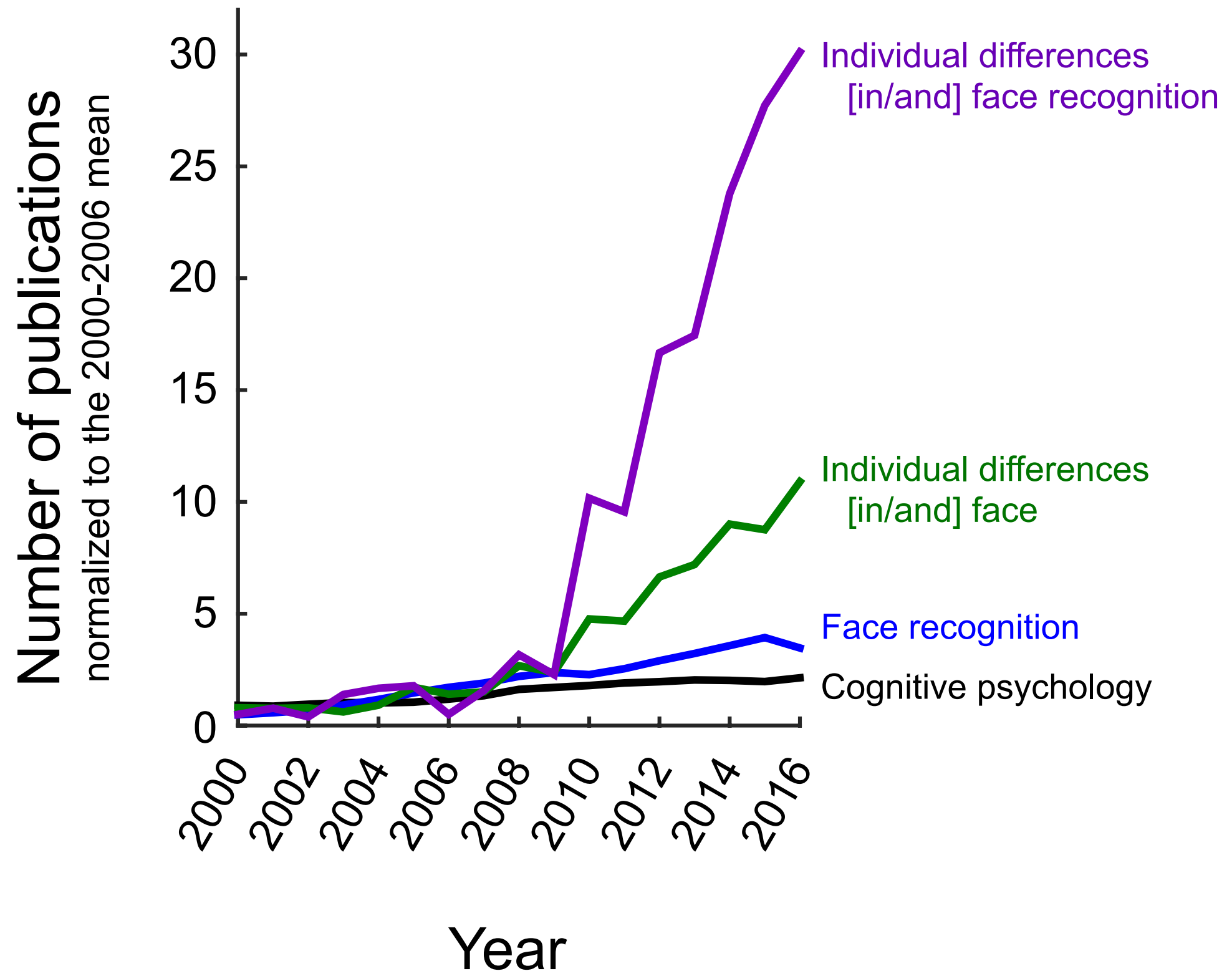
Individual differences in perception



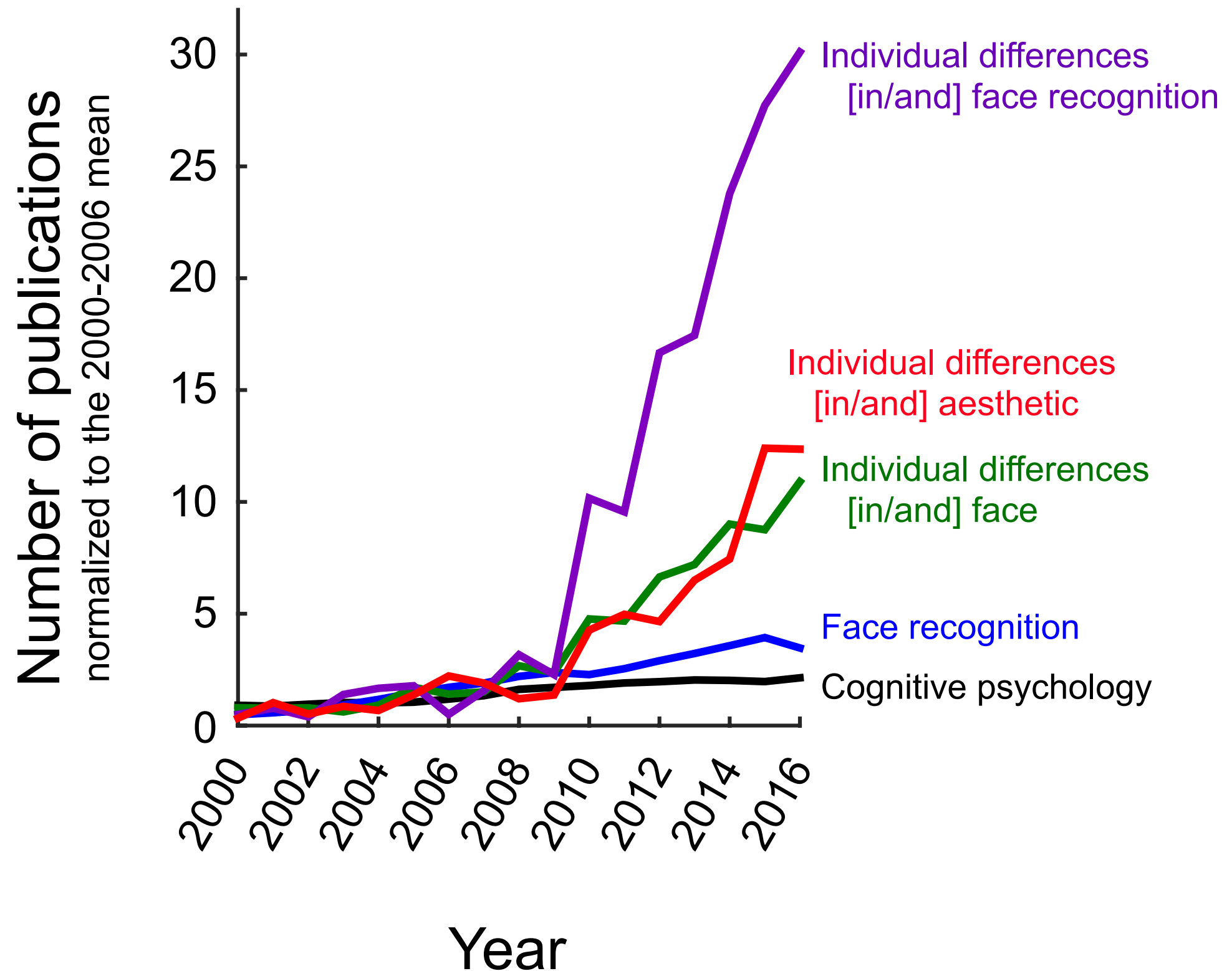
Individual differences in perception



Individual differences in perception



Individual differences in perception



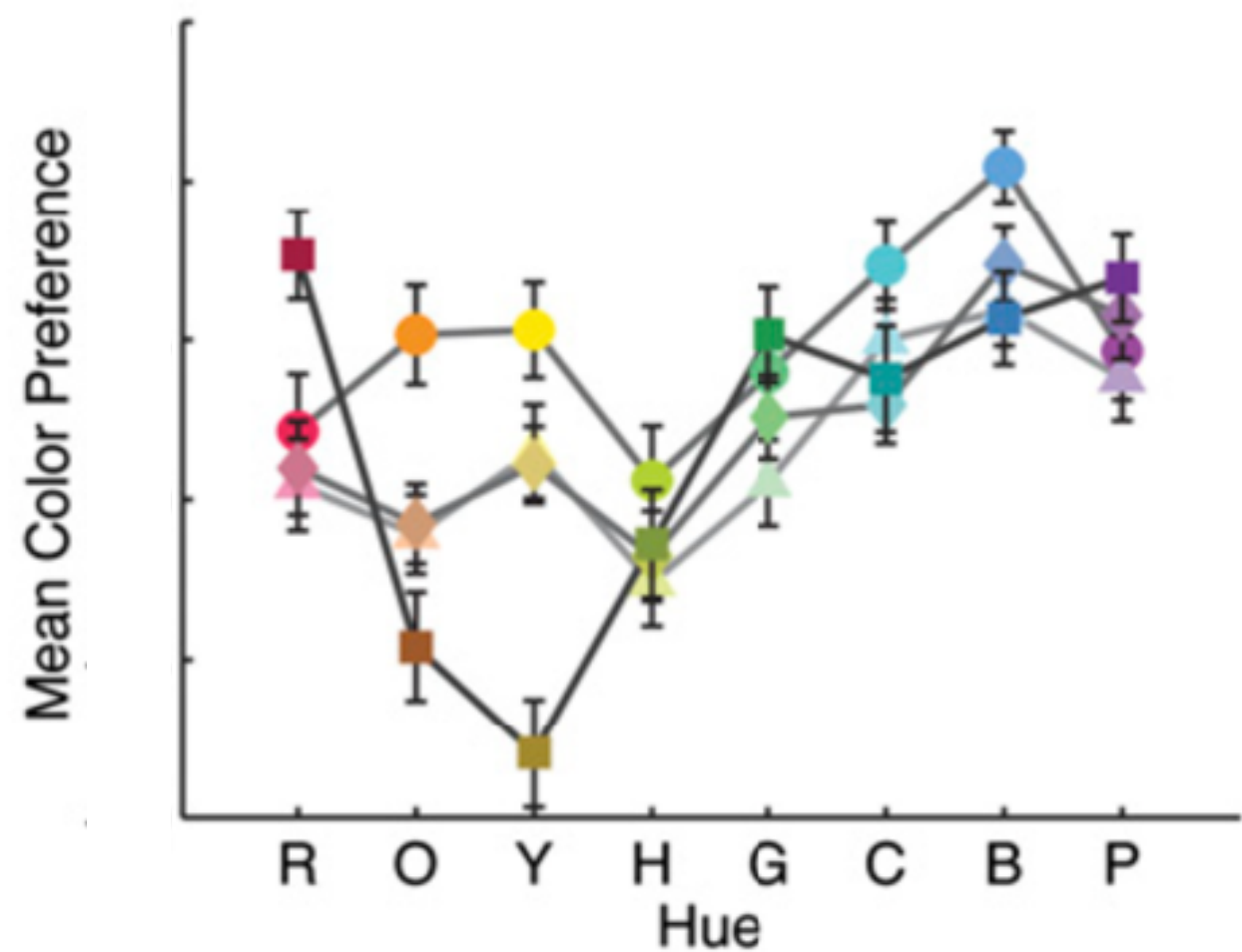
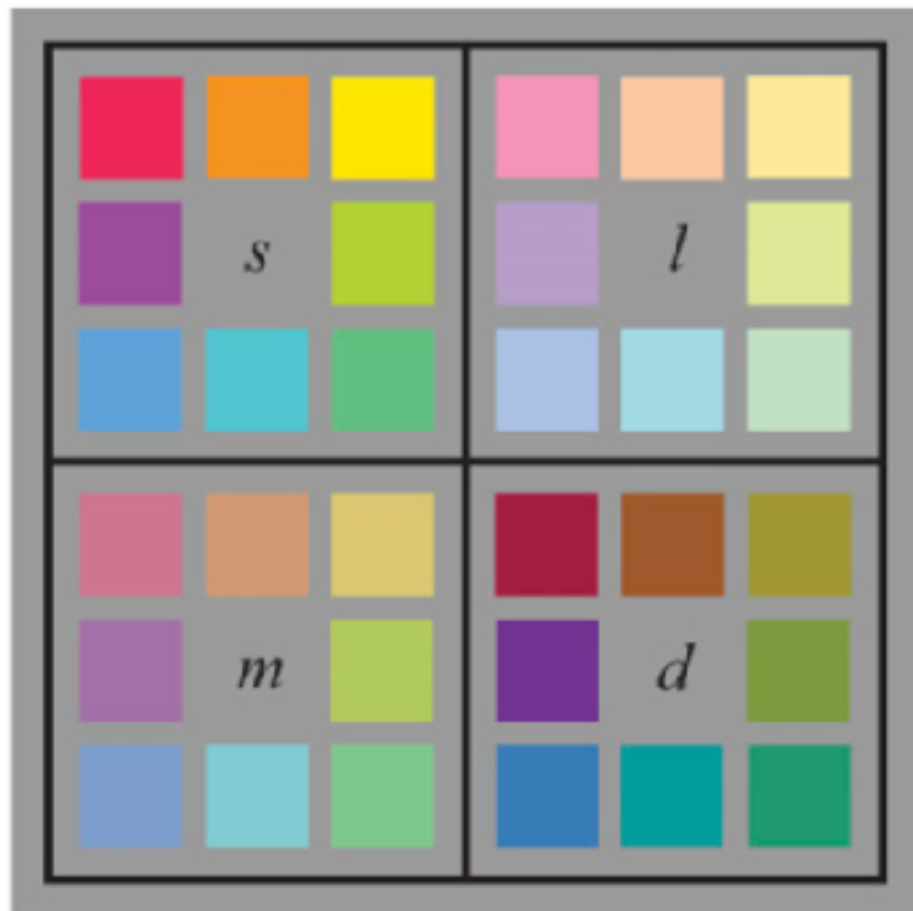
Individual differences in face preferences

Individual differences in perception

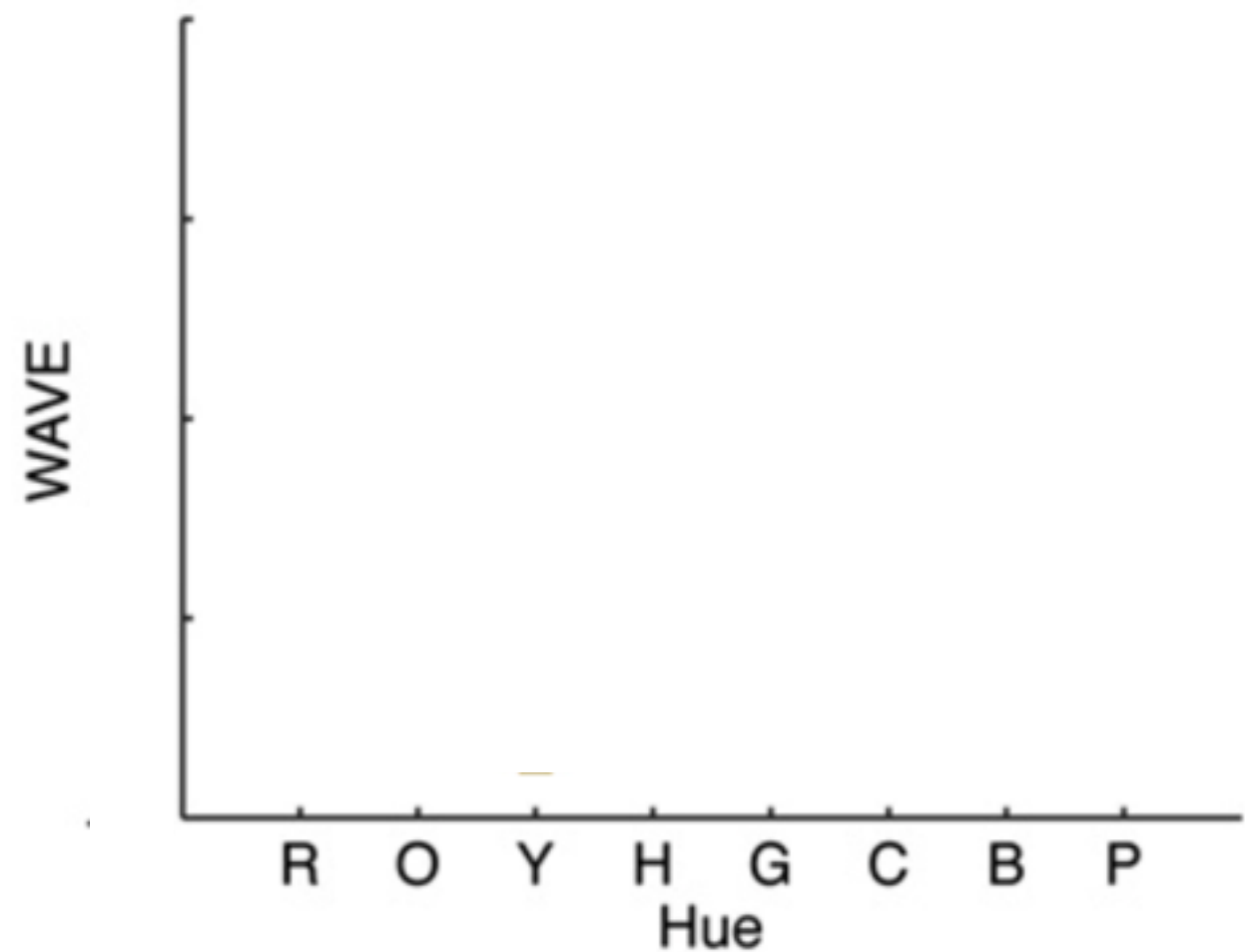
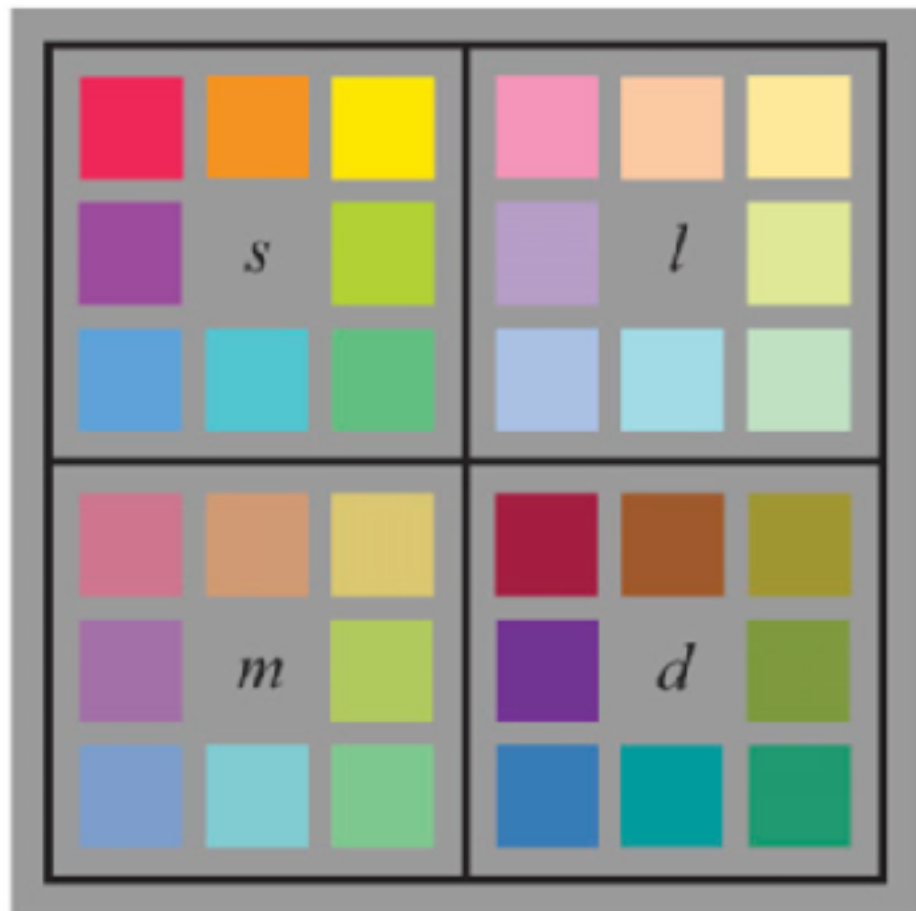
Individual differences in color preferences

Individual differences in **color** preferences

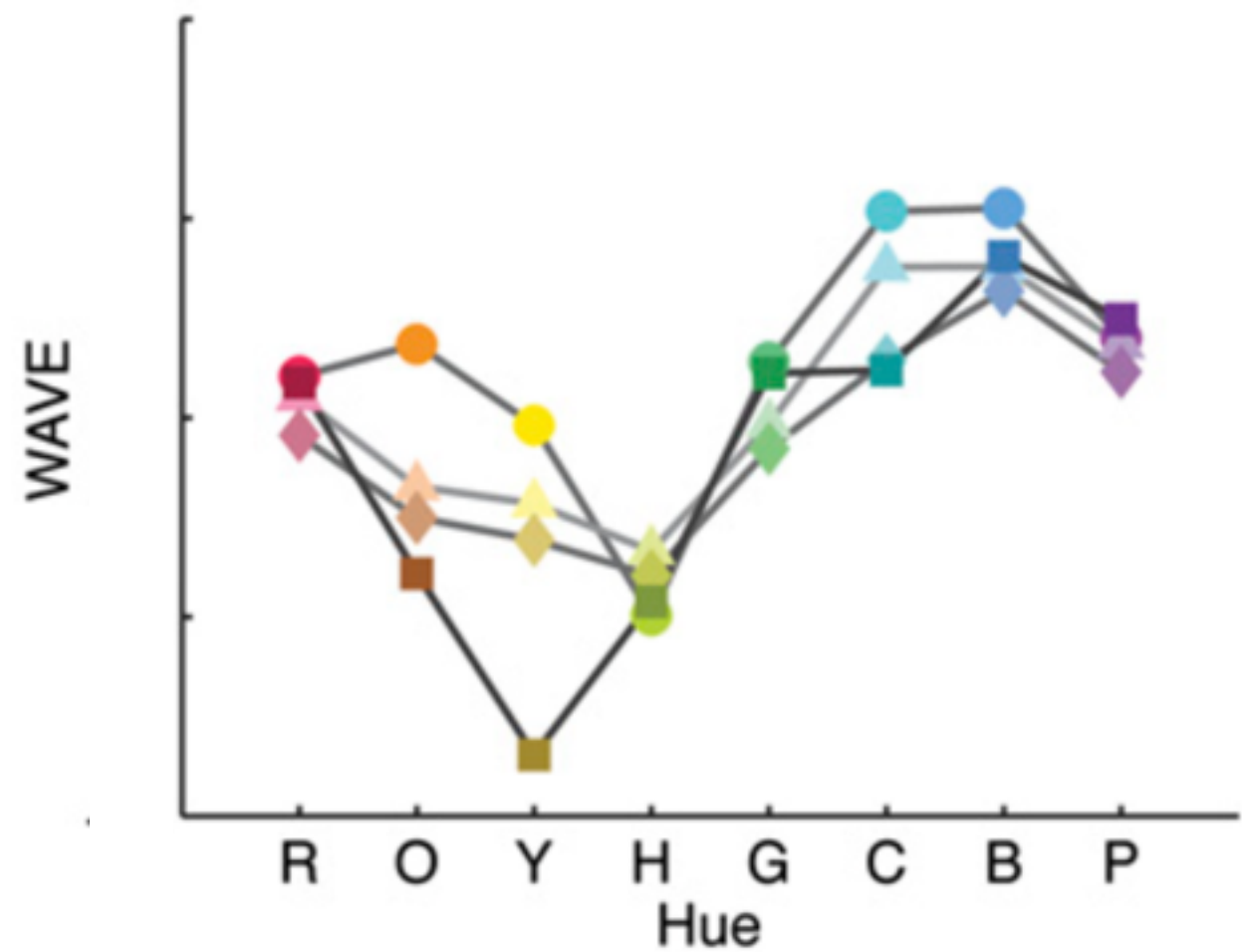
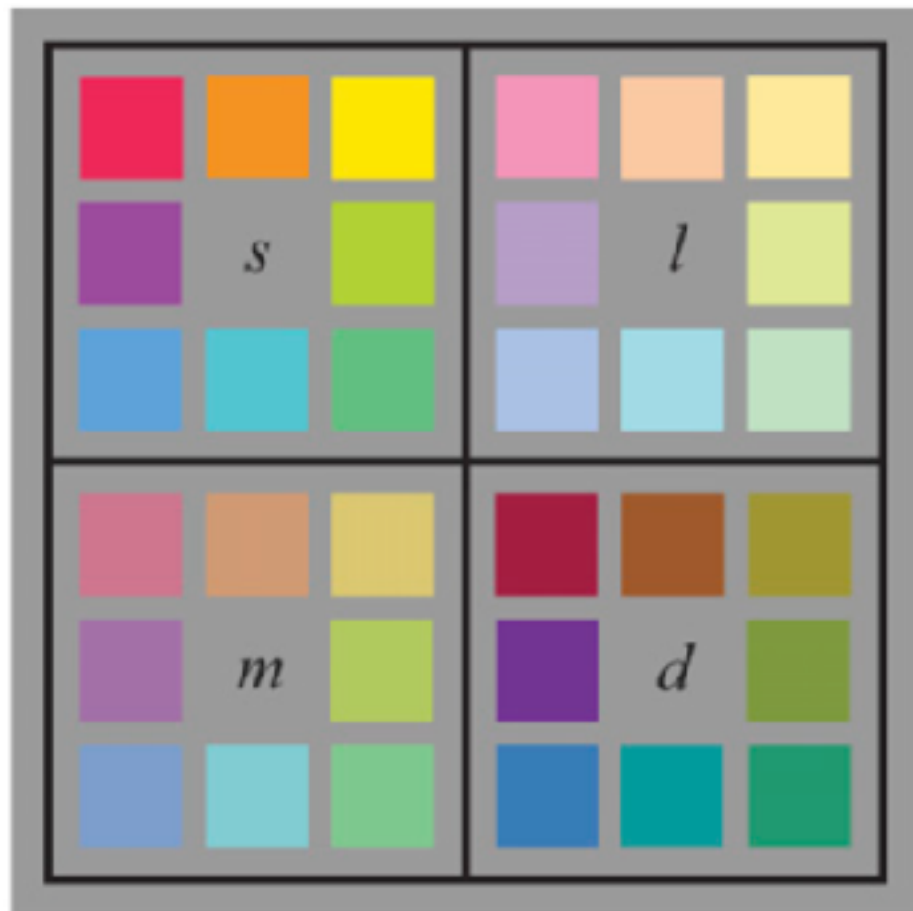
Individual differences in **color** preferences



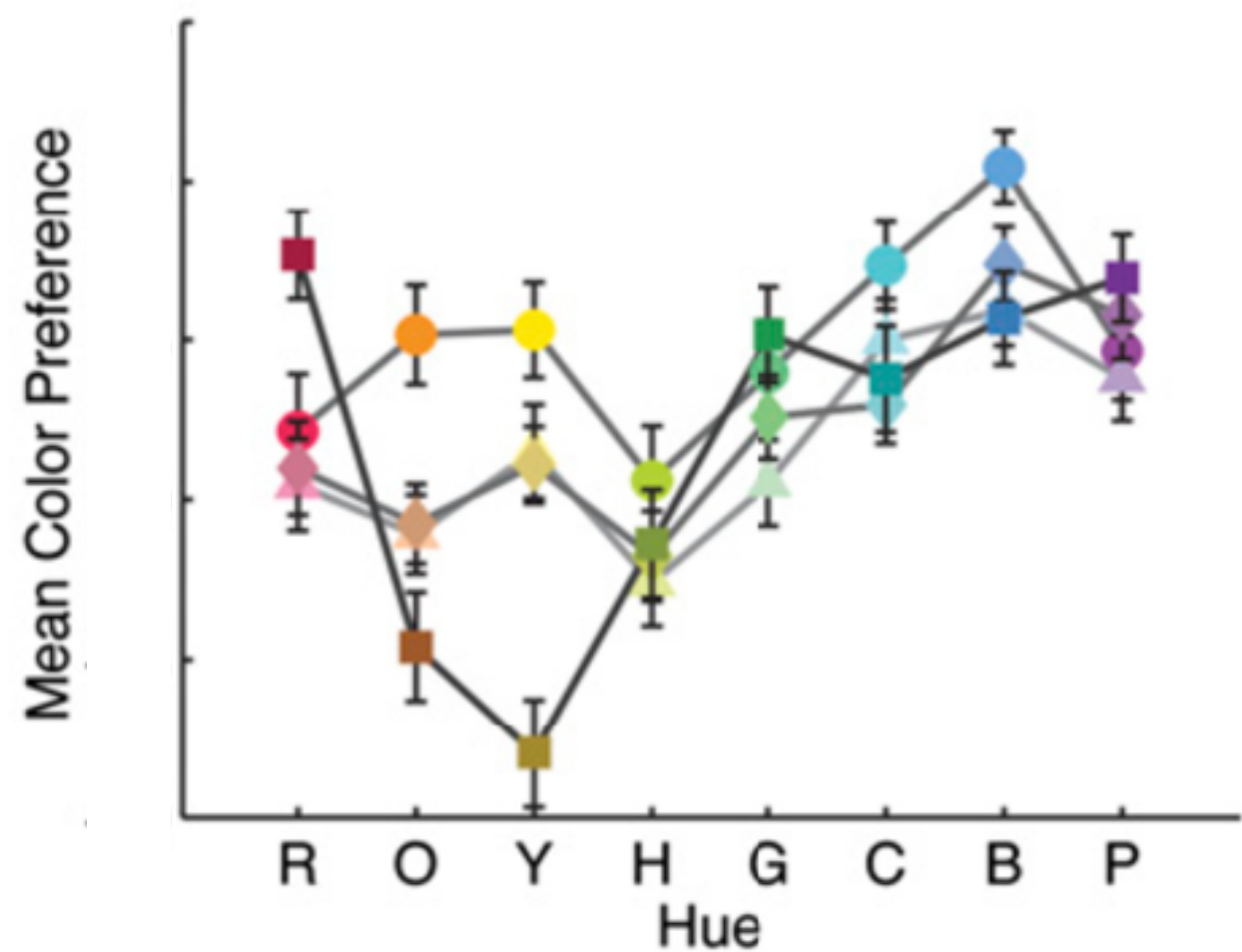
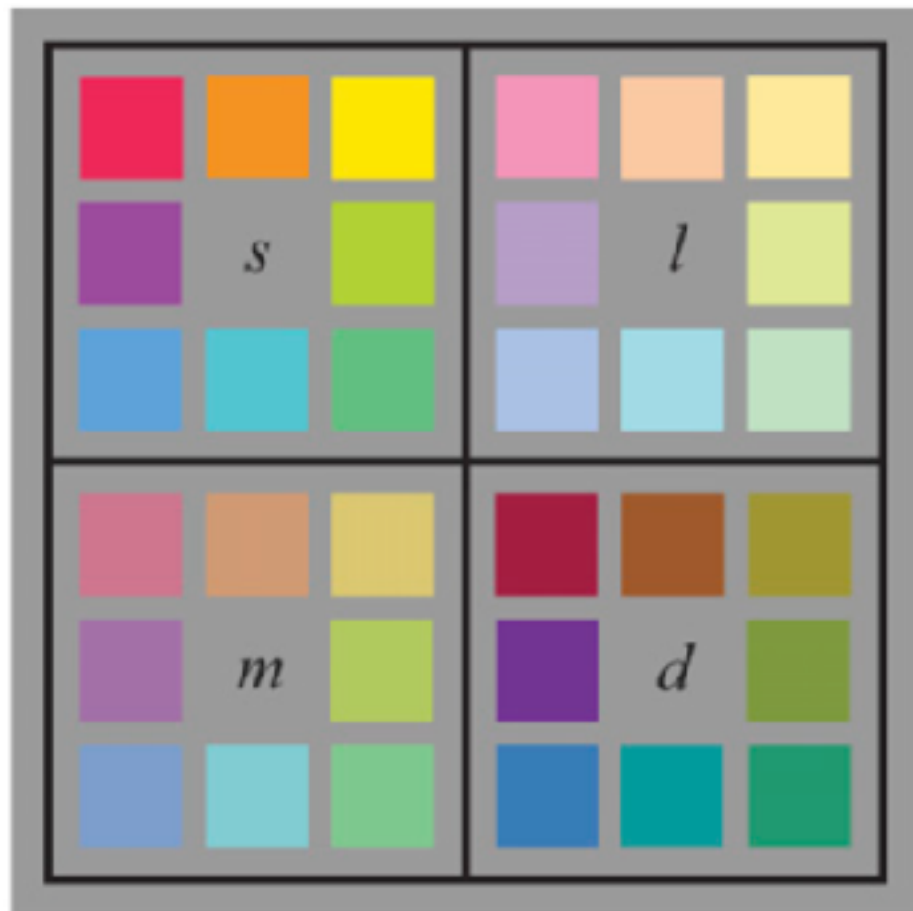
Individual differences in **color** preferences



Individual differences in color preferences



Individual differences in color preferences



Individual differences in **color** preferences



VS



Individual differences in **color** preferences

preference for color combinations

Individual differences in **color** preferences

preference for color combinations

Painting task #1 of 2:

Create five color arrangements
that you LIKE.

[Click here to begin](#)

Individual differences in **color** preferences

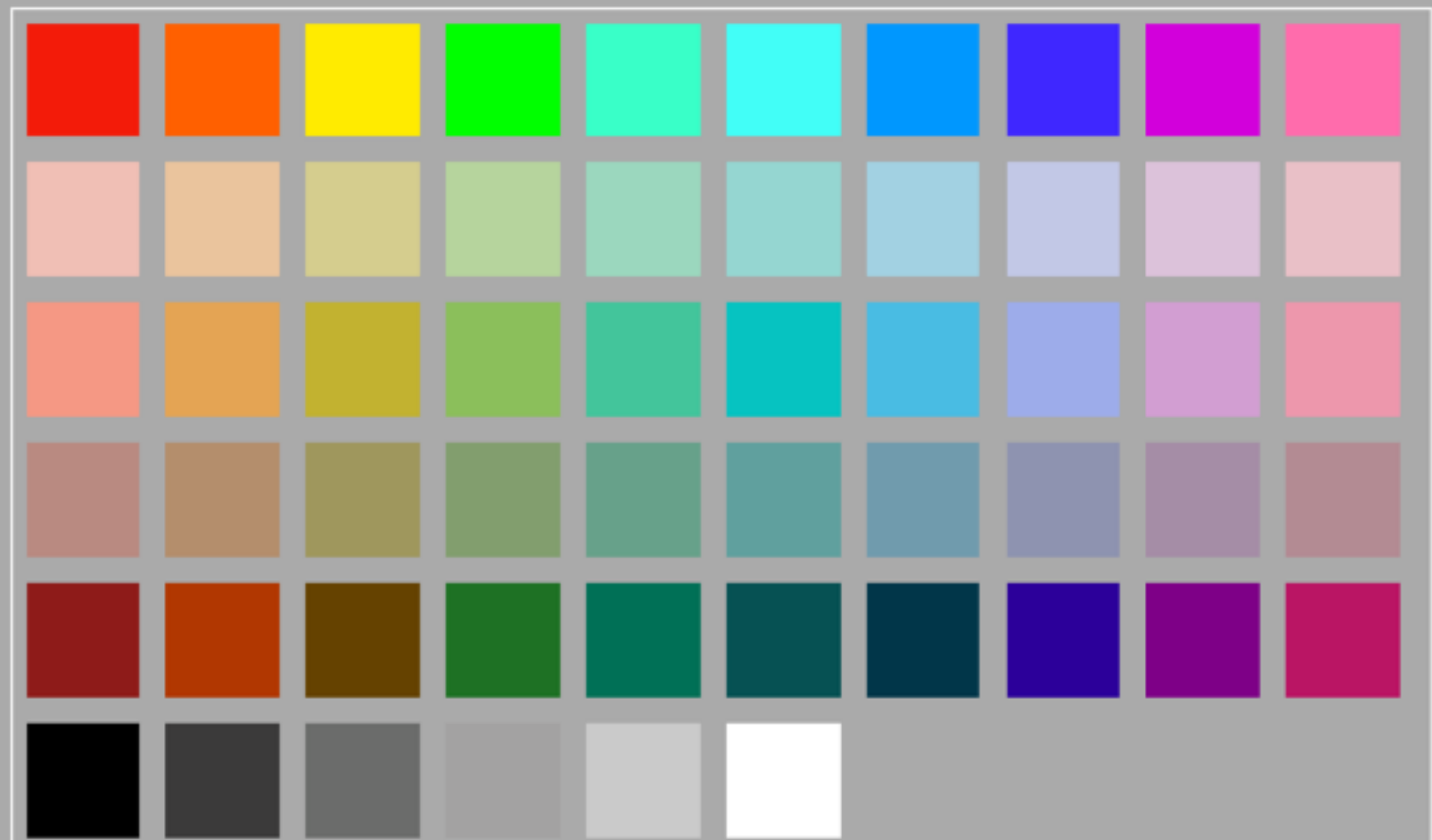
preference for color combinations

Create an arrangement that you LIKE.

** Drag colors from the right to paint the boxes on the left.*

** You may use the same color more than once.*

** To change a color, drag a 2nd color on top of the 1st.*



Individual differences in **color** preferences

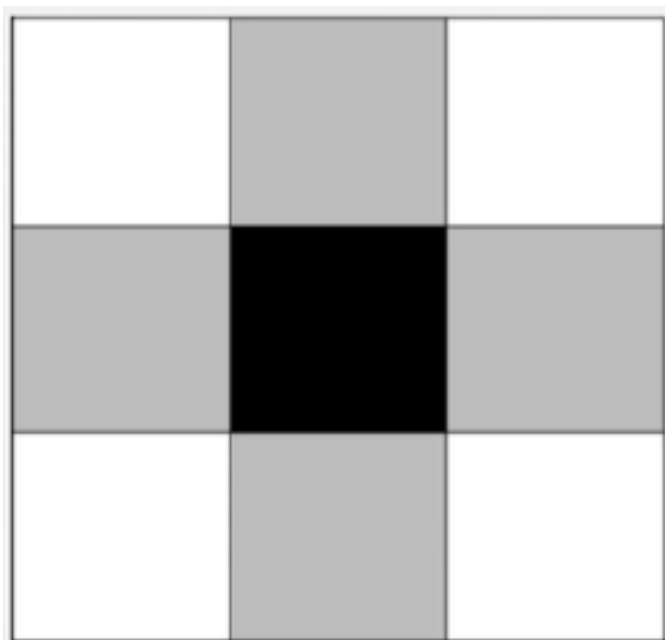
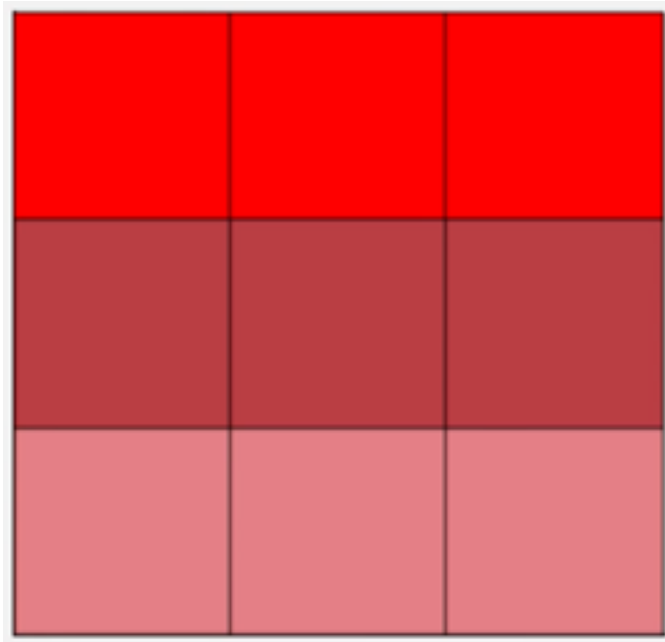
preference for color combinations



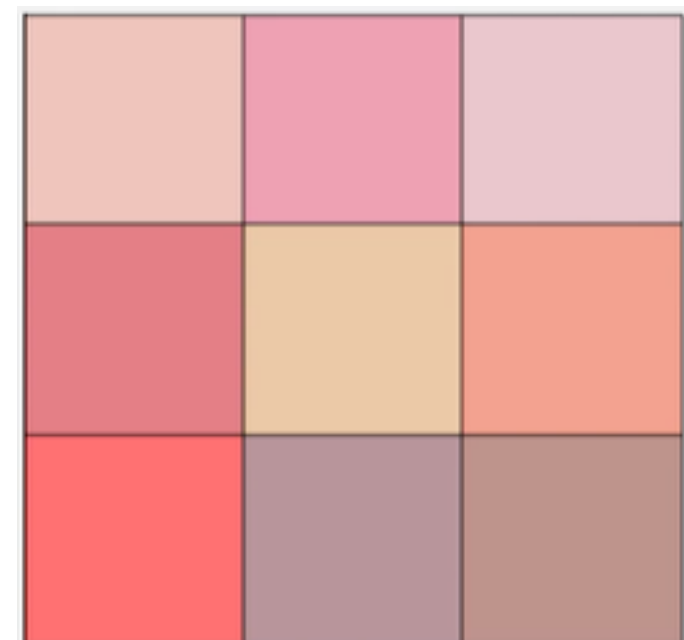
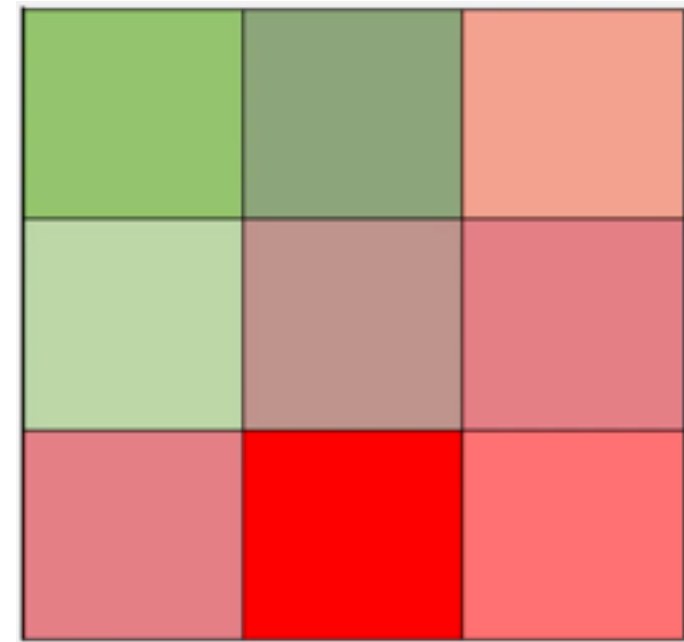
Individual differences in **color** preferences

preference for color combinations

symmetry-loving participant



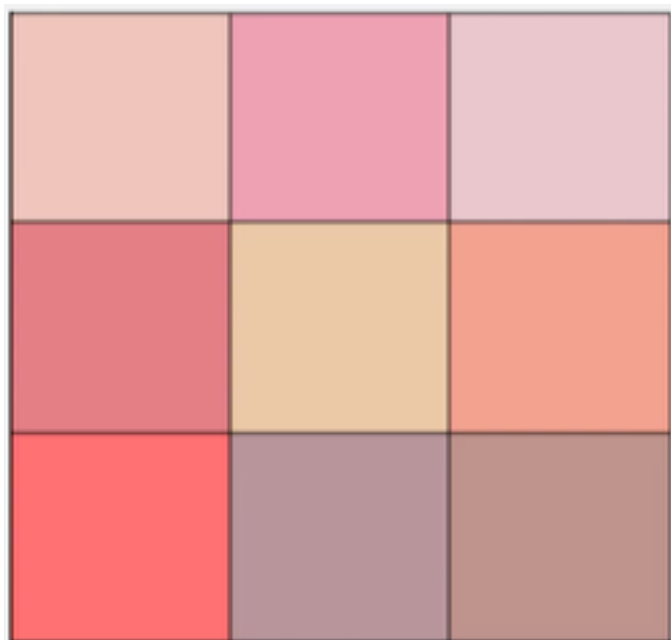
symmetry-hating participant



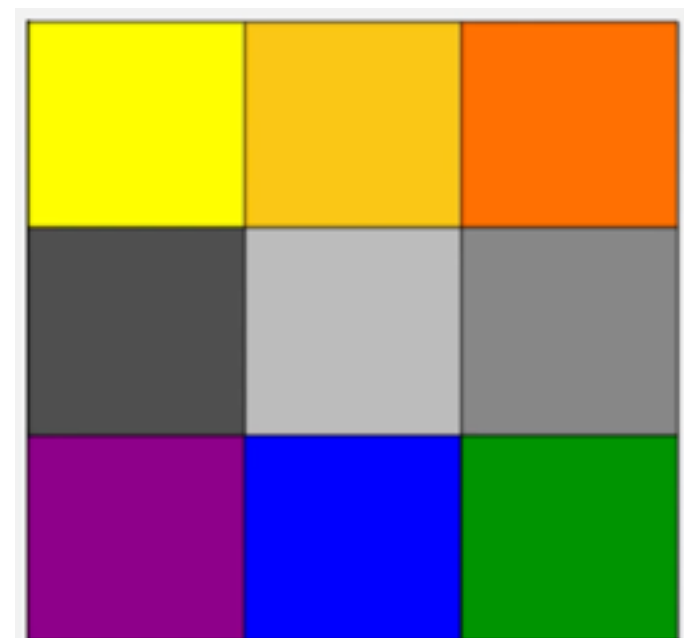
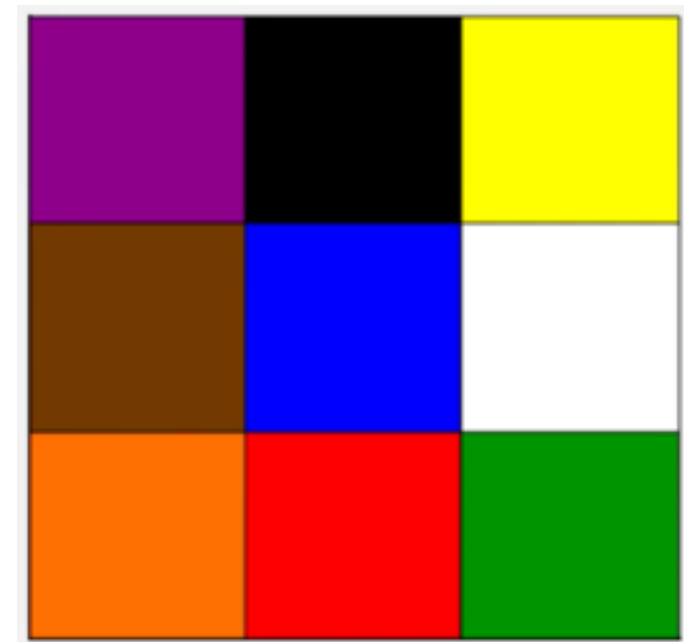
Individual differences in **color** preferences

preference for color combinations

subtle-color-loving participant



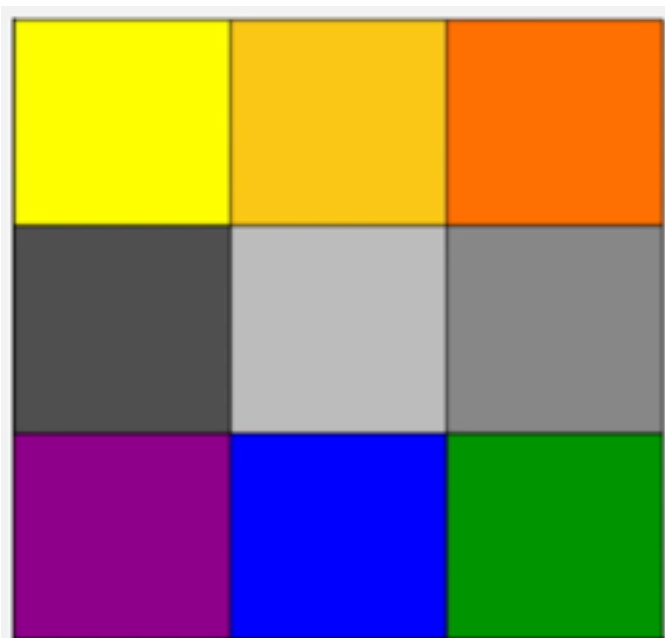
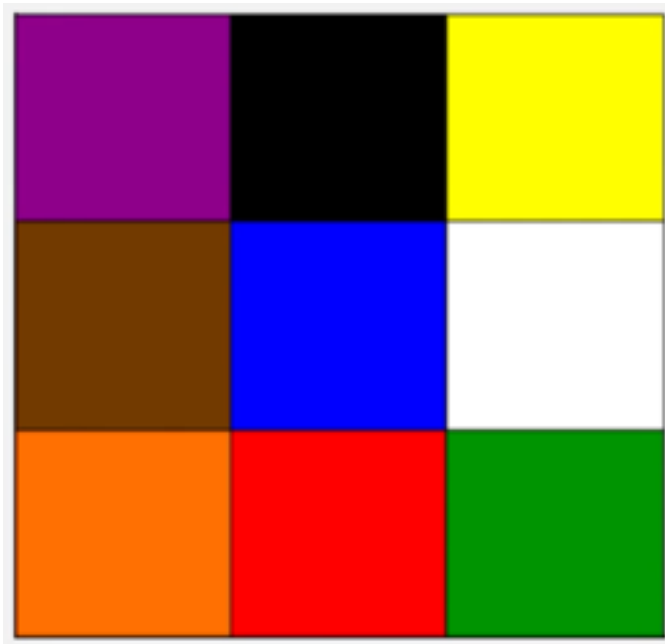
subtle-color-hating participant



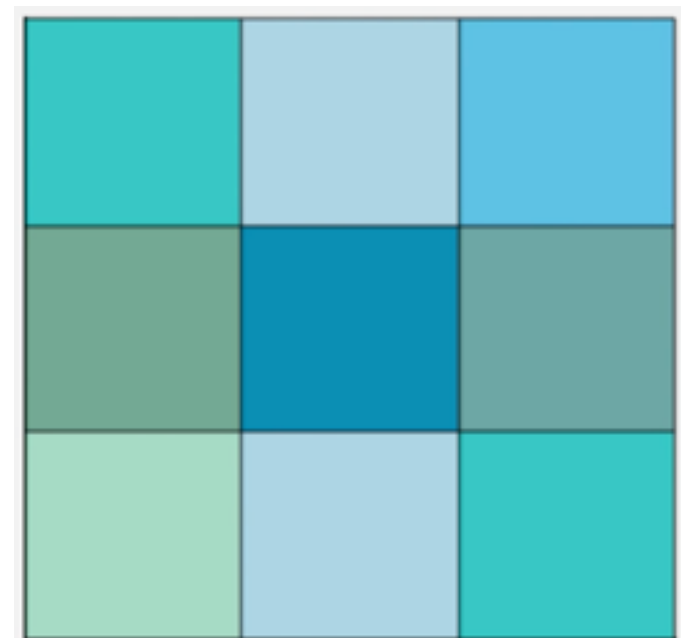
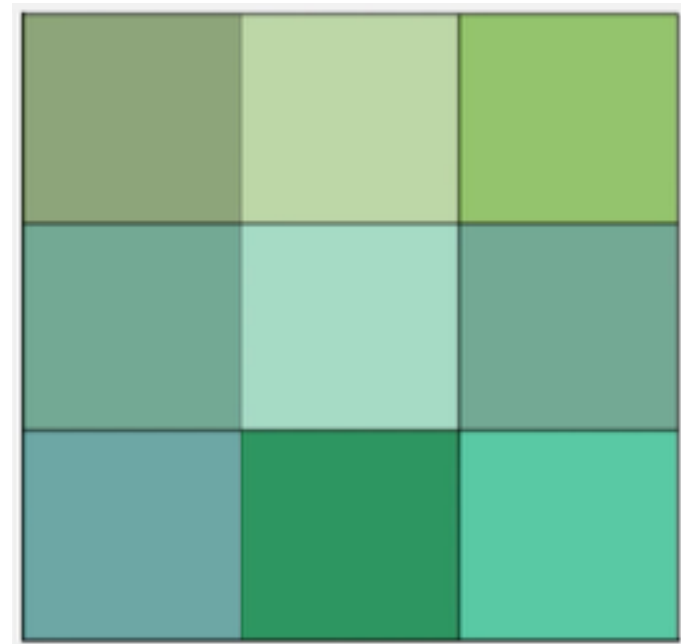
Individual differences in **color** preferences

preference for color combinations

color-contrast-loving participant



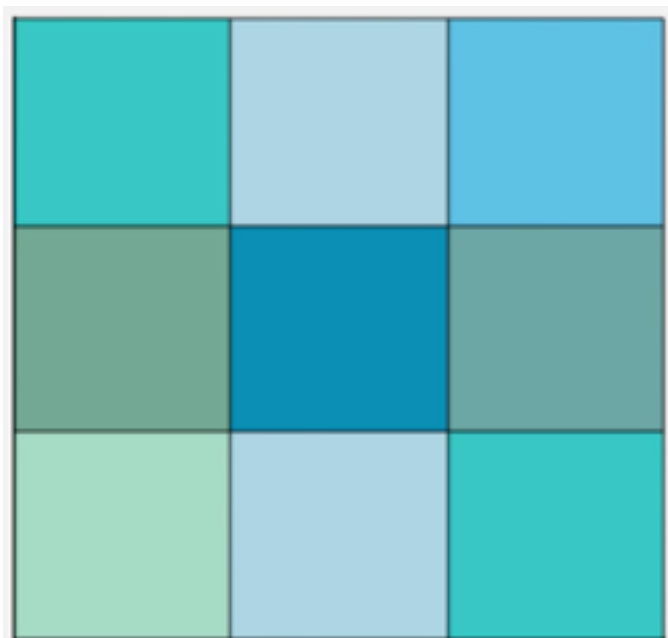
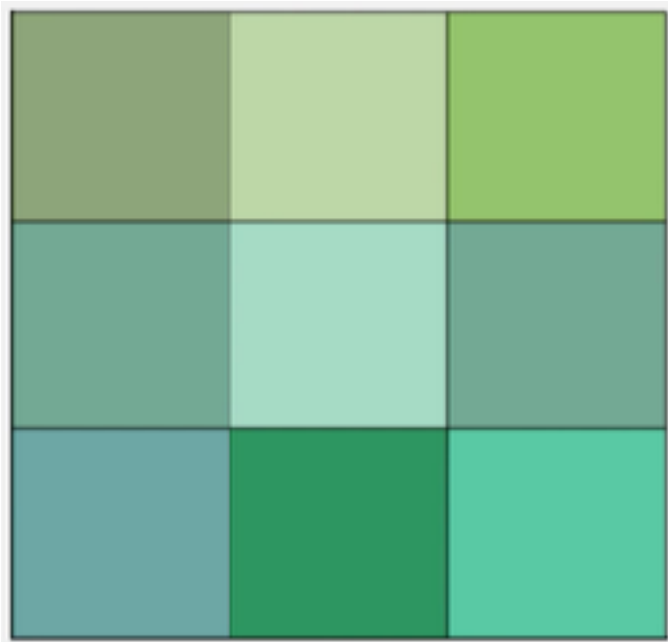
color-contrast-hating participant



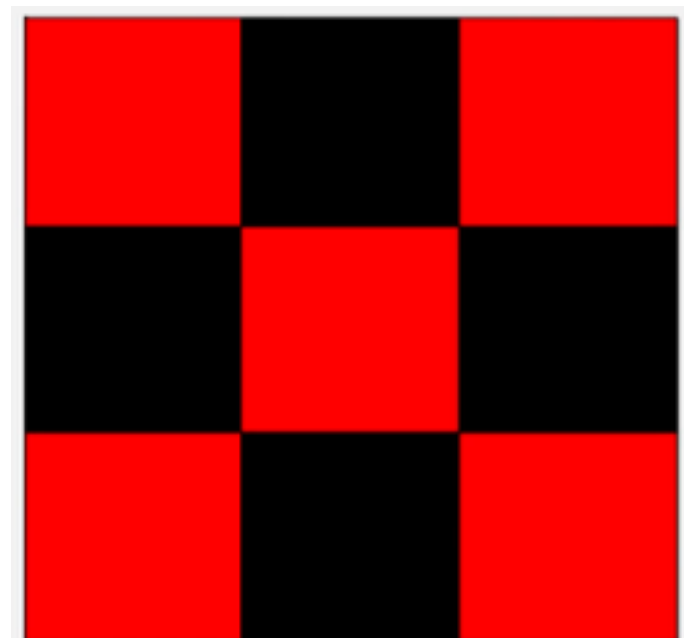
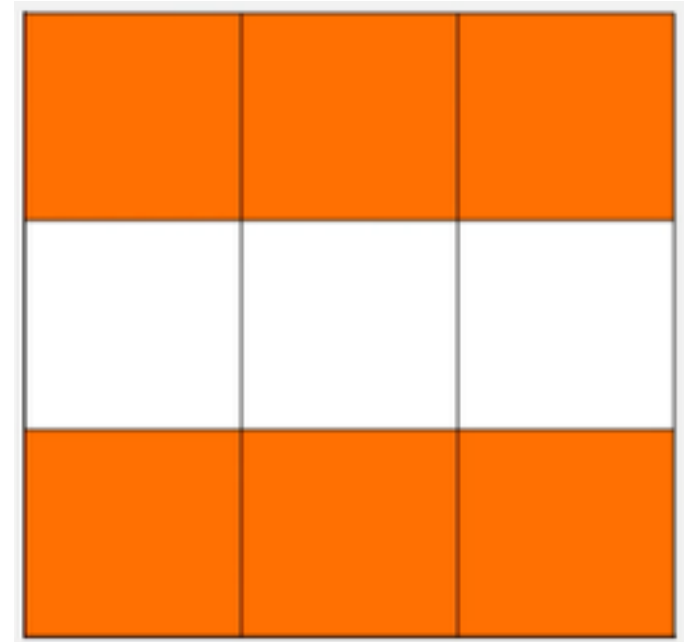
Individual differences in **color** preferences

preference for color combinations

swamp-loving participant



flag-loving participant





“There is no accounting for taste”
- ancient proverb

“There is no accounting for taste”
- ancient proverb



“There is **SOME accounting for taste”**
- ancient proverb

