

Sex

## Midterm, etc.

Top Score:	94
Top 10%:	89 and over
Top 25%:	85 and over
Average:	78.5
Bottom 25%:	72 and under
Bottom 10%:	64 and under

- Correct answers posted online
- Contacting your TF
- Contacting me
- Final grades
- Revised syllabus
- Essay assignment

## 2 smart questions

- What do looking time measures tell us about the minds of babies?
- What do the Harlow studies tell us about parenting?

Sex

What is your favorite activity?

How much time do you spend at  
it?

The very existence of sex is a  
mystery

- Many animals have just one sex, and reproduce by cloning
- But complex animals have two sexes, each animal gives only half of its genes to offspring
- How could such a system evolve?

Topics

- How (and why) are males and females different?
- What do we find sexually attractive?
- What are the origins of sexual preference?

Evolved through natural selection  
=  
good, moral, inevitable??

no

This is pernicious nonsense on an almost astrological scale. Genetic causes and environmental causes are in principle no different from each other. Some influences of both types may be hard to reverse; others may be easy to reverse. ... Why did genes do to deserve their sinister, juggernaut-like reputation? Why are genes thought to be so much more fixed and inescapable in their effects than television, nuns, or books?"

-- Richard Dawkins, "The extended phenotype"

### Males and females

- Small sex cell with genes and little else (sperm)
- Large sex cell with genes and also food and a protective cover and the metabolic machinery needed for the organism to grow (egg)

### Males and females

Why is the animal with the tiny sex cell typically larger and more aggressive than the animal with the large sex cell?

## Parental investment

"any investment by the parent in an individual offspring that increases the offspring's chance of surviving at the cost of the parent's ability to invest in other offspring." -- Robert Trivers

## Typically, for mammals, females have a much higher parental investment

### Female:

carries a fetus inside her, nourishes it with her blood (for many months) and nurses and protects it until it has grown big enough to fend for itself (for years)

### Male:

a few minutes of copulation and a tiny sperm cell

This leads to the evolution of different psychologies in males and females --

### Males:

-- A single male can fertilize several females, which forces some males to go mateless  
-- Those who mate with as many females as possible will have the most reproductive success, and the genes that allow them to do so will be passed on to future generations

This leads to the evolution of different psychologies in males and females --

### Females:

-- Females can always find mates, so sheer numbers don't count.  
-- Those who mate with the right males, those whose offspring have the best chance of surviving, will have the most reproductive success

Males compete for access to females by fighting with other males and so:

- they are typically larger
- they have typically evolved special weapons (horns of stags, sharp teeth of male chimps, etc.)

Females are choosy, mating only at certain times, and using strict criteria to choose who to mate with

Males have to 'woo' females and so:

- they have typically evolved special displays (tail of the peacock, lizards throat sack, etc.)

### Summary of the evolution of sex differences

Differences in sex cells



Differences in typical parental investment



Differences in the sorts of physiological and psychological mechanisms that evolve

### Evidence that different parental investment explains differences in physiology and psychology

- Cases where parental investment is reversed -- males should be choosy, females should be aggressive
  - e.g., pipefish, penguins
- Extent of differential parental investment should predict extent of differences
  - e.g., elephant seals vs. gibbons

In many species, there is male high parental investment because it is in the male's reproductive advantage to care for the offspring

**What about humans?**

## Sex differences in humans

- Mating system
  - mostly polygamous
- Size
  - Males about 15% larger than females
- Aggression
  - Males meaner  
(in utero, as children, as adults)

- Sexual choosiness
  - prostitution
  - pornography
  - preference for sexual variety  
(Coolidge effect)

Obviously true or false stereotype?

## How many sexual partners would you like to have in ...

	W	M
The next month	<1	2
The next 2 years	1	8
Your lifetime	4-5	18

## Would you have sex with a desirable partner that you have known for ...

	W	M
A year		
6 months		
A week or less		

Would you have sex with a desirable partner that you have known for ...

	W	M
A year	yes	
6 months	unsure	
A week or less	no	

Would you have sex with a desirable partner that you have known for ...

	W	M
A year	yes	yes
6 months	unsure	yes
A week or less	no	yes

I have been noticing you around campus, I find you very attractive ...

	W	M
Would you go out with me tonight?		
Would you come over to my apartment tonight?		
Would you go to bed with me tonight?		

I have been noticing you around campus, I find you very attractive ...

	W	M
Would you go out with me tonight?	56%	
Would you come over to my apartment tonight?	6%	
Would you go to bed with me tonight?	0%	



I have been noticing you around campus, I find you very attractive ...

	W	M
Would you go out with me tonight?	56%	50%
Would you come over to my apartment tonight?	6%	
Would you go to bed with me tonight?	0%	

I have been noticing you around campus, I find you very attractive ...

	W	M
Would you go out with me tonight?	56%	50%
Would you come over to my apartment tonight?	6%	69%
Would you go to bed with me tonight?	0%	

I have been noticing you around campus, I find you very attractive ...

	W	M
Would you go out with me tonight?	56%	50%
Would you come over to my apartment tonight?	6%	69%
Would you go to bed with me tonight?	0%	75%

- Sexual choosiness
  - prostitution
  - pornography
  - preference for sexual variety (Coolidge effect)
  - homosexual sex (male/male, female/female)

## Mate preference

- David Buss: 10,000 people in 37 countries

Females and males: kindness and intelligence

Females:

- more focus on power and status
- interest in investing in children

Males:

- more focus on ability to have children

**Females and males:** beauty

"I'm happy people find me attractive, but really it's a matter of mathematics – the number of millimeters between the eyes and the chin."

"To work hard, as I've worked, to accomplish anything, and then have some yo-yo come up and say, "Take off those dark glasses and let's have a look at those blue eyes" is really discouraging."

## Universals of beauty

- Beauty = youth
  - larger eyes
  - full lips
  - smooth tight skin
- Beauty = health
  - absence of deformities
  - clear eyes
  - unblemished skin
  - intact teeth
  - average face

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Who has the most beautiful  
face in psych 110b?

All of you

Better than average?

### Nature and nurture in sex

- Some sex differences -- related to aggression and mate preference -- are universal across humans, appear in other mammals, and follow from evolutionary theory. They are likely innate.
- Other sex differences have origins that are less clear.

### Social factors and sex differences

- Babies are treated differently
- So are you  
(John Smith versus Joan Smith)
- Also: Effects of gender self-segregation

Sex differences in empathy?

- Violence (inc. murder)
- Eye contact and testosterone
- Empathy in children
- "theory of mind" performance (?)
- Frequency of autism, conduct disorder, psychopathy

Sex differences in the capacity for math and science?

[http://www.edge.org/3rd\\_culture/debate05/debate05\\_index.html](http://www.edge.org/3rd_culture/debate05/debate05_index.html)

## Culture and biology in sexual preference

- Purposeful choice?  
-- not typically
- Experience after puberty?  
-- no. sexual and romantic fantasies, often as early as age 4-5
- Innate predisposition?  
-- Yes, evidence from MZ and DZ but ..
- Early experience?  
-- Yes, to some extent

## Culture and biology in sexual preference

Exclusive homosexuality is an evolutionary mystery

## Reading Response

What factor or factors determine why some people are straight, others are gay, and others are bisexual?

(be sure to include at least some empirical data from textbook and lecture)