

Is Sex Binary?

“He – for there could be no doubt of his sex, though the fashion of the time did something to disguise it ...” – Virginia Woolf, *Orlando*

Content Warnings

This presentation will mention, depict, or discuss:

- **human anatomy** you may consider private
- **social stigmas** related to human bodies
- human **reproductive capabilities**

If you are not comfortable with these types of content in this context, please respond accordingly to take care of yourself.

Rules of the Road

1. Don't speak over each other. One person speaks at a time.
2. Avoid making generalizations and instead speak from your own experience.
3. Respect confidentiality: what is said in the room, stays in the room.
4. Be aware of how much space you're taking up in the room/conversation.
5. If you've been talking a while, take a step back and let others step up.
6. Pause, consider and self reflect before reacting or responding, especially when triggered.
7. If you don't know or understand something, ask!
8. Learning is the goal and admitting what you don't know is the first step.
9. Disagree with statements, not people. And always respectfully. Disagree with curiosity, not hostility.
10. It's OK to make mistakes, we're here to learn. It's OK to change your mind.

Things We're Not Talking About

 Erotic Behavior or Attraction

 Gender

Things We Are Talking About

The biological categories of sex



Is a binary view valid?



Is more nuance important?

Who Cares About Your Sex?

The Law

Medicine

Sports

Probably More

The Law

Depending on time and place, the sex you are assigned may determine whether your society allows you to do many things, including:

- owning property
- inheriting property or [titles](#)
- practicing a certain profession
- holding a certain position of authority
- voting in an election ([suffrage](#))
- marrying a particular person ([marriage equality](#))
- wearing certain clothes ([cross-dressing laws](#))
- entering a particular restroom ([bathroom bills](#))

Medicine

The sex you are assigned influences the chance that you will be diagnosed with or treated for many conditions, including:

- [autism](#)
- [breast cancer](#)
- [heart diseases](#)
- [eating disorders](#)

Sports

Very many sporting competitions limit eligibility based on the sex assigned to a person.

To enforce such rules, the organizations that run these competitions need a procedure for [sex verification](#).

Certain powerful organizations and individuals claim:

“Every person (immutably) belongs to exactly one of **only two** sex categories, depending only on the person’s **biology.**”

(This view denies [intersex](#).)

Let's write an algorithm for determining a person's sex.



Algorithm Requirements

(inspired by athletics organizations like IOC and IAAF)

Every human being must belong to exactly **one** of only **two** categories: male or female.

We will not tolerate any inaccuracy.

We will base our decision only on objective physical observations.

Remember:

We're determining sex (a biological concept), not gender (a sociological concept).

Round 1: A False Start



Males are Tall, Females are Short

Males are Tall, Females are Short



Miranda Hart
6' 1" / 185.5 cm

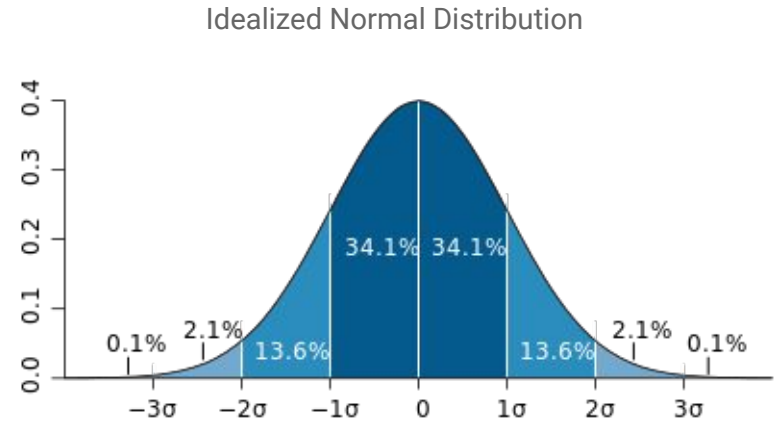
Kevin Hart
5' 2" / 157.5 cm



Why Not Height?

[Human height distribution separated into two sexes](#)

[Human height distribution regardless of sex](#) (figure 2)



([image credit](#))

Round 2: *More Serious Attempts*



Interlude: Some Traits Are Racialized

Idealized images of maleness and femaleness frequently coincide with idealized conceptions of whiteness.

Females Have Larger Breasts Than Males

Females Have Larger Breasts Than Males



Tokushinhō Motohisa

[\(image credit\)](#)

Twiggy

[\(image credit\)](#)



Males Have Deeper Voices Than Females

Males Have Deeper Voices Than Females

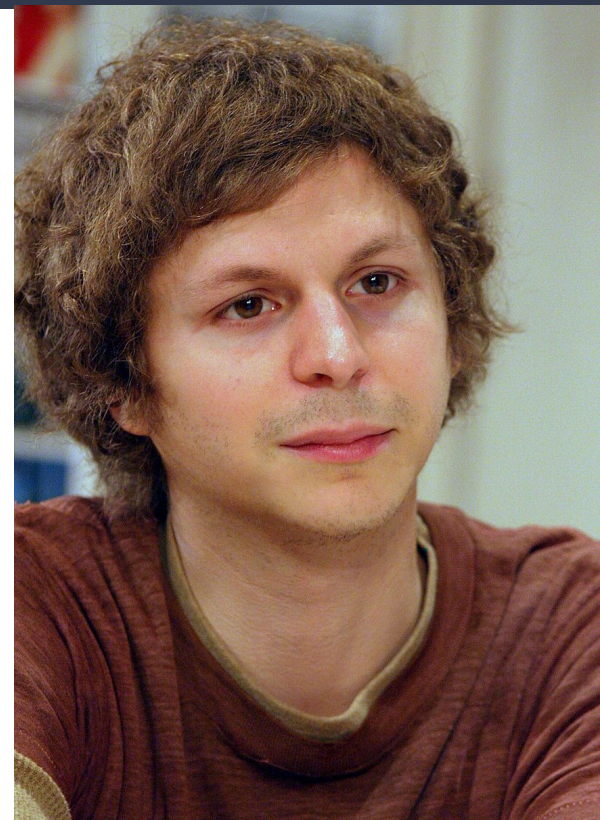


Scarlett Johansson

[\(image credit\)](#)

Michael Cera

[\(image credit\)](#)



Females Don't Grow Facial Hair

Females Don't Grow Facial Hair



Harnaam Kaur

[\(image credit\)](#)

Males Have More Testosterone Than Females

Males Have More Testosterone Than Females

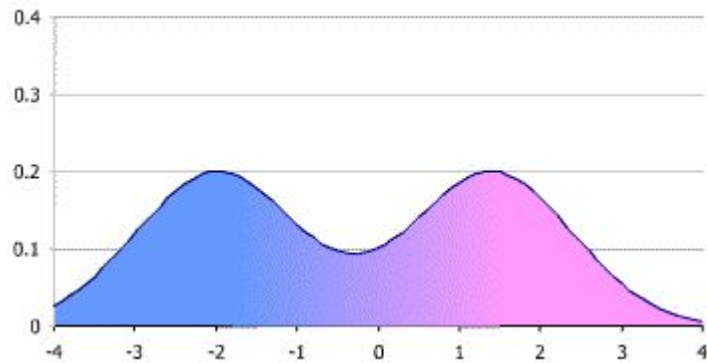
Caster Semenya

[\(image credit\)](#)



Why Not Breasts, Beards, Voices, or Hormones?

Even if the distributions are bimodal...

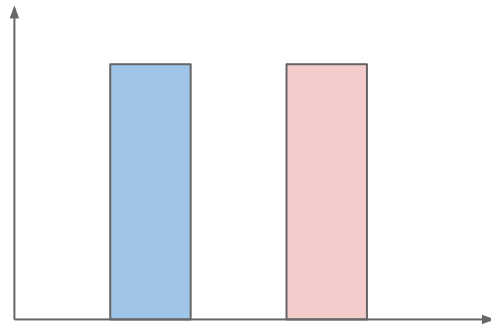


[\(image credit\)](#)

What do you do with the people in the valley?

Seeking a Binary

Can we find a physical measurement associated with sex that doesn't vary continuously?



Round 3: No More Pulling Punches



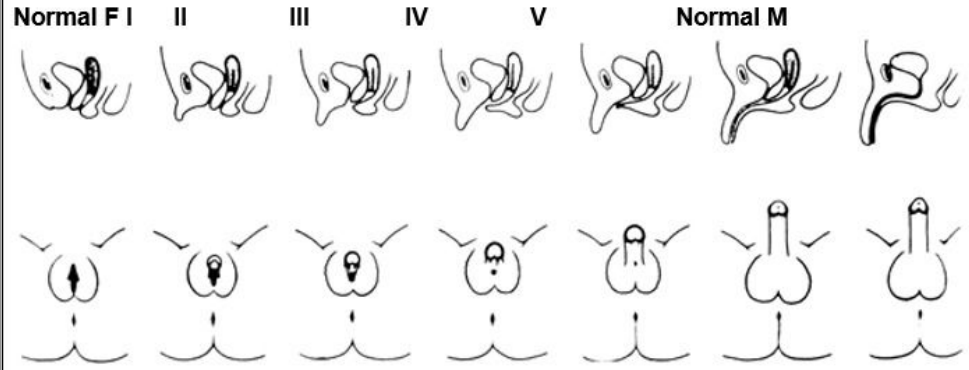
Genitals

There are only two options, right?

P = male

V = female

Genitals



([image credit](#))

Genetics

There are only two options, right?

XY = male

XX = female

Genetics

XX = “typical female” ([except when they appear male](#))

XY = “typical male” ([except when they appear female](#))

XXY = Klinefelter syndrome

XYY = Jacobs syndrome

X = Turner syndrome

Y = non-viable fetus

YY, XXX, YYY, XXXX, XXXY, XXYY, XYYY, YYYY,
XXXXX, XXXXY, XXXYY, XXYYY, XYYYY, YYYYY,

...

Reproductive Capability

Able to induce pregnancy = male

Able to become pregnant = female

Reproductive Capability

Able to induce pregnancy = male

Able to become pregnant = female

Able to do neither = ?

Able to do both = ?

Partially able = ?

We don't know = ?

Ready to give up yet?

~~“Every person (immutably) belongs to exactly one of only two sex categories, depending only on the person’s biology.”~~

Beyond the Binary?

Can a legal or scientific system function with **more than two** sex categories?

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Yes. For example, **Jewish law** has done so explicitly for 2000 years or more, identifying at least [six sexes](#) (but still only two genders).

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For millennia, the existence of people that are neither exclusively male nor exclusively female [has been recorded](#) in historical, legal, medical, and scientific literature of **Indian, Greek, Roman, Islamic, and Christian European** cultures. (Often, these societies still tried very hard to force members of these sexes into one of only two genders. Many societies still do.)

Beyond the Binary!

If you're putting people into categories,
two sexes are not enough!

Beyond Sex

Do you really need to put people into sex categories to reach your goals?

Would it be better to use a simpler, more specific, or more concrete criterion?

Does using criteria other than sex result in better gender equity and inclusion?

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