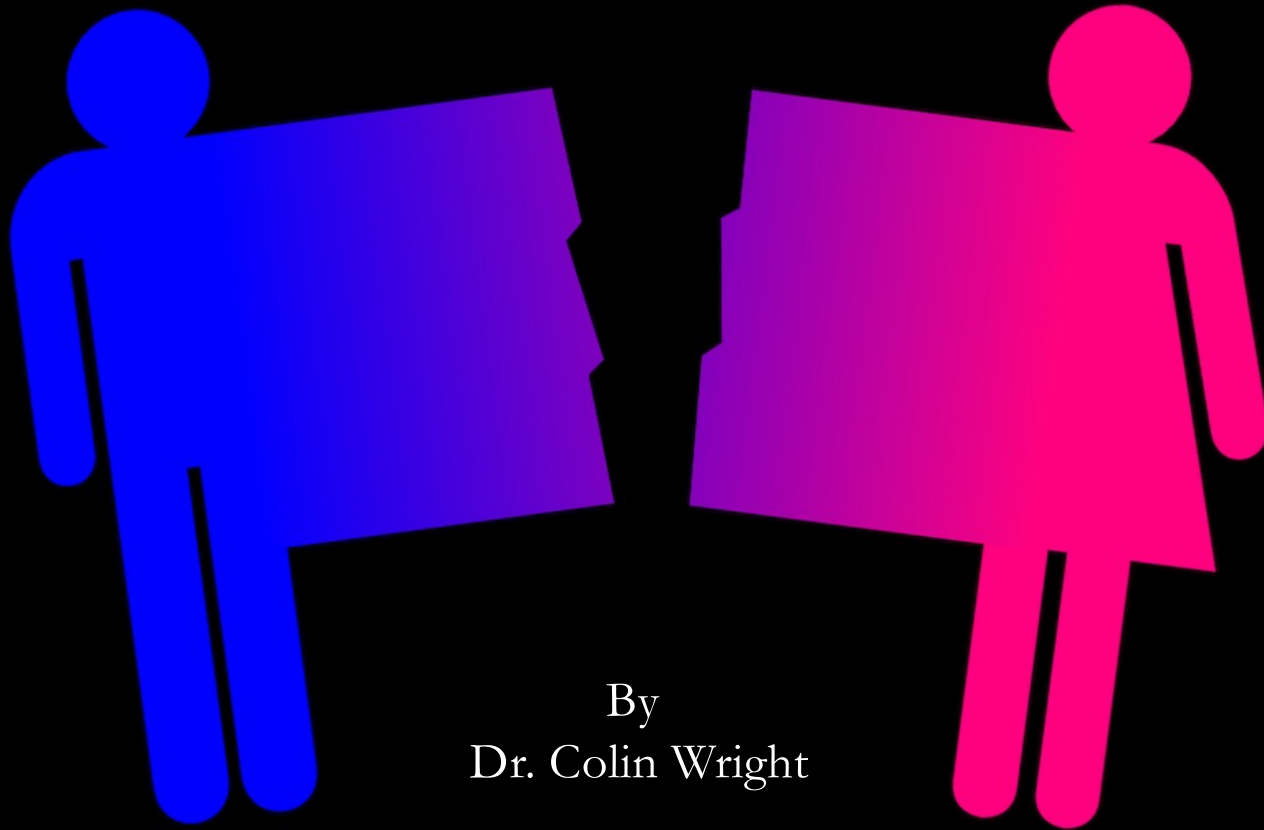


What Is a Woman?

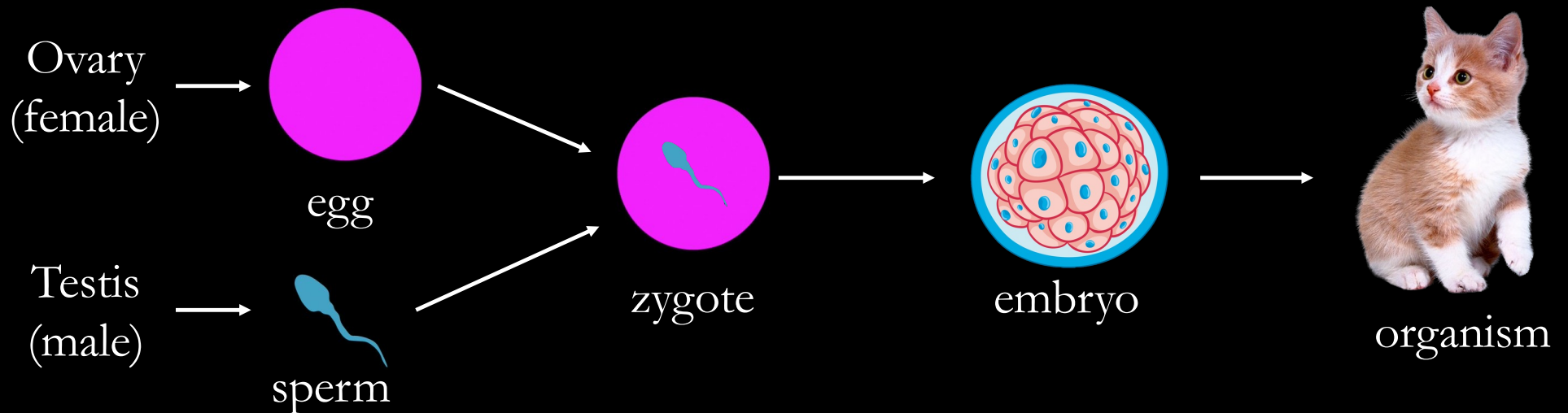
Sex and Gender Ideology



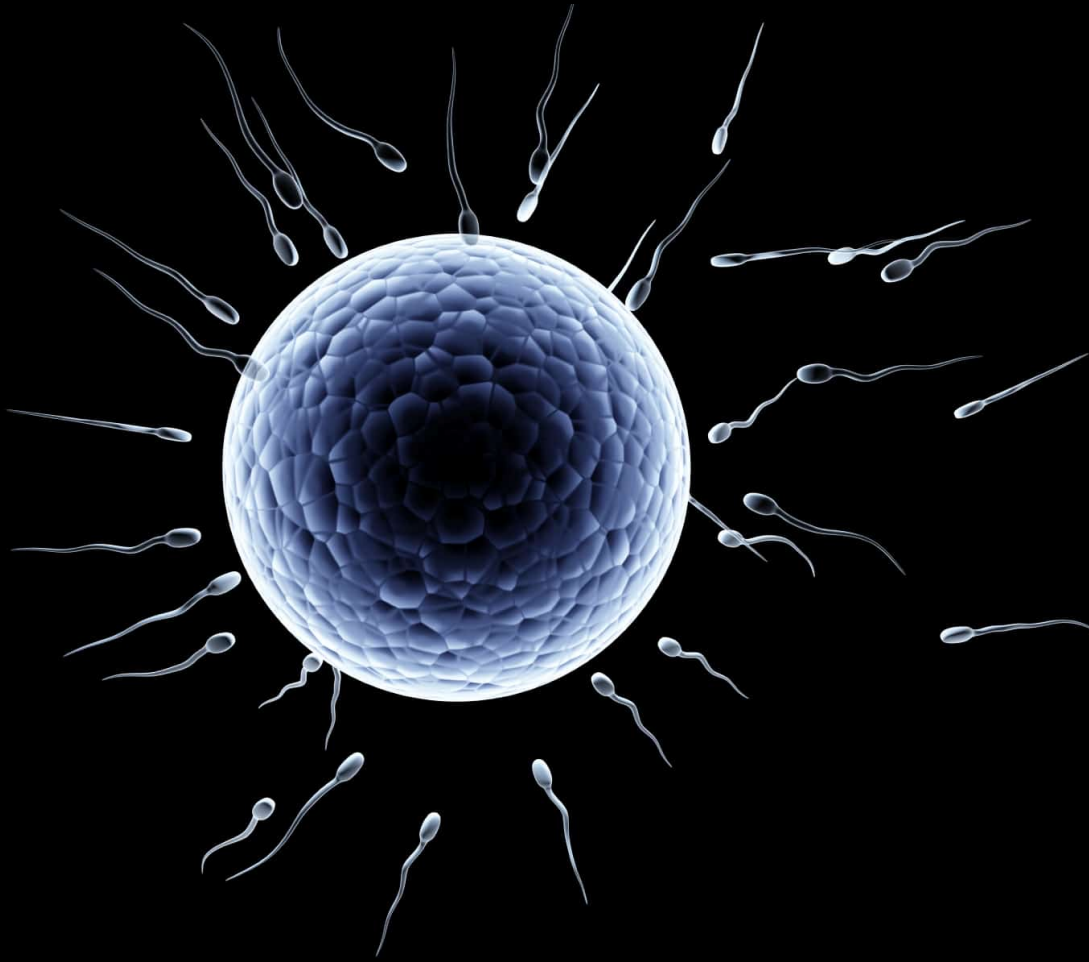
By
Dr. Colin Wright

Sexual Reproduction

Sexual reproduction is a type of reproduction that involves a complex life cycle in which a gamete (such as a sperm or egg cell) with a single set of chromosomes combines with another to produce a zygote that develops into an organism composed of cells with two sets of chromosomes.



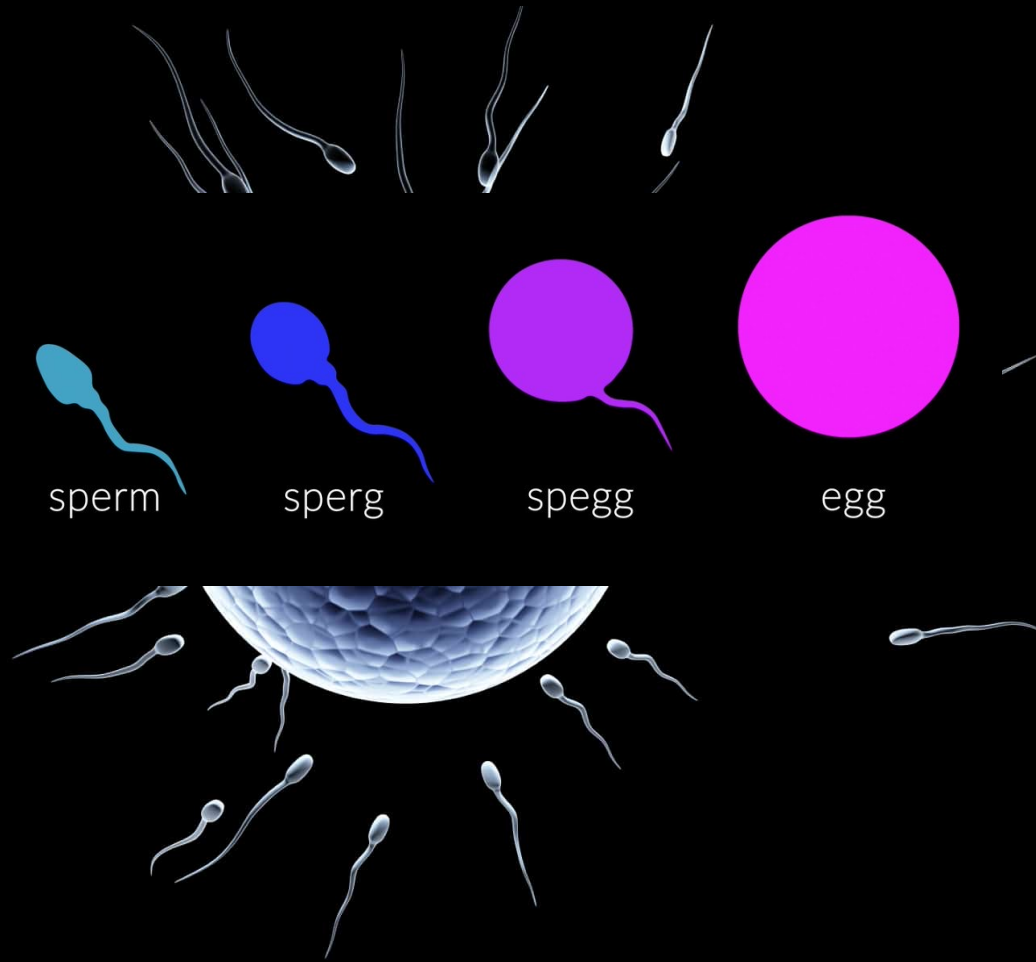
What Are Males & Females?



Broadly speaking, **males** are the sex that produce small gametes (sperm) and **females** produce large gametes (ova).

But the sex of an individual is based on their reproductive anatomy and is defined by **the type of gamete this anatomy is organized around, through development, to produce.**

What Are Males & Females?



Because there is no third or intermediate gamete(s), and therefore no third type of anatomy that can develop to produce it, **there are only two sexes in humans.**

Biological sex is a binary system.

THE END

Questions?

Debunking Myths About the Biology of Sex

Myth 1: Sex is a **spectrum**

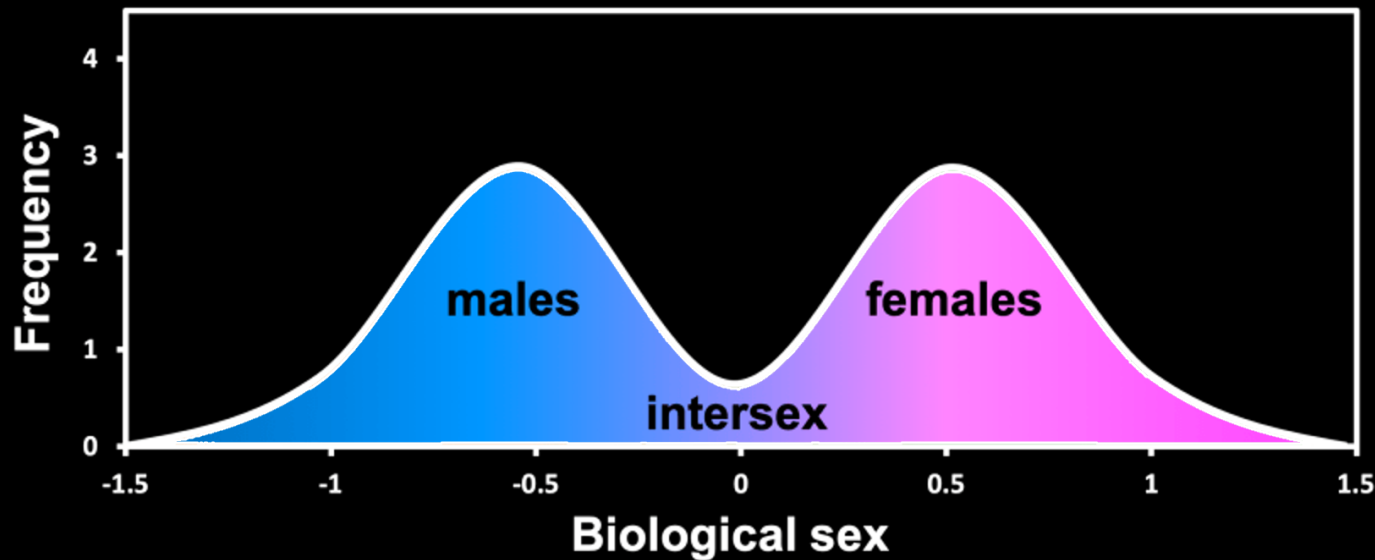
Myth 2: There are more than two sexes

The Sex Spectrum

MALE

INTERSEX

FEMALE



The Sex Spectrum

BEYOND XX AND XY

A host of factors figure into whether someone is female, male or somewhere in between. It's not just chromosomes that determine sex, but also hormones, anatomy and even social factors. The sex of a person is a complex interplay of biology and environment.

Michael Sauter

Associate Professor of Biology at the University of California, San Diego

Sex is a spectrum, not a binary. It's not just about chromosomes, but also about hormones and anatomy. The sex of a person is a complex interplay of biology and environment.

Sex is a spectrum, not a binary. It's not just about chromosomes, but also about hormones and anatomy. The sex of a person is a complex interplay of biology and environment.

The New York Times

OPINION

Hilda Vilaro



Male, Female, and Intersex



Scientists have identified many of the genes associated with intersex conditions, and have uncovered variations in a person's anatomical or physiological sex. Advances in DNA sequencing and cell biology are even suggesting that the sex of each cell is a complex interplay of molecular diversity within male or female, and that some people can't neatly fit into either category. "It's a world in which sex is still defined as male or female, but the biological and social status can be heavily influenced by a complex network of factors," says Arthur Arnold at the University of California, Los Angeles, who studies biological sex. "It's a very difficult problem, because sex can be different in different ways, but at the start of life, a human embryo has the potential to become either male or female. Next to the developing kidneys, two ridges emerge alongside two pairs of

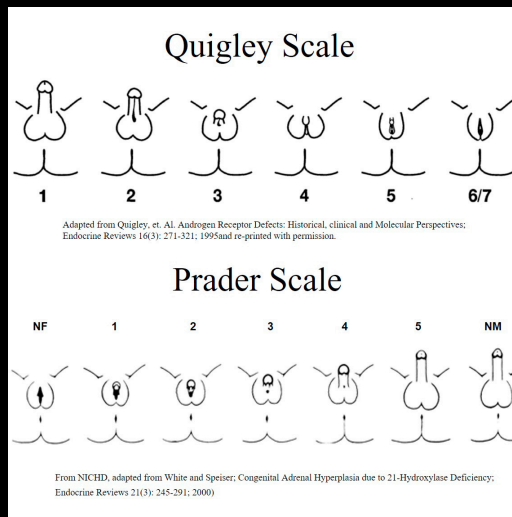
SciShow

TREVOR

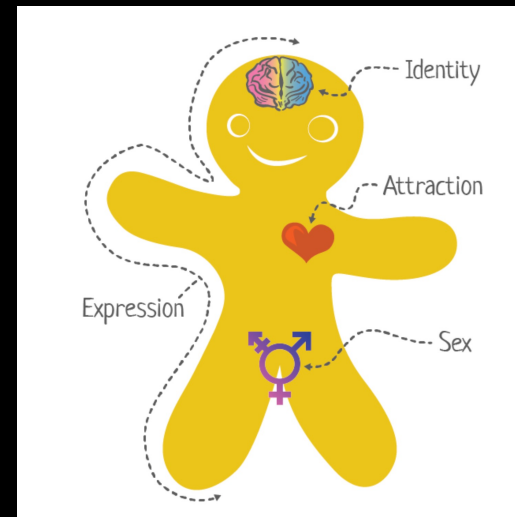
The Sex Spectrum

Two main arguments

Intersex Conditions



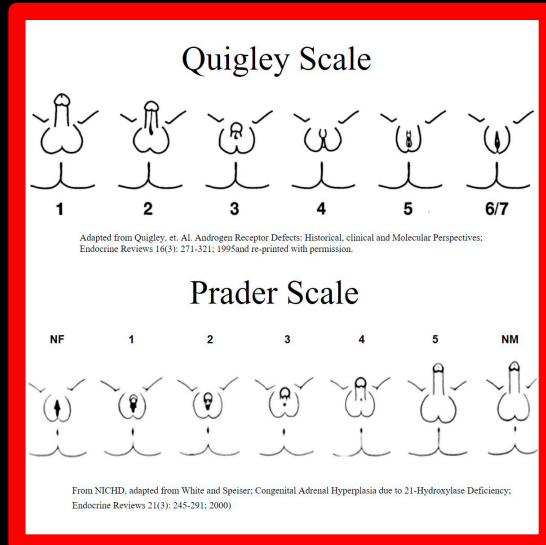
Secondary Sex Characteristics



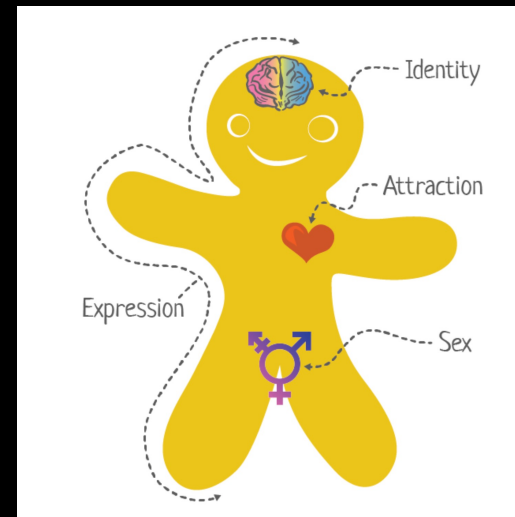
The Sex Spectrum

Two main arguments

Intersex Conditions



Secondary Sex Characteristics



The Sex Spectrum

INTERSEX ARGUMENT: Sex cannot be **binary** if some individuals have sexual anatomy that appears to fall somewhere between male and female.

BEYOND XX AND XY

A host of factors figure into whether someone is female, male or somewhere in between. Humans are socially conditioned to view sex and gender as binary attributes. From the moment we are born—or even before—we are definitively labeled “boy” or “girl.” Yet science points to a much more ambiguous reality. Determination of biological sex is staggeringly complex, involving not only anatomy but an intricate choreography of genetic and chemical factors that unfolds over time. Intersex individuals—those for whom sexual development follows an atypical trajectory—are characterized by a diverse range of conditions, such as 5-alpha reductase deficiency (circled). A small cross section of these conditions and the pathways they follow is shown here. In an additional layer of complexity, the gender with which a person identifies does not always align with the sex they* are assigned at birth, and they may not be wholly male or female. The more we learn about sex and gender, the more these attributes appear to exist on a spectrum.

—Amanda Montañez

*The English language has long struggled with the lack of a widely recognized nongendered third-person singular pronoun. A singular form of “they” has grown in widespread acceptance, and many people who do not identify with a binary gender use it.

The Gender Spectrum

A transgender woman is a person who was assigned male at birth based on her anatomy but who identifies as a woman.

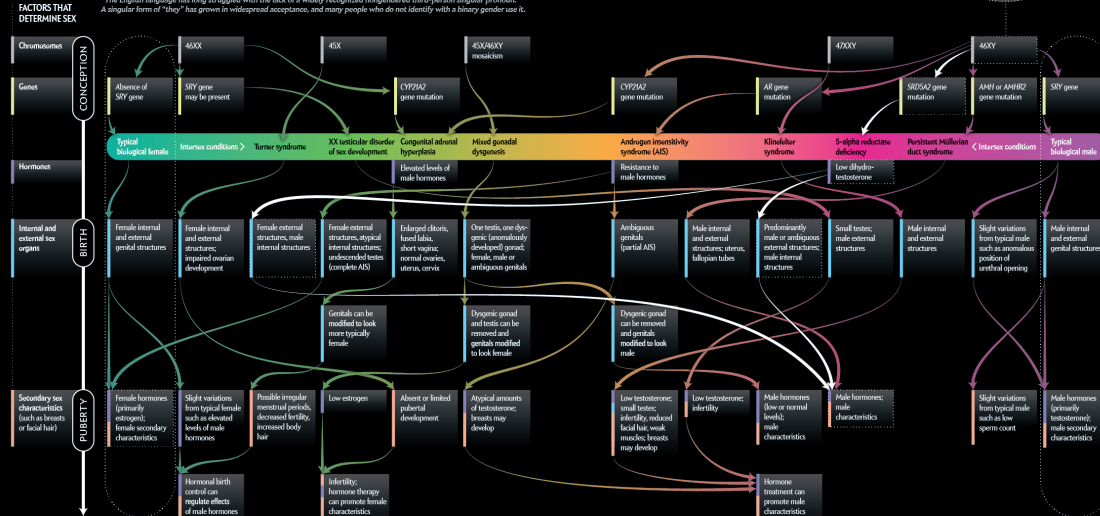
A nonbinary person is someone who identifies as neither completely female nor completely male. Such an individual may identify with both genders or neither gender, or they may be gender fluid, meaning that gender fluctuates between female and male.

A transgender man is a person who was assigned female at birth based on his anatomy but who identifies as a man.

A cisgender man is a person who was assigned male at birth based on his anatomy and who also identifies as a man.

5-alpha reductase deficiency is an intersex condition that can follow multiple pathways throughout development. Affected individuals have a chromosomal makeup of 46XY. In a typical biological male, but a genetic mutation causes a deficiency of the hormone dihydrotestosterone. Without external anatomy can vary, so an individual might be assigned to either sex at birth, but at puberty a surge of testosterone promotes male characteristics. In a trans patient, who are raised as girls often end up identifying as male.

Sexuality refers to an individual's sexual orientation or to the kind of person to whom they are attracted. Sexuality is also a spectrum but it separates from both sex and gender.



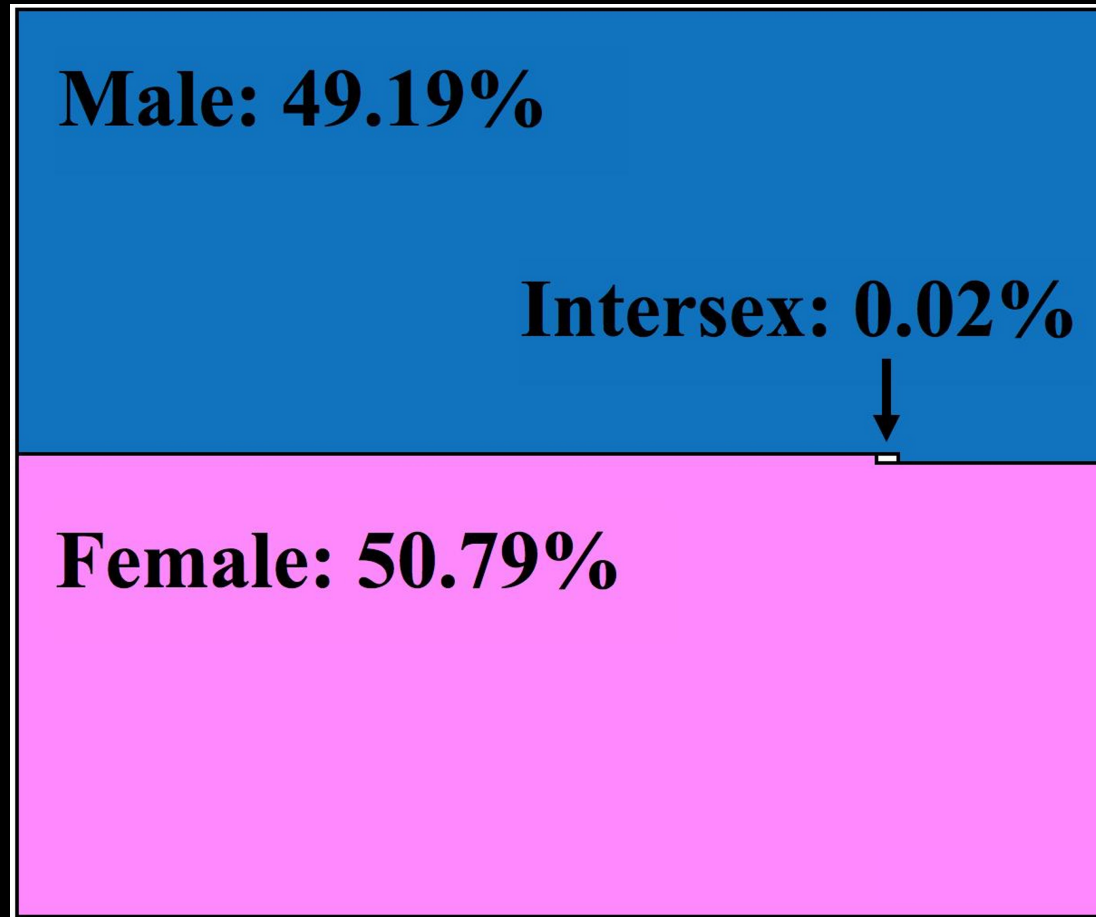
The Sex Spectrum

Male: 49.19%

Intersex: 0.02%



Female: 50.79%



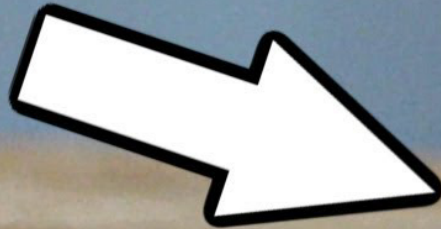
The Sex Spectrum

There are only two sexes \neq Every human can be unambiguously categorized as either male or female

Just because sex may be ambiguous for some does not mean it's somewhat ambiguous (and, as some activists would extrapolate, arbitrary) for all.

The Sex Spectrum

$\frac{1}{6000}$



The Sex Spectrum

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Intersex: 0.02%



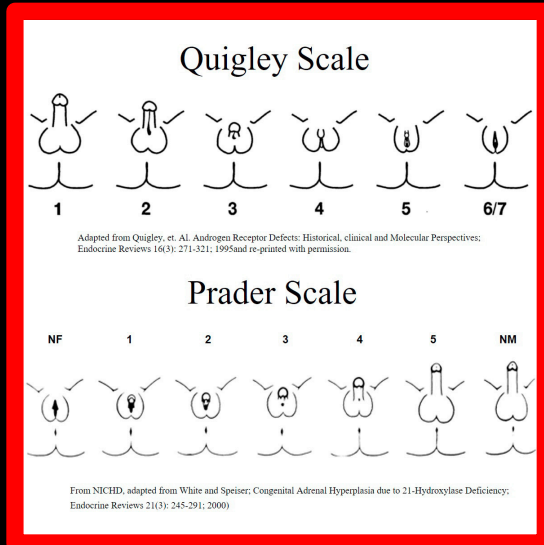
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@SwipeWright

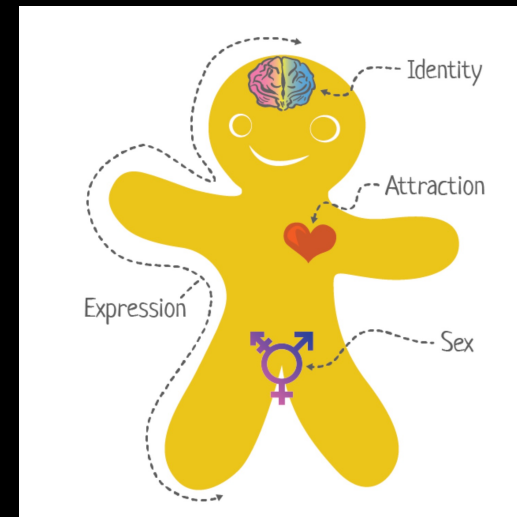
The Sex Spectrum

Two main arguments

Intersex Conditions



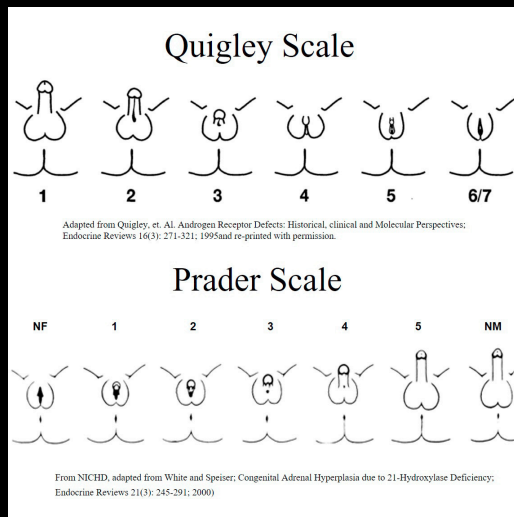
Secondary Sex Characteristics



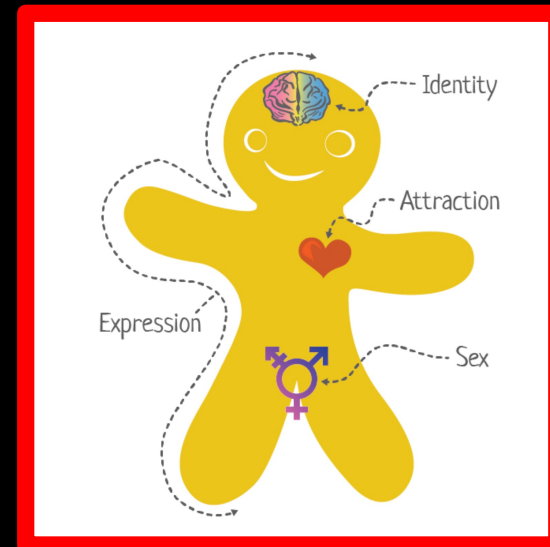
The Sex Spectrum

Two main arguments

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Secondary Sex Characteristics



The Sex Spectrum

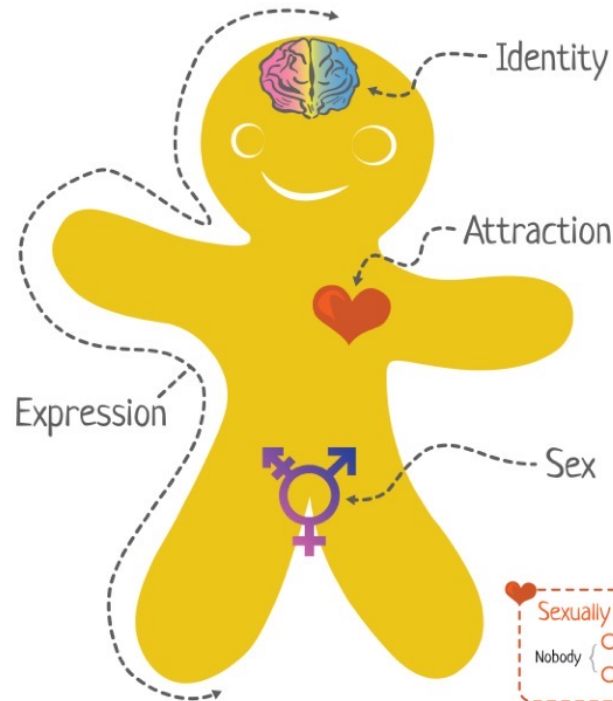
SECONDARY
distribution
and female

the
males
continuum.

The Genderbread Person v3.3

by its pronounced **METROsexual**.com

Gender is one of those things everyone thinks they understand, but most people don't. Like *Inception*. Gender isn't binary. It's not either/or. In many cases it's both/and. A bit of this, a dash of that. This tasty little guide is meant to be an appetizer for gender understanding. It's okay if you're hungry for more. In fact, that's the idea.



Gender Identity

Indicates a lack of what's on the right.

Plot a point on both continua in each category to represent your identity; combine all ingredients to form your Genderbread

4 (of infinite) possible plot and label combos

Woman-ness
Man-ness

How you, in your head, define your gender; based on how much you align (or don't align) with what you understand to be the options for gender.

Labels: "woman", "man", "two-spirit", "genderqueer"

Gender Expression

Feminine
Masculine

The ways you present gender; through your actions, dress, and demeanor; and how those presentations are interpreted based on gender norms.

Labels: "butch", "femme", "androgynous", "gender neutral"

Biological Sex

Female-ness
Male-ness

The physical sex characteristics you're born with and develop, including genitalia, body shape, voice pitch, body hair, hormones, chromosomes, etc.

Labels: "male", "female", "intersex", "MTF Female"

Sexually Attracted to

Nobody {
 → (Women/Females/Femininity)
 → (Men/Males/Masculinity)

Romantically Attracted to

Nobody {
 → (Women/Females/Femininity)
 → (Men/Males/Masculinity)

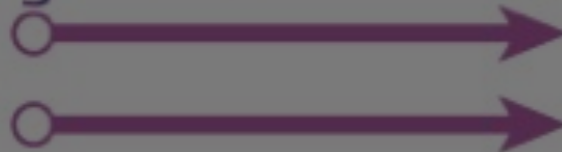
For a bigger bite, read more at <http://bit.ly/genderbread>

In each grouping, circle all that apply to you and plot a point, depicting the aspects of gender toward which you experience attraction.

The Sex Spectrum



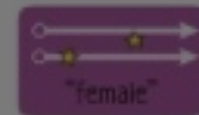
Biological Sex



Female-ness

Male-ness

The physical sex characteristics you're born with and develop, including genitalia, body shape, voice pitch, body hair, hormones, chromosomes, etc.



The Sex Spectrum

Bikers vs. **Cyclists**



The Sex Spectrum



+



The Sex Spectrum



+



Is Sex 'Bimodal'?

The secondary sex characteristic arguments often give rise to the “sex is a bimodal spectrum” claim.

 **ScienceVet**
@ScienceVet2 · Follow

So. Hi new people! Apparently, we're gonna talk about sex. Like physical sex! Because... there's some confusion.

First, sex defined: We're talking physical sex here, not gender. Body parts, hormones, and genetics (and more).

BLUF: BIOLOGICAL sex is a spectrum


1/

12:21 PM · Aug 30, 2018



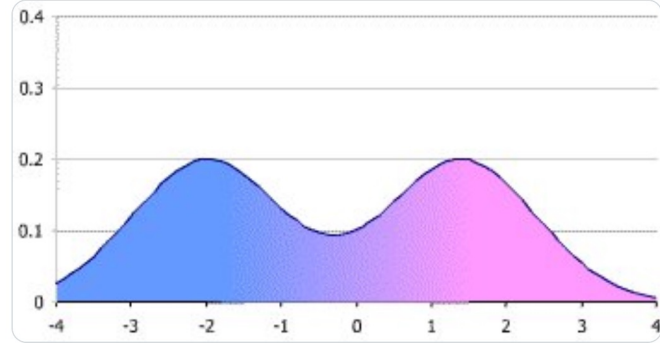
38K Reply Copy link

[Read 613 replies](#)

 **ScienceVet**
@ScienceVet2 · Follow

You get what's called a bimodal distribution (mostly, we'll get to that later) Which looks like this. Those two big peaks are what we call "male" and "female" (even conveniently colored pink for boys and blue for girls - we are using victorian gender colors right?)

/8



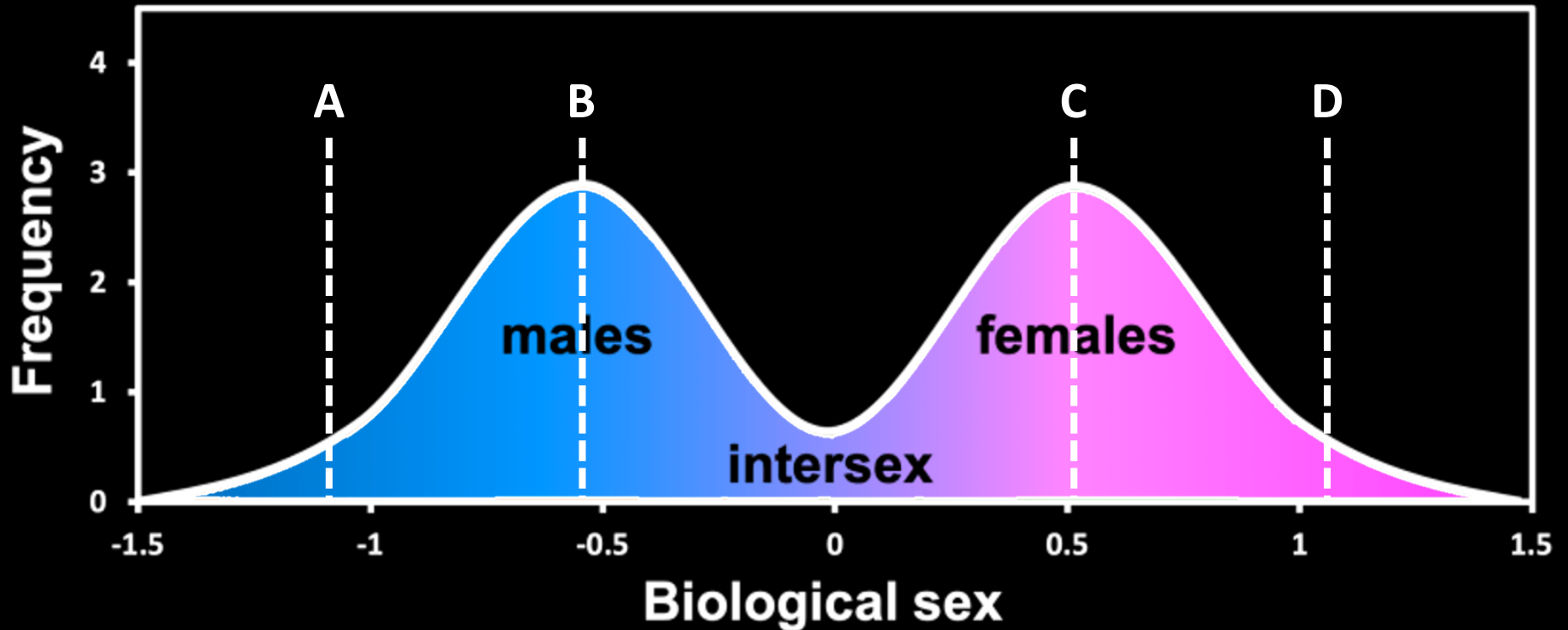
12:38 PM · Aug 30, 2018

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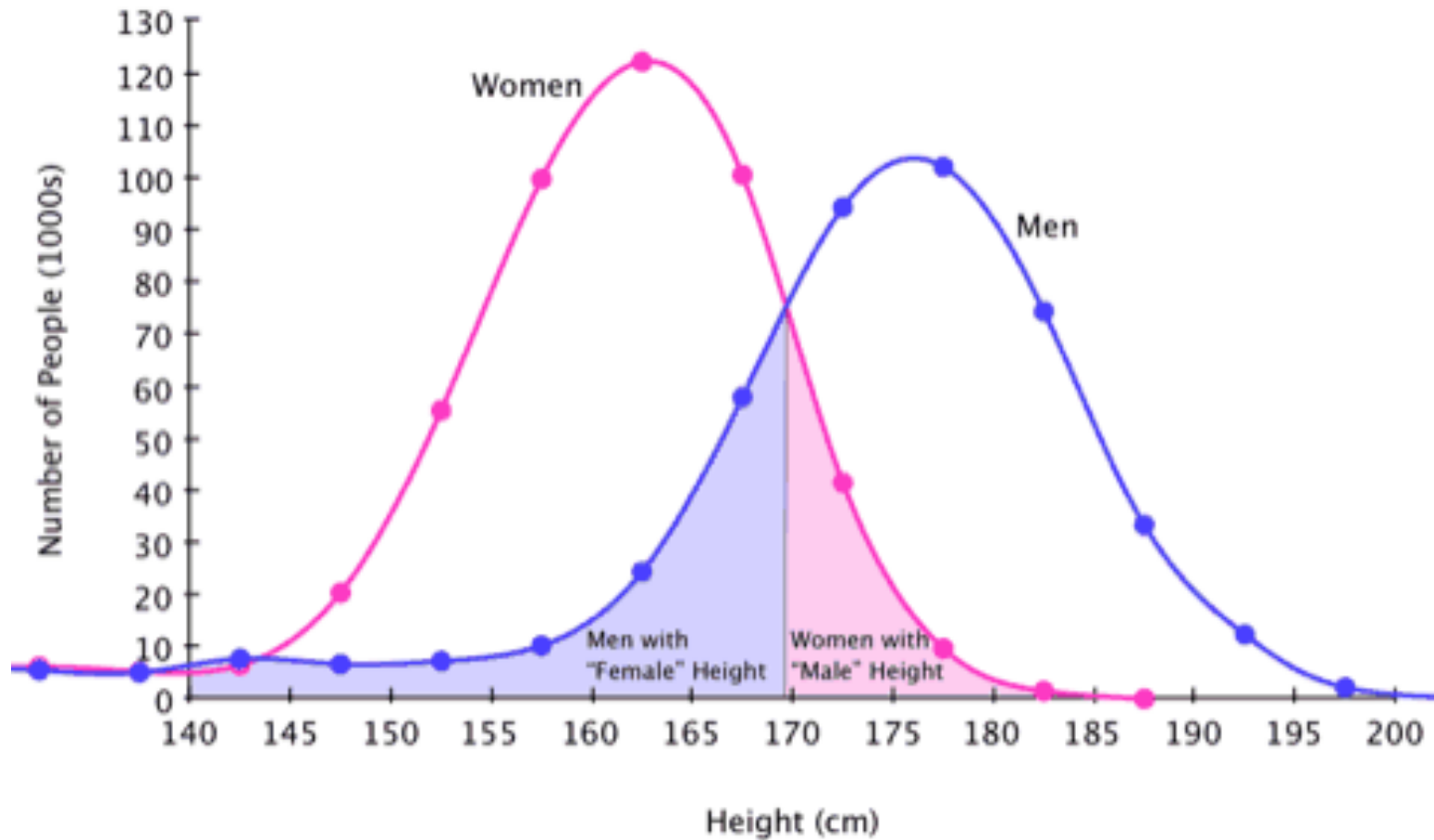
[Read 97 replies](#)

Is Sex ‘Bimodal’?

The secondary sex characteristic arguments often give rise to the “sex is a bimodal spectrum” claim.



Is Sex 'Bimodal'?



More Than Two Sexes?

THE SCIENCES • March/April 1993

THE FIVE SEXES

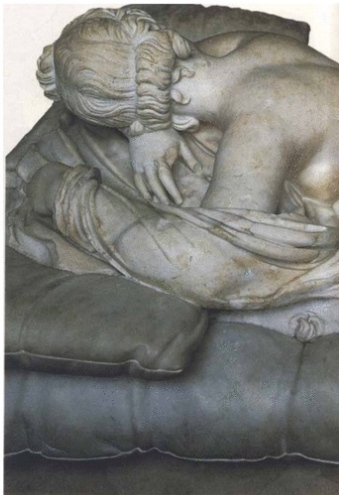
Why Male and Female Are Not Enough

by ANNE FAUSTO-STERLING

IN 1843 LEVI SUNDAM, a twenty-three-year-old resident of Salisbury, Connecticut, asked the town board of selectmen to validate his right to vote as a Whig in a hotly contested local election. The request raised a flurry of objections from the opposition party, for reasons that must be rare in the annals of American democracy: it was said that Suydam was more female than male and thus (some eighty years before suffrage was extended to women) could not be allowed to cast a ballot. To settle the dispute a physician, one William James Barry, was brought in to examine Suydam. And, presumably upon encountering a phallus, the good doctor declared the prospective voter male. With Suydam safely in their column the Whigs won the election by a majority of one.

Barry's diagnosis, however, turned out to be somewhat premature. Within a few days he discovered that, phallus notwithstanding, Suydam menstruated regularly and had a vaginal opening. Both his/her physique and his/her mental predispositions were more complex than was first suspected. S/he had narrow shoulders and broad hips and felt occasional sexual yearnings for women. Suydam's "feminine propensities, such as a fondness for gay colors, for pieces of calico, comparing and placing them together, and an aversion for bodily labor, and an inability to perform the same, were remarked by many," Barry later wrote. It is not clear whether Suydam lost or retained the vote, or whether the election results were reversed.

Western culture is deeply committed to the idea that there are only two sexes. Even language refuses other possibilities; thus to write about Levi Suydam I have had to invent conventions—*she* and *he/she*—to denote someone who is clearly neither male nor female or who is perhaps both sexes at once. Legally, too, every adult is either man or woman, and the difference, of course, is not trivial. For Suydam it meant the franchise; today it means being available for, or exempt from, draft registration, as well



“For biologically speaking, there are many gradations running from female to male; along that spectrum lie at least **five** sexes—perhaps even more.”

– Anne Fausto-Sterling

More Than Two Sexes?



There Are More Than Two Human Sexes

1.1M views • 2 years ago



Dr. Shay-Akil McLean, BA, BA, MA, MA, Ph.D.

@Hood_Biologist

Hi, I'm a transgender biologist, specifically an evolutionary geneticist who studies humans.

In humans there are 6 common sex karyotypes: XX, XY, XXY, XXXY, & XYYY. & there are 4 rare sex karyotypes: XO, XO/XX mosaicism, XY/XXY mosaicism, XXY/XXXY/XXXXY mosaicism.

Zach Elliott @zaelefty

The biological sciences overwhelmingly support the claim that there are precisely two sexes (no more, no less) in almost all complex multicellular life.

Here are 40 peer-reviewed journal articles from biologists on the evolution of sex and why there are only two sexes. <https://t.co/j02seUldXh>

November 30th 2020

4,233 Retweets 15,512 Likes

More Than Two Sexes?

1. XX
 2. XY
 3. XXX
 4. XXY
 5. XYY
 6. XXXY
 7. XYYY
 8. X0
 9. X0/XX
 10. XY/XXY
 11. XXY/XXXY/XXXXY
- 11 Sexes!?**



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What Is a Woman?

- **ADULT:** An organism that has reached sexual maturity.
- **HUMAN:** A member of the species *Homo sapiens*.
- **FEMALE:** An individual whose reproductive anatomy is organized around, through development, the production of large gametes.

Why Does This Matter?

- Public trust in science
- Sex matters in some contexts
 - Women's sports
 - Women's protected spaces
- Confusing and harming children

Why Does This Matter?

Truth matters!

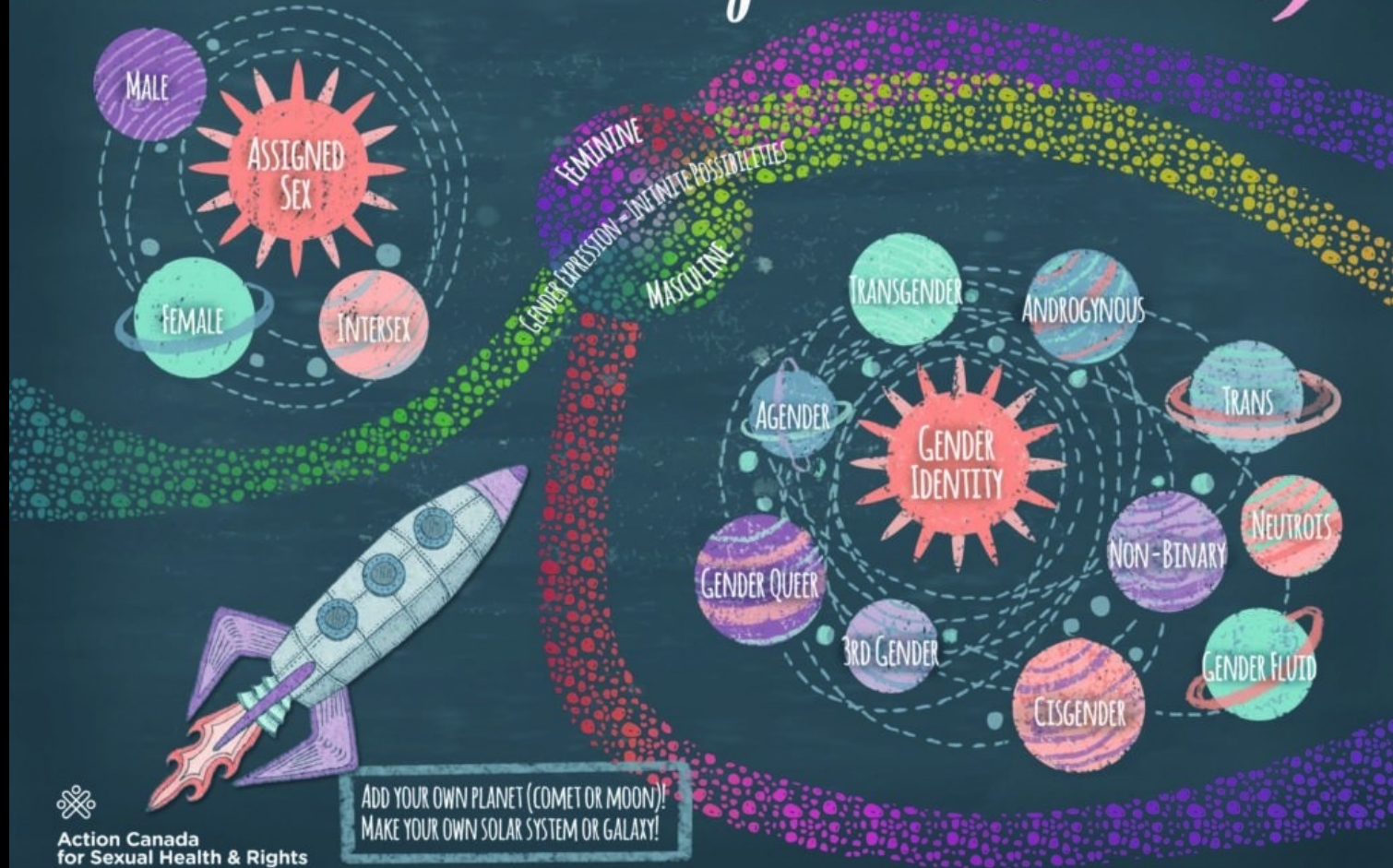
Part 2: Gender Basics

Gender Galaxy

TWO SPIRIT
GALAXY



SEXUALITY
GALAXY



Action Canada
for Sexual Health & Rights

What Is Gender?

1. Synonym for sex
2. Sex differences in behavior
3. Sex-related social roles and expectations

What Is Gender?

1. Synonym for sex
2. Sex differences in behavior
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What Is Gender?



AMERICAN PSYCHOLOGICAL ASSOCIATION

▼ What is the difference between sex and gender?

Sex is assigned at birth, refers to one's biological status as either male or female, and is associated primarily with physical attributes such as chromosomes, hormone prevalence, and external and internal anatomy. Gender refers to the socially constructed roles, behaviors, activities, and attributes that a given society considers appropriate for boys and men or girls and women. These influence the ways that people act, interact, and feel about themselves. While aspects of biological sex are similar across different cultures, aspects of gender may differ.

What Is Gender?



- Gender is much more complex: It's a social and legal status, and set of expectations from society, about behaviors, characteristics, and thoughts. Each culture has standards about the way that people should behave based on their gender. This is also generally male or female. But instead of being about body parts, it's more about how you're expected to act, because of your sex.

The Gender Binary



Gender Binary The idea that gender is strictly an either/or option of male/men/masculine or female/woman/feminine based on sex assigned at birth, rather than a continuum or spectrum of gender identities and expressions. The gender binary is often considered to be limiting and problematic for all people, and especially for those who do not fit neatly into either/or categories.

The Gender Spectrum

The Gender Spectrum



Barbie

Where on a spectrum might your gender identity be?

G.I. Joe



Transgender



AMERICAN PSYCHOLOGICAL ASSOCIATION

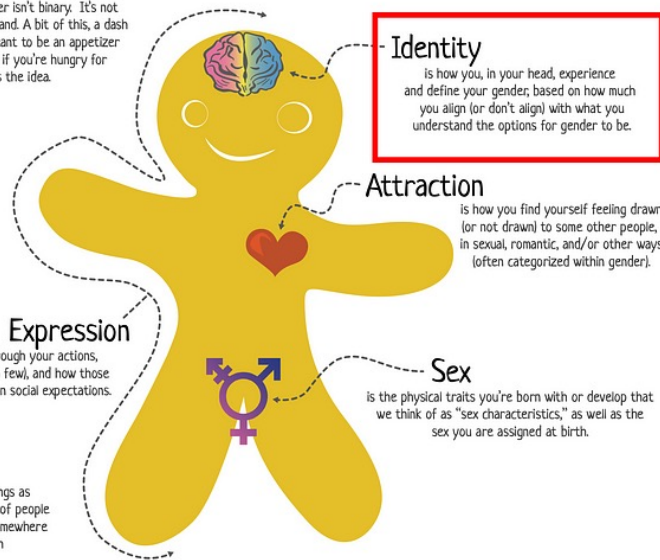
Transgender is an umbrella term for persons whose gender identity, gender expression or behavior does not conform to that typically associated with the sex to which they were assigned at birth. Gender identity refers to a person's internal sense of being male, female or something else; gender expression refers to the way a person communicates gender identity to others through behavior, clothing, hairstyles, voice or body characteristics. "Trans" is sometimes used as shorthand for "transgender." While transgender is generally a good term to use, not everyone whose appearance or behavior is gender-nonconforming will identify as a transgender person. The ways that transgender people are talked about in popular culture, academia and science are constantly changing, particularly as individuals' awareness, knowledge and openness about transgender people and their experiences grow.

The Genderbread Person

The Genderbread Person

by its pronounced METROsexual.com

Gender is one of those things everyone thinks they understand, but most people don't. Gender isn't binary. It's not either/or. In many cases it's both/and. A bit of this, a dash of that. This tasty little guide is meant to be an appetizer for gender understanding. It's okay if you're hungry for more after reading it. In fact, that's the idea.



Identity

is how you, in your head, experience and define your gender, based on how much you align (or don't align) with what you understand the options for gender to be.

Attraction

is how you find yourself feeling drawn (or not drawn) to some other people, in sexual, romantic, and/or other ways (often categorized within gender).

Expression

is how you present gender (through your actions, clothing, and demeanor; to name a few), and how those presentations are viewed based on social expectations.

Sex

is the physical traits you're born with or develop that we think of as "sex characteristics," as well as the sex you are assigned at birth.

We can think about all these things as existing on continuums, where a lot of people might see themselves as existing somewhere between 0 and 100 on each

⊖ means a lack of what's on the right side

Gender Identity



personality traits, jobs, hobbies, likes, dislikes, roles, expectations

common GENDER IDENTITY things

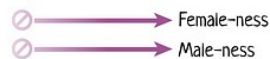
Gender Expression



style, grooming, clothing, mannerisms, affect, appearance, hair, make-up

common GENDER EXPRESSION things

Anatomical Sex



body hair, chest, hips, shoulders, hormones, penis, vulva, chromosomes, voice pitch

common ANATOMICAL SEX things

- Identity

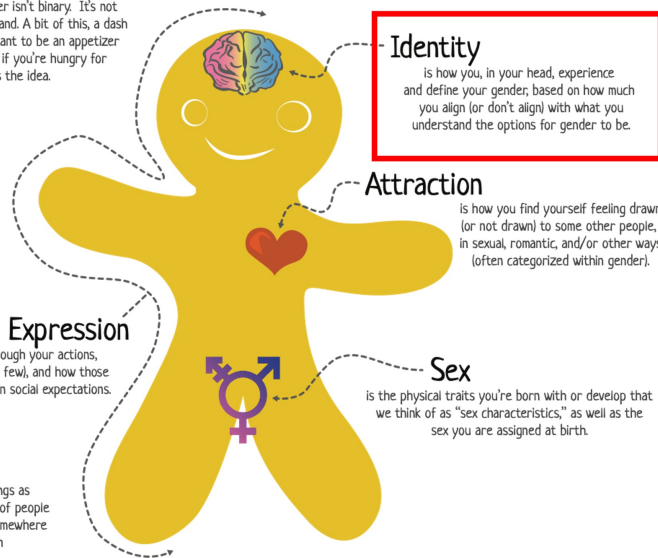
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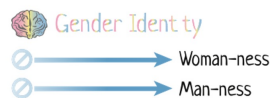
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personality traits, jobs, hobbies, likes, dislikes, roles, expectations

common GENDER IDENTITY things



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common GENDER EXPRESSION things



body hair, chest, hips, shoulders, hormones, penis, vulva, chromosomes, voice pitch

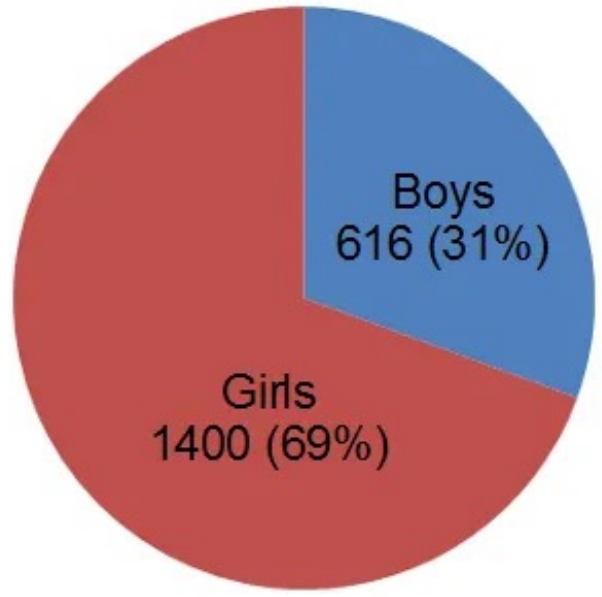
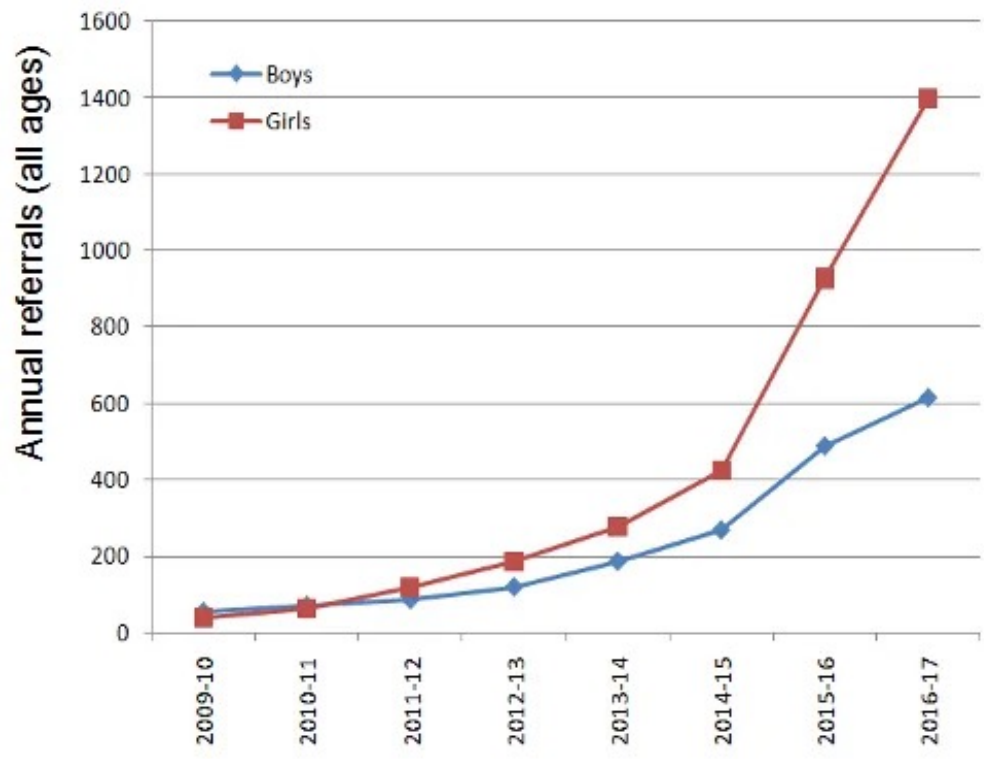
common ANATOMICAL SEX things

- Identity

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Overview

1. What it means to be a boy and girl is now rooted in identity, expression, or behavior instead of biology.
2. These identities, expressions, and behaviors are based on sex-related stereotypes of masculinity and femininity.
3. Masculine girls and feminine boys are considered transgender, by definition.
4. This is being medicalized.



Annual referrals for 2016/17 (all ages)

Harms

1. Medicalization of common gender nonconformity
2. Harms to gay and lesbian community
3. Conflicting with sex-based rights
4. Sexist and regressive
5. Rooted in pseudoscience

THE END

Questions?