

Culture

Implications for Evolutionary Psychology

Two sources of cultural variation

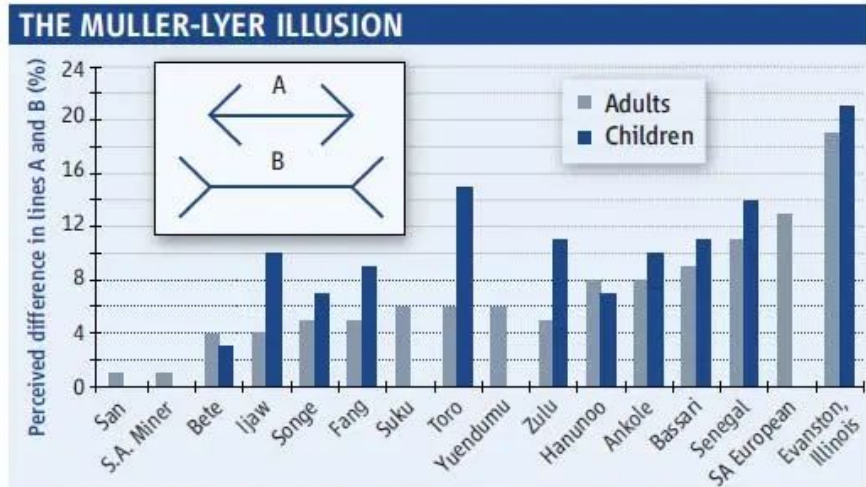
- **Evoked Culture:** The adaptive responses of a shared human nature to different environments
- **Transmitted Culture:** Cumulative socially-transmitted norms

These overlap, but the distinction is helpful. Thus far in the course, we have considered many examples of “evoked culture”.

The concept of “evoked culture” is similar to that of reaction norms -- the adaptive response of a genotype to different environments

Evoked culture: Perception

Response to the Muller-Lyer illusion varies by environment, perhaps in response to exposure to the built environment (a “carpentered world”)

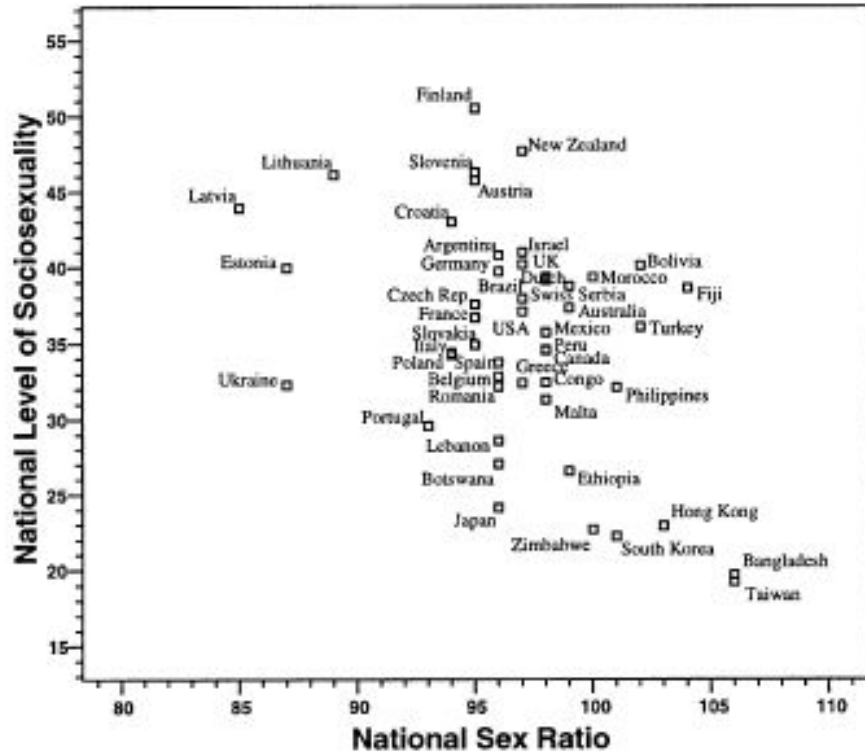


In the eye of the beholder. People in industrialized societies often think line A is shorter than line B, but that illusion is weaker or absent in some small-scale societies, whose members perceive the lines as equally long.



Segall, Campbell, Herskovits, *The influence of culture on visual perception* 1966.

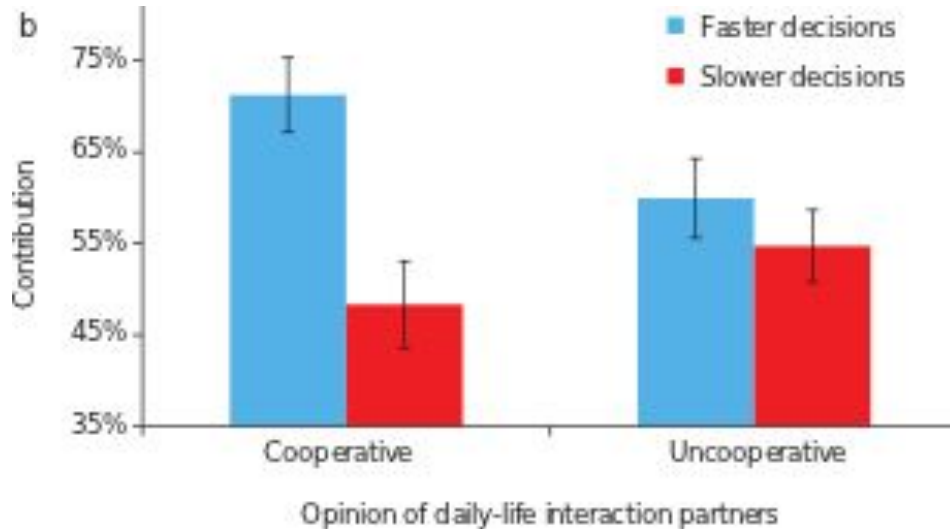
Evoked culture: Mating strategies



Sociosexuality (interest in multiple partners and uncommitted sex) is greater where sex ratio (m/f) is lower

Schmitt *Beh Brain Sci* 2005

Evoked culture: Cooperation

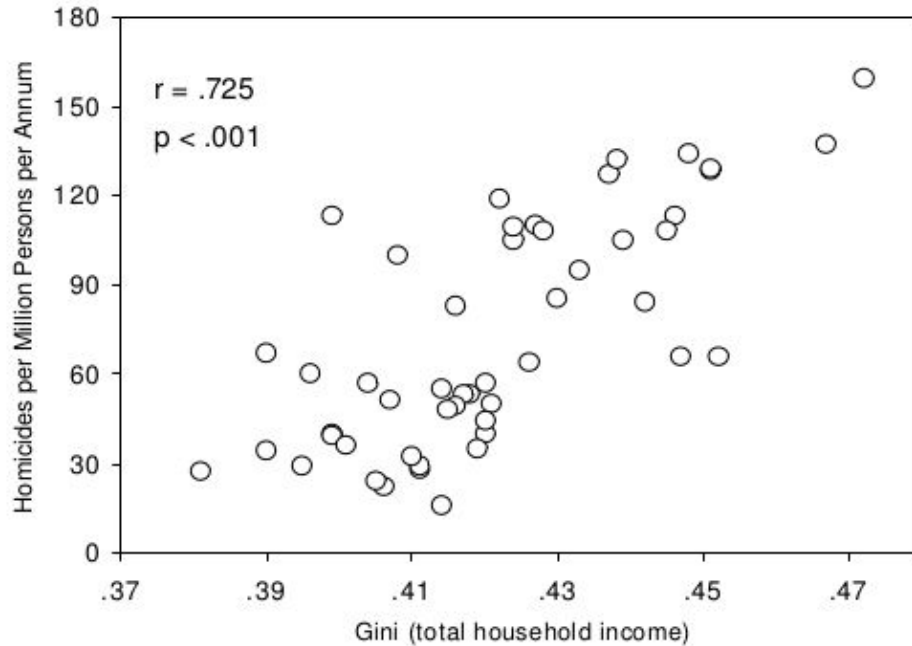


In a one-shot public goods game, intuitive generosity depends on daily life interactions:

Faster decisions were associated with more generous contributions among people who said their daily-life partners are cooperative.

(Rand, Greene & Nowak, Nature 2012)

Evoked culture: Aggression



Homicide rates are higher where income inequality is greater. Points are U.S. states*

* in lecture I mistakenly said “nation states”

Daly, *Killing the Competition: Economic Inequality & Homicide*, 2016

A few examples of evoked culture discussed in this class:

- Group bias (may) increase with signs of pathogen risk
- Response to the Muller-Lyer illusion increases with exposure to a carpentered world
- Women's mate preferences vary with degree of expected male investment
- Men's mating vs. parenting effort varies with the operational sex ratio
- Earlier age of menarche & first birth with less father presence/paternal investment
- Cognition (task switching incr, inhibition decr) with environmental unpredictability
- Jealousy (sexual & emotional) increases with more paternal investment
- Generous impulses are more frequent in people with daily life cooperative partners
- Male-male homicide increases in contexts of income inequality

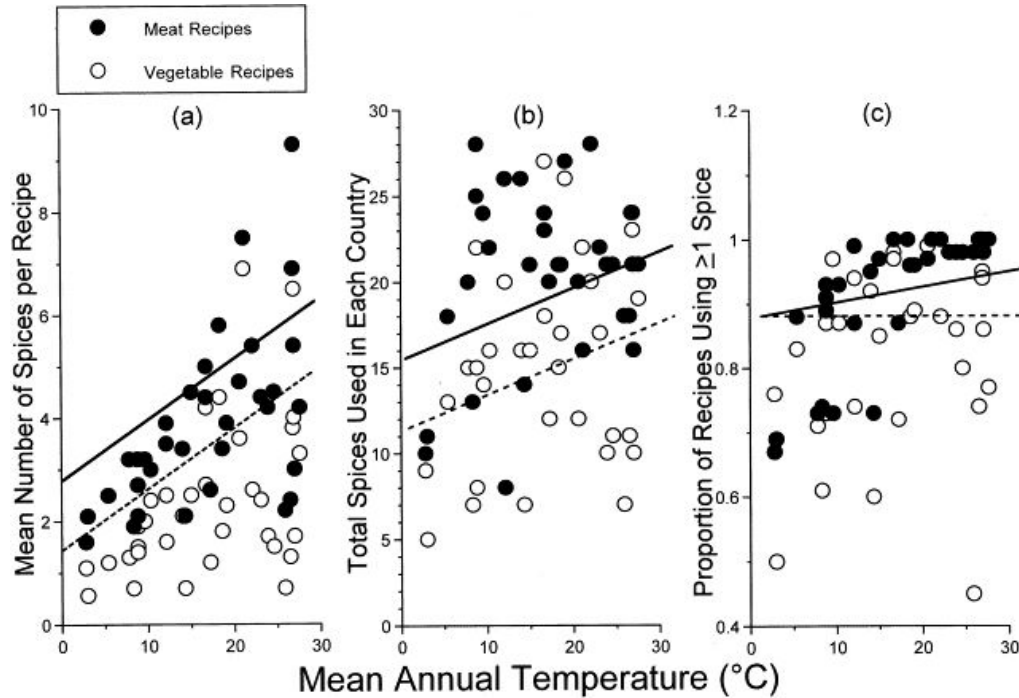
Transmitted culture

Evoked culture is central to Evolutionary Psychology, because natural selection has shaped our psychology to respond adaptively to different environments.

Transmitted culture is built on our evolved psychology but spreads through “cultural evolution,” not genetic evolution. The pattern of inheritance is different (we learn from many others), as is the source of variation.

It can promote adaptation at the level of cultural groups

An example of transmitted Culture: Cuisine



Transmitted culture may be fitness-enhancing:

Spices protect against pathogens, and are used more heavily in hot climates, where the threat of food spoilage is greater. But their use is transmitted culturally, through social learning.

From Billing & Sherman *Quart Rev Biol* 1998

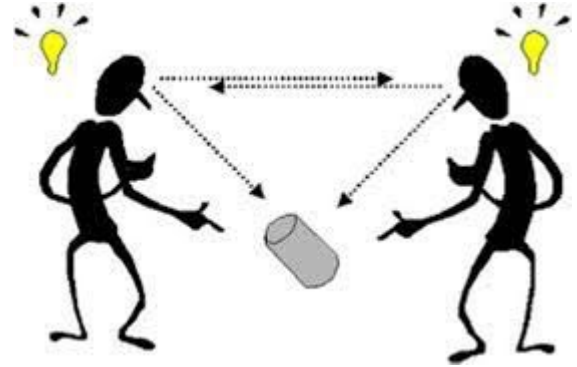
Transmitted culture rests on our evolved psychology

Complex shared culture is made possible by our hyper-sociality and shared intentionality:

Gaze monitoring, shared attention, and theory of mind

Our eagerness to know what someone else is thinking and doing,

And our eagerness to let them know what we know.



Transmitted culture rests on our evolved psychology: Content biases

We learn some things more easily than others. One reason is because of the content:

Fitness-relevant information is more memorable & attention-grabbing, and so it will spread culturally.

This enables us to learn locally-appropriate information.

For example, we discussed heightened attention for learning which animals in the environment are dangerous

Transmitted culture rests on our evolved psychology: Context biases

Another reason we learn some things more easily than others is because of the context:

We are more likely to pay attention to, and learn from:

- people who are successful or prestigious ("prestige biases").
- things that are practiced by lots of people rather than a few ("conformity biases").

Conformity biases allow us to learn from the shared knowledge of the group.

Cultural evolution and large-scale cooperation

Culturally-evolved traits can spread because of benefits that happen at the level of social groups. Two examples:

- Turkana raiding parties, maintained by norms of honor & punishment
- Belief in gods that will punish people who violate social norms (enables human groups to function as large-scale societies)

These traits are successful at the group level, not necessarily adaptive at the individual level (e.g., successful Turkana raiding parties get more cattle, but individuals incur high risk of injury)

The arts

Other topics of interest: The arts (literature, music, visual art) build on our evolved psychology, but are they auditory cheesecake, as Pinker claims?

“I suspect music is auditory cheesecake, an exquisite confection crafted to tickle the sensitive spots of... our mental faculties.”

Or --when elaborated culturally -- do they have other implications for natural or sexual selection? We certainly spend a lot of time on them,

Links

If you are interested in learning more about cultural evolution and its interaction with genetic evolution, there are several links on youtube. Here are two, by Joe Henrich:

[Cultural Evolution and Dual Inheritance](#) This is a short (16 minute) overview, and starts 2 minutes in

[How Culture Is Driving Human Evolution](#) This one is longer but more interesting. It starts 3:20 minutes in. The material relevant to evolutionary psychology begins at 18 minutes.