

Culture and Perception



The Paradox of Perception

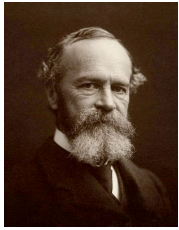
Not enough information to specify what is out there



Too much information for our puny brains to process



Attention



William James
(1842-1910)

Attention ... is the taking possession by the mind, in clear and vivid form, of one out of what seem several simultaneously possible objects or trains of thought

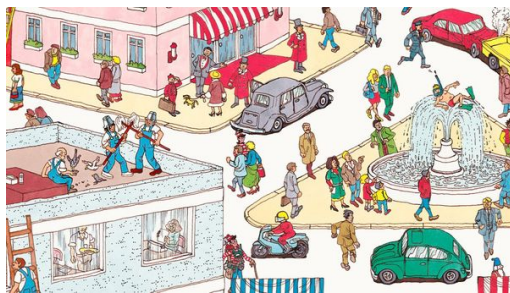
Attention

Limited Capacity

*you can't pay attention to **everything***

“Selective”

you can pay attention to some things at the expense of others



Voluntary

(and usually *effortful*)



Involuntary

(and usually *effortless*)

Find the red “o”

```
      x   x   x
     x   o   x   x   x
    x   x   x   x   x
           x   x
```

Find the red “o”

```
     o   x   x
    x   x   x   o   x
     x   o   x   x
           x   o   o
```

Overt

(attend by moving your eyes)

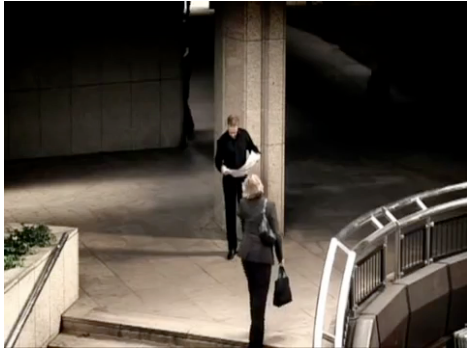
Covert

(attend by moving **your mind**)



The "Door" Study

from Simons & Levin (1998)



Attention

Western
Educated
Industrialized
Rich
Democratic

100 APRIL 10, 2014

OPINION

Most people are not WEIRD

To understand human psychology, behavioral scientists must stop doing most of their experiments on Westerners, argue Joseph Henrich, Steven J. Heine and Ara Norenzayan.

Most people are not WEIRD. WEIRD stands for Western, Educated, Industrialized, Rich, Democratic. It is the acronym for the cultures in which most psychologists, behavioral scientists, and economists do their research. These cultures are not representative of the world's population. In fact, they are so unrepresentative that they are often referred to as "WEIRD islands." The authors argue that the current focus on WEIRD cultures is a major barrier to understanding human psychology and behavior. They call for a shift in research focus to include a wider range of cultures, particularly those from the developing world.



Recent developments in evolutionary biology, neuroscience, and genetics have shown that human behavior is shaped by a complex interplay of genetic and environmental factors. This suggests that the current focus on WEIRD cultures is a major barrier to understanding human psychology and behavior. They call for a shift in research focus to include a wider range of cultures, particularly those from the developing world.

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Culture and Change Blindness

Takahiko Masuda^a, Richard E. Nisbett^b

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Received 11 November 2004; received in revised form 17 October 2005; accepted 8 November 2005

Abstract

Research on perception and cognition suggests that whereas East Asians view the world holistically, attending to the entire field and relations among objects, Westerners view the world analytically, focusing on the attributes of salient objects. These propositions were examined in the change-blindness paradigm. Research in that paradigm finds American participants to be more sensitive to changes in focal objects than to changes in the periphery or context. We anticipated that this would be less true for East Asians and that they would be more sensitive to context changes than would Americans. We presented participants with still photos and with animated vignettes having changes in focal object information and contextual information. Compared to Americans, East Asians were more sensitive to contextual changes than to focal object changes. These results suggest that there can be cultural variation in what may seem to be basic perceptual processes.

Keywords: Culture; Attention; Change blindness; Change detection; Holistic vs. Analytic thought; Japanese; Americans; Cultural psychology

A (Silly?) Stereotype

“Westerners” (incl. USA, W. Europe)
analytic, object-focused, individualist. “the trees”

“Easterners” (incl. Japan, Korea, China)
holistic, context-focused, collectivist. “the forest”

* this is an exclusionary and reductive way of dividing up populations; please bear with me...

American Parents

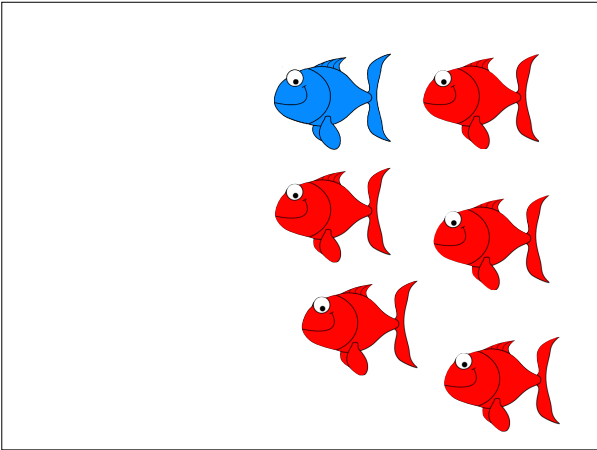
Relative emphasis on **nouns**

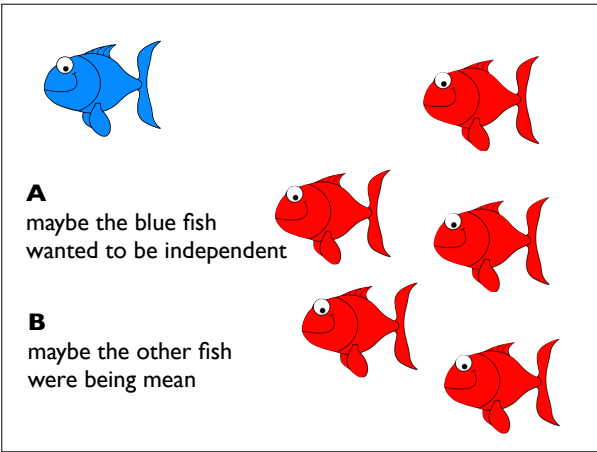
“Is that a ball? Yes, that’s a ball!”

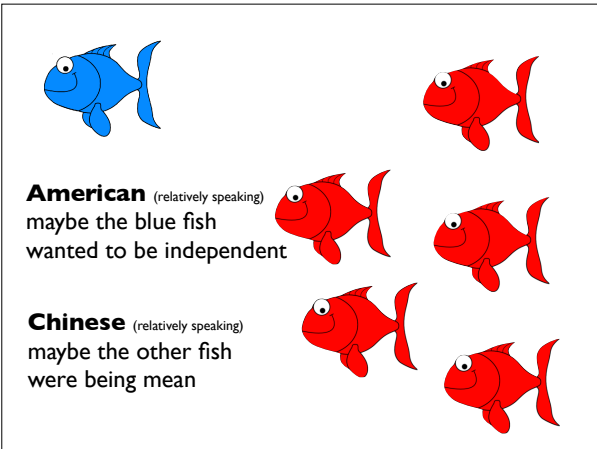
Chinese Parents

Relative emphasis on **verbs & events**

“Can you give it to me? Now I give it to you!”







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Research on perception and cognition suggests that whereas East Asians view the world holistically, attending to the entire field and relations among objects, Westerners view the world analytically, focusing on the attributes of salient objects. These propositions were examined in the change-blindness paradigm. Research in that paradigm finds American participants to be more sensitive to changes in focal objects than to changes in the periphery or context. We anticipated that this would be less true for East Asians and that they would be more sensitive to context changes than would Americans. We presented participants with still photos and with animated vignettes having changes in focal object information and contextual information. Compared to Americans, East Asians were more sensitive to contextual changes than to focal object changes. These results suggest that there can be cultural variation in what may seem to be basic perceptual processes.

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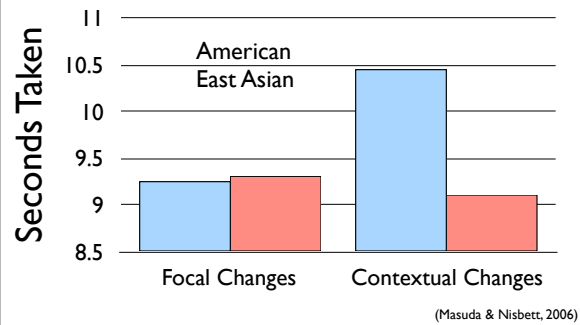
“Focal”
Changes



“Contextual”
Changes



Time to Detect Changes



Questions + Themes

How much of our **culture** has its basis in **perception**?

How much of our **perception** has its basis in **culture**?



Facial Attractiveness

Aesthetic Preferences

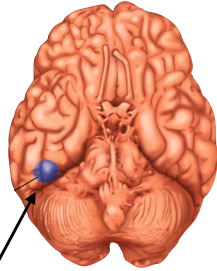
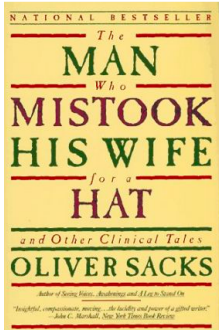




Facial Attractiveness

Aesthetic Preferences





Fusiform Face Area

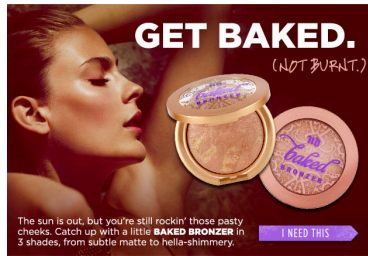
Babies like faces...



...even at **9 mins** old!

(Goren et al., 1975)

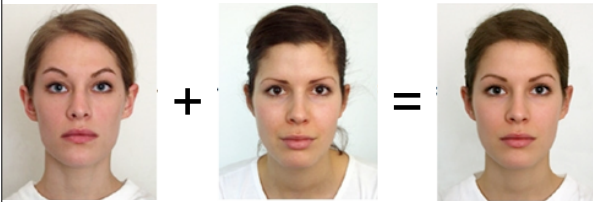




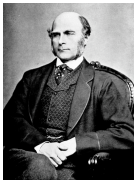


Most Attractive?

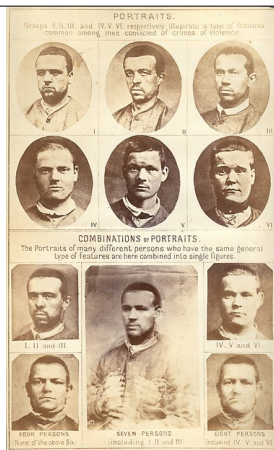


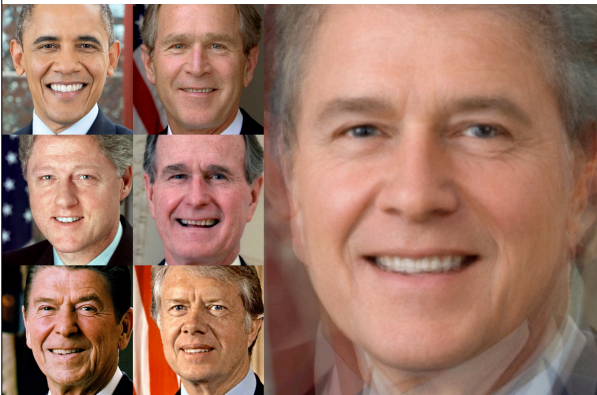


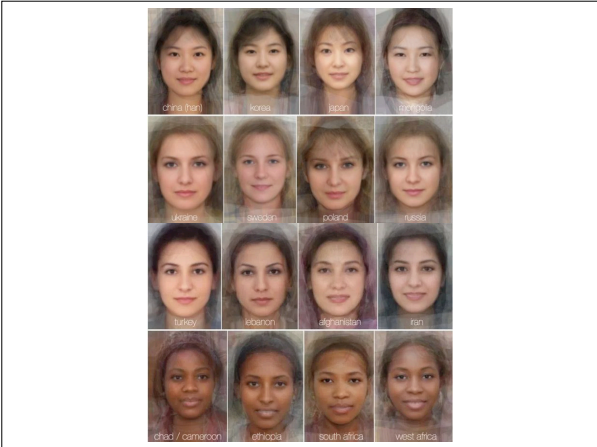
averaged faces together
to find common
negative traits; averages
were attractive!



Francis Galton
(1822-1911)







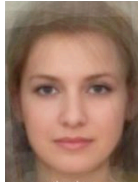
Research Article

ATTRACTIVE FACES ARE ONLY AVERAGE

Judith H. Langlois and Lori A. Roggman
 Department of Psychology, University of Texas at Austin

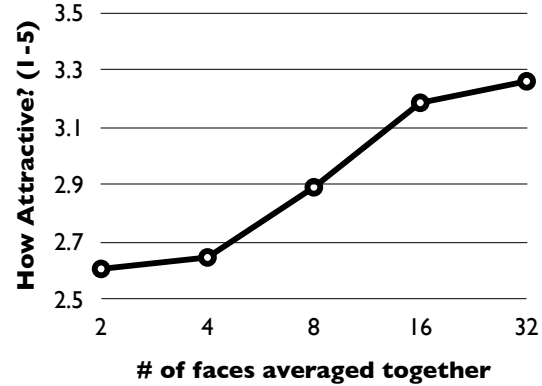
Abstract—Scientists and philosophers have searched for centuries for a parsimonious answer to the question of what constitutes beauty. We approached that problem from both an evolutionary and information-processing rationale and predicted that faces representing the average value of the population would be consistently judged as attractive. To evaluate this hypothesis, we digitized samples of male and female faces, mathematically averaged them, and had adults judge the attractiveness of both the individual faces and the computer-generated composite images. Both male (three samples) and female (three samples) composite faces were judged as more attractive than almost all the individual faces comprising the composites. A strong linear trend also revealed that the composite faces became more attractive as more faces were entered. These data showing that attractive faces are only average are consistent with evolutionary pressures that favor characteristics close to the mean of the population and with cognitive processes that favor prototypical category members

new data. First, a number of recent cross-cultural investigations have demonstrated surprisingly high (e.g., 66–93) inter-rater reliabilities in judgments of attractiveness (e.g., Bernstein, Lin, & McClellan, 1982; Cunningham, 1986; Johnson, Dallenbring, Anderson, & Villa, 1983; Maret, 1983; Maret & Harting, 1985; Richardson, Goodman, Hastorf, & Dornbusch, 1981; Thakerar & Iwawaki, 1979; Westfeldt, Westfeldt, & Callaghan, 1984). The cross-cultural data suggest that ethnically diverse faces possess both distinct and similar structural features; these features seem to be perceived as attractive regardless of the racial and cultural background of the perceiver. Second, a number of recent studies of infants have demonstrated that when infants 3 to 6 months of age are shown pictures of adult-judged attractive and unattractive faces, they prefer attractive ones (Langlois, Roggman, Casey, Ritter, Reuser-Danner, & Jenkins, 1987; Langlois, Roggman, & Reuser-Danner, in press; Samuels & Ewy, 1985; Shapiro, Eppler, Hath, & Rees, 1987). Thus, even before any substantial expo-



How attractive?

(Rate on a scale of 1-5)



(Langlois & Roggman, 1990)

Perception, 2007, volume 36, pages 1813–1820

doi:10.1068/p5601

Facial averageness and attractiveness in an isolated population of hunter-gatherers

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Received 28 March 2006, in revised form 31 January 2007

Abstract. Average faces possess traits that are common to a population. Preferences for averageness have been found in several types of study of both real and computer-manipulated faces. Such preferences have been proposed to be biologically based and thus should be found across human populations, though cross-cultural evidence to date has been limited. In this study we examined preferences for averageness in both the West and in an isolated hunter-gatherer society, the Hadza of Northern Tanzania in Africa. We show that averageness is generally preferred across faces and cultures, but there were no significant preferences for averageness in European faces by Hadza judges. The different visual experience of the two cultures may explain the differences in preferences. While Westerners have visual experience of both European and African faces, the Hadza are limited in their experience of European faces, potentially leading to a lack of preference for averageness in this group because of the lack of a representation of the 'norm' of European faces.

Hadza: Hunter-gatherer society with no exposure to “Western” norms of beauty



“Koinophilia”
liking ‘common’ features
perhaps to minimize harmful mutations



Evolution and Human Behavior 22 (2001) 31–46

Evolution
and Human
Behavior

Do facial averageness and symmetry signal health?

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Abstract

We investigated whether the attractive facial traits of averageness and symmetry signal health, examining two aspects of signalling: whether these traits are perceived as healthy, and whether they provide accurate health information. In Study 1, we used morphing techniques to alter the averageness and symmetry of individual faces. Increases in both traits increased perceived health, and perceived health correlated negatively with rated distinctiveness (a converse measure of averageness) and positively with rated symmetry of the images. In Study 2, we examined whether these traits signal real, as well as perceived, health, in a sample of individuals for whom health scores, based on detailed medical records, were available. Perceived health correlated negatively with distinctiveness and asymmetry, replicating Study 1. Facial distinctiveness ratings of 17-year-olds were associated with poor childhood health in males, and poor current and adolescent health in females, although the last association was only marginally significant. Facial asymmetry of 17-year-olds was not associated with actual health. We discuss the implications of these results for a good genes account of facial preferences. © 2001 Elsevier Science Inc. All rights reserved.

Keywords: Facial averageness; Facial symmetry; Health; Good genes theory of sexual selection

**How “distinct”
is this face?**

(distinctness = opposite of averageness)



**More distinct faces:
More illnesses!**
(Cold, measles, etc.)

(Rhodes et al., 2001)



**Facial
Attractiveness**

**Aesthetic
Preferences**





**Facial
Attractiveness**

**Aesthetic
Preferences**

















WHAT'S YOUR FAVORITE COLOR?

Most people like blue

Most people dislike dark yellow (“vomit yellow”)

Saturated colors are liked more than muted colors

PNAS

An ecological valence theory of human color preference

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Department of Psychology, University of California, Berkeley, CA 94720

Edited* by Paul Kay, University of California, Berkeley, CA, and approved January 13, 2010 (received for review June 5, 2009)

Color preference is an important aspect of visual experience, but little is known about why people in general like some colors more than others. Previous research suggested explanations based on biological adaptations (Harbert & Ling '11, 2007), *Carrion* (77, 82–825) and color-emotions (Ou, L., Luo M, Woodcock, A, Wright A (2004) *Color Res Appl* 29:381–389). In this article we articulate an ecological valence theory in which color preferences arise from people's average affective responses to color-associated objects. An empirical test provides strong support for this theory. People like colors strongly associated with objects they like (e.g., blues with clean skies and clean water) and dislike colors strongly associated with objects they dislike (e.g., browns with feces and rotten food). Relative to alternative theories, the ecological valence theory both fits the data better (even with fewer free parameters) and provides a more plausible, comprehensive causal explanation of color preferences.

contrast model explained 79% of the variance in Harbert and Ling's preference data on a limited gamut of colors. Both males' and females' preferences weighted positively on the S-axis, meaning that both sexes preferred colors that were more violet to colors that were more yellow-green. On the LM-axis, however, females weighted somewhat positively, preferring redder colors, and males weighted somewhat negatively, preferring colors that were more blue-green. This gender difference formed the basis of Harbert and Ling's evolutionary/biologically adaptive hypothesis, in that they attributed the difference to hardwired mechanisms that evolved in hunter-gatherer societies: Females like redder colors because their visual systems are specialized for identifying ripe fruits/berry against green foliage. Harbert and Ling (10–11) did not speculate, however, on why males prefer colors that are more blue-green or why both genders prefer colors that are more violet to colors that are more yellow-green. Later, Ling and Harbert (14) showed that for a more diverse set of colors, the fit of the contrast model improved if they added two more dimensions to the

esthetic preference | color vision | ecological theory

Ecological Valence Theory

we like the colors we like because they are the colors of the **things** we like

Blue things tend to be **nice**
(or at least not bad)



Dark yellow things tend to be **nasty**



Democrats like blue, Republicans like red...

The politics of color: Preferences for Republican red versus Democratic blue

Karen B. Schuler & Stephen E. Fiske



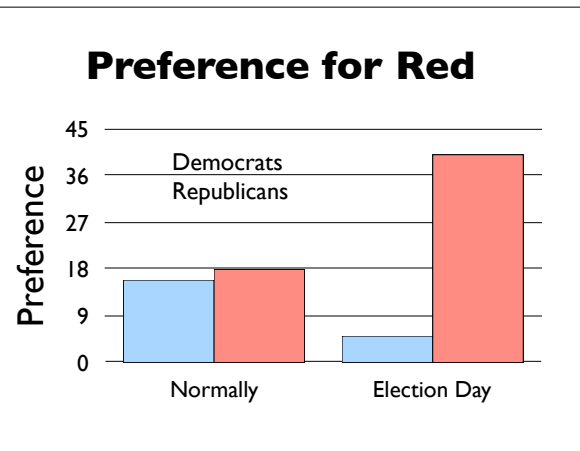
Abstract The present study reveals that Democrats (D) differ greatly from the color preference of US Republicans and Democrats. Voters' preferences for Republican red and Democratic blue were assessed along with general color preference. On an Election Day, Republican and Democratic preferred Republican red equally, and Republican strongly preferred Democratic blue over the Democratic red. On Election Day, however, Republican and Democratic color preferences changed to become more closely aligned with those associated with Republican and Democratic red and blue respectively than in an off-election day. We note that Democrats (D) thus exhibit an association with the opposite of their preferred color determined by voters' preference for (controversially) selected colors (Schuler & Schuler, in press; see also Schuler & Schuler, 2013). The present study also provides an alternative account of the political preference for red versus blue. Color preferences on the largest election and campaign-related date has previously been believed.



On election night millions of Americans watched US apps change color as voting results were broadcast on TV and the Internet. It did not take long for their color preferences were changed to favor their preferred color: "red" and "blue" were used to refer to the political affiliations of Americans associated with Republican and blue with Democrats. It is possible that these political associations with colors would affect color preferences.

Mounting empirical evidence suggests that color preferences are shaped by perceptual experiences and color learning in natural environments (e.g., Schuler, 2013; Schuler, Fiske, & Payne, 2011; Schuler, Schuler, & Payne, 2012; Vogel & Payne, 2012). These findings are consistent with the ecological valence theory (EVT) account of color preference (Schuler & Schuler, 2013) suggesting that color preferences are shaped by experiences and learning in natural environments (Schuler & Schuler, 2013). The present study also provides an alternative account of the political preference for red versus blue. Color preferences on the largest election and campaign-related date has previously been believed.

...and even more so on Election Day!



Berkeley students like Gold, Stanford students like Red

Psychol Bull 2013, 139(2), 241-253

Effects of university affiliation and "school spirit" on color preferences: Berkeley versus Stanford

Karen B. Nelson · Devin M. Papp · Stephen E. Palmer



© The Author(s) 2013. This article is published with open access at <http://dx.doi.org/10.1037/a0028308>

Abstract: The researchers examined whether 1273 people that performed for a video in a laboratory setting were more likely to choose colors associated with their university or their preferred color. Participants were assigned to one of three groups: Berkeley, Stanford, or a control group. Participants were asked to choose a color that represented their university or their preferred color. The researchers found that participants chose colors associated with their university more often than their preferred color. This result was more pronounced for participants who performed for a video, suggesting that the act of performing for a video influences color preference. The researchers also found that participants who performed for a video chose colors associated with their university more often than those who did not perform for a video. This result was more pronounced for participants who performed for a video and chose a color associated with their university, suggesting that the act of performing for a video influences color preference.



Participants performed with their preferred color. To find the color that participants preferred, the researchers used a color preference test. Participants were asked to choose a color that represented their university or their preferred color. The researchers found that participants chose colors associated with their university more often than their preferred color. This result was more pronounced for participants who performed for a video, suggesting that the act of performing for a video influences color preference. The researchers also found that participants who performed for a video chose colors associated with their university more often than those who did not perform for a video. This result was more pronounced for participants who performed for a video and chose a color associated with their university, suggesting that the act of performing for a video influences color preference.

...but only if they like their school!



Facial Attractiveness

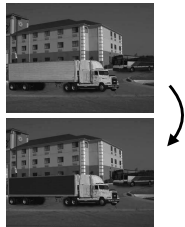
Aesthetic Preferences

WHAT'S YOUR
FAVORITE COLOR?



Culture can change...

...how we pay **attention**



Culture can change...

...what looks **beautiful**



Culture can change...

...**how we see** in the first place??



**Western
Educated
Industrialized
Rich
Democratic**

101 6463 101 6470

OPINION

Most people are not WEIRD

To understand human psychology, behavioral scientists must stop doing most of their experiments on Westerners, argue Joseph Henrich, Steven J. Heine and Ana M. Henrich.

Much research on human behavior and cognition involves the creation of artificial situations, and the findings from such research are often taken to represent the general human condition. But the people who are most often used in such research are from the United States, Europe, and Australia. These people are not representative of the rest of the world. In fact, they are not representative of the rest of the world in any way that matters. They are not representative of the rest of the world in terms of their culture, their social structure, their economic conditions, their political systems, their religious beliefs, and their cognitive styles. They are not representative of the rest of the world in any way that matters.

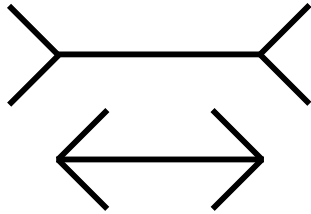
Recent developments in evolutionary biology, anthropology, and cognitive psychology have shown that the human mind is not a uniform thing. It is shaped by the environment in which it evolved, and this environment varies greatly across cultures. This means that the human mind is not a uniform thing. It is shaped by the environment in which it evolved, and this environment varies greatly across cultures. This means that the human mind is not a uniform thing.

Culturally specific

... and recognizing how these might be different. ...

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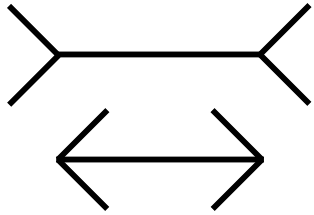
Muller-Lyer Illusion



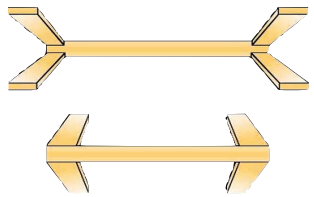
Muller-Lyer Illusion



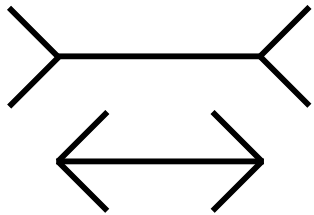
Muller-Lyer Illusion



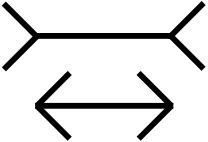

Muller-Lyer Illusion



Muller-Lyer Illusion





The weirdest people in the world?

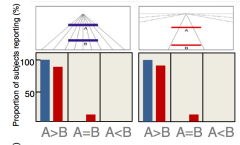
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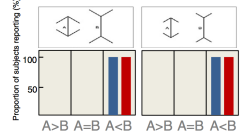
Abstract: Behavioral scientists routinely publish broad claims about human psychology and behavior in the world's top journals based on surveys drawn entirely from Western, Educated, Industrialized, Rich, and Democratic (WEIRD) societies. Researchers – often implicitly – assume that culture shows a little variation across human populations, so that these “weird” subjects are an unrepresentative of the species in any other population. Are these assumptions justified? Here, our review of the comparative representative of the behavioral sciences suggests both that there is substantial variability in experimental results across populations and that WEIRD subjects are particularly unusual compared with most of the globe. Recent studies in the domains reviewed include visual perception, fairness, cooperation, spatial reasoning, categorization and inferential induction, moral reasoning, reasoning styles, self-concept and related motivation, and the heritability of IQ. The findings suggest that members of WEIRD societies, including young children, are among the least representative populations one could find for generalizing about humans. Many of these findings overlap domains that are associated with fundamental aspects of psychology, evolutionary, and behavior – hence, there are no obvious a priori grounds for claiming that a particular behavioral phenomenon is universal based on samples from a single subpopulation. Overall, these empirical patterns suggest that we need to be less cavalier in addressing questions of human nature on the basis of data drawn from this particularly thin, and often unusual, slice of humanity. We close by proposing ways to structurally re-organize the behavioral sciences to best tackle these challenges.

Keywords: behavioral economics; cross-cultural research; cultural psychology; culture; evolutionary psychology; experiments; external validity; generalizability; human universals; population variability



Visual illusions only **hours**
after seeing for the first time!

“Carpentry” can’t be to blame...



...“culture” can only do so much!
