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Paris
LD 868

Testimony on LD 868, 1002, 1704, 233, 1337, and 1432, and 380 (Collectively, herein referred to as 'Bills')

Senator Carney, Representative Kuhn and distinguished members of the Judiciary Committee,

LD 868 - An Act to Ensure Equity and Safety in Athletics, Restrooms, Changing Rooms and Housing at Elementary, Secondary and Postsecondary Schools

LD 1002 An Act to Protect Children's Identification by Requiring Public Schools to Use the Name and Gender Specified on a Child's Birth Certificate

LD 1704 An Act to Prohibit a School Administrative Unit from Adopting a Policy That Allows a Student to Use a Restroom Designated for Use by the Opposite Sex

LD 233 An Act to Prohibit Biological Males from Participating in School Athletic Programs and Activities Designated for Females When State Funding Is Provided to the School

LD 1134 An Act to Prohibit Males from Participating in Female Sports or Using Female Facilities

LD 1337 An Act to Amend the Maine Human Rights Act Regarding Female Athletes and Safety in Women's Single-sex Shelters

LD 1432 An Act to Remove Consideration of Gender Identity from the Maine Human Rights Act

LD 380 An Act to Amend Certain Laws Regarding Gender-affirming Health Care Services

I oppose these proposed 'Bills', and urge you to oppose and vote 'ought not to pass' on all of them because passing such legislation would be ignoring the truth that there is a spectrum of sex gender identity beyond just 2 sex/gender identities (female (XX) and male (XY) chromosomes) and would deny the existence of humans living here now, on that spectrum, today in Maine. There are not just two sexes. And there is no basis for a need of 'protecting girls' or 'being harmed by trans girls' as some cases of triple X chromosome females may be taller than trans girls. These legislations are an inappropriate comparisons of threats imagined, based on uneducated concepts and/or misinformation and would oppress humans and be in violation of human rights.

As humans have evolved, we learn more about more subjects. As intelligent beings, we compile data and learn from that data and apply scientific principles. We would be doing a disservice to ignore real world examples of variations in sex gender identity in making laws for our citizens of this state and those visiting here. We must incorporate all known science and not limit our laws based on 6th grade learning.

Students begin with elemental biology of humans (a simplistic understanding of (XX) and (XY) chromosomes) in middle school; high school provides more understanding of related subject matter. It typically isn't until college biology courses, that students begin to get a realization there is more complex functioning of the human reproduction system and its effects on gender and sex identification. Still, a very small amount of knowledge. Studying sex and gender identity has been hindered by suppression of information and a historical lack of research over the 20th century.

Medical Xpress even states: "When it comes to sex and gender, that "gray area" remains murky and mysterious—often undiscussed and even taboo" (Note 11). Its time to grow our understanding and implement laws appropriate to this continuously evolving knowledge base, not ban those who are just trying to be themselves and participate and learn and grow as all young people should be allowed to do.

"In students' first year at HMS [Harvard Medical School], they get 120 hours of learning about the brain and 80 hours of learning about the heart, and very little of it

is taught through a sex and gender lens,” says Deb Bartz, MD, MPH, director of education for the Connors Center at the Brigham, where HMS students acquire hands-on learning, (Note 8). The education on this subject has been taboo for too long to the detriment of all. We need to continue to learn the science in this subject, along with the freedom to exist as who we are, now, via the laws already passed acknowledging these citizens of Maine. This will protect our human diversity, the most vulnerable among us, as that will strengthen our society not weaken it.

Advanced courses continue beyond 4 year degrees, to comprehend differences in sex development, one must include specialties of endocrinology and other specific research areas. Those may include "sex chromosome effects on gene expression, epigenetics, and hormones in relation to the brain, [exploring] neuroanatomy, neurochemistry, cognition, and brain pathology" (Note 6). Those that have not educated themselves or based on denial that these documented differences exist, should not have their testimony weighed with the same regard to completeness of the full scientific record nor as representative of our population; the truth of the matter is that there is a spectrum of complexity which goes far beyond simplistic female (XX) and male (XY) dichotomy of chromosomes. To ignore the real life examples of variations of sex gender identity will not make these natural variations in humans disappear.

There are many documented cases showing more than just female (XX) chromosomes and male (XY) chromosomes. I will give examples to document that gender and sex is a spectrum. Firstly, consider Klinefelter's Syndrome, where the Chromosomes XXY exist because there are 47 chromosomes, (Notes 1,2).

Next is the real world example of an (XYY) chromosome, also known as disomy Y; Double Y; Double Y syndrome; XYY karyotype; xyy syndrome; Y disomy syndrome (Note 10) and occurs at the rate of 1 in 1000, (Note 3).

Dr. Morgan McSweeney states it clearly. "Anyone who has taken basic biology, might be able to confidently give you an answer of two, (to the question of how many sexes are there?) with a chromosomal XX for females and XY for males. However, although that is what you would learn in basic biology, that's not quite true in real-world biology. I'm going to give you two examples. First example is someone with XX chromosomes may also have congenital adrenal hyperplasia, where one's body makes extra testosterone and 17-hydroxyprogesterone and this may lead to physical traits typically associated with "male" development including different genitalia (if left untreated) including larger muscles, different body hair distribution and a deeper voice. Yet the birth manifestation would be female. My second example, someone can have XY chromosomes, but have androgen insensitivity where the body's cells are unable to respond to the "male" hormones, resulting in the outwardly apparent "female" genital appearance, breast development, and a higher pitched voice. Despite have XY chromosomes, many individuals with complete androgen insensitivity identify as female. Some people say these are the exceptions to the rule, but in science, exceptions often help us realize that our understanding of the rules may need to be updated. We humans like to develop mental shortcuts and categories to simplify the world around us. But the real world of biology exists along spectrums, not dichotomies...", (Note 12).

Scientific American has a graphic that provides a visual guide to the complexity one must consider to help understand this subject matter, (Note 7). Please review that graph to try to grasp that complexity.

Nationwide Children's Hospital (NCH) states "Differences of Sex Development, (DSD), are conditions in which a child's genital appearance, gonads (e.g. ovaries, testes), and/or chromosomes (genetic material) may be atypical – potentially leading to differences in appearance at the time of birth or during pubertal development.

Differences in Sex Development (DSD) also known as “variations in sex development,” may be referred to by specific diagnostic names. While these conditions are rare (about 1 in 4,500), milder forms occur in about 1 in 200 people.

These conditions are often detected prenatally or in infancy, though some do not become evident until puberty, (Note 9). Or even 50 years into one's life, (Note 5).

For anyone to state "that there are only two sexes, male and female" is totally misinformed and mistaken because there are variations large and small based on the 1 in 200 documented by NCH, (Note 9). "Possibly 1 in 100 has some form DSD"; A clinical geneticist, Paul James, who discovered a woman patient that had both XX chromosomes in some cells and XY chromosomes in other cells, (she only found that information out in her 5th decade while pregnant with her third child via an amniocentesis test). "Her body was built of cells from two individuals, probably from twin embryos that had merged in her own mother's womb. And there was more. One set of cells carried two X chromosomes, the complement that typically makes a person female; the other had an X and a Y", (Note 5).

Scientific American article: "Sex Redefined: The Idea of 2 Sexes Is Overly Simplistic" states that biologists now think there is a larger spectrum than just binary female and male, (Note 5). This view is based on the entire world's population is on the sex spectrum, not a limited group as some people want you believe. Rules of law must be inclusive of all known possibilities to be useful. Limiting the scope by denying existence of people on the sex spectrum, alive today, is not acceptable for us now, nor for our future as that would be against their human rights, (Note 5).

"Sex chromosomes can have effect on gene expression, epigenetics, and hormones in relation to the brain. Increased knowledge about sex differences is important for development of individualized treatments against many diseases as well as understanding behavioral and pathological differences", (Note 6).

Another example documenting variation on the spectrum of sex: "In 2011, researchers showed that if another key ovarian gene, RSPO1, is not working normally, it causes XX people to develop an ovotestis—a gonad with areas of both ovarian and testicular development", (Note 5).

My final example (yet not exhaustive) is of Trisomy X, (aka triple X syndrome). If one has triple X then even if the presentation is of female, with "trisomy X, you may not notice any symptoms. Or you might be taller than your peers. You might have difficulty getting pregnant or have early menopause", (Note 13). These variations apply to not just physical being, yet also, mental orientation.

The evidence is overwhelming, sex gender identity is a spectrum with varying effects. What needs to be done is stop the violence toward people that are different, discrimination based on sex characteristics, and bullying (and criminalizing in some states, (Note 14)), as well as not stigmatizing this existing minority. If passed, these bills would contribute to an unhealthy existence of bullying, crime and if history provides any indication, violence toward fellow citizens.

The bills threaten to "roll back civil rights, ban transgender girls from participating on girls' sports teams, and open the door to harassment, bullying and abuse of all youth," said Gia Drew, executive director of Equality Maine, (Note 14)

The guise of any legislation proposed by groups or individuals who wish to oppress or control another human's right to be, to make any existing human invisible/ignored/deprived of their right to exist as they are, must be seen for what it is, an assault on human rights and a chipping away of people's rights.

In addition to the above, specifically:

LD 868 - An Act to Ensure Equity and Safety in Athletics, Restrooms, Changing Rooms and Housing at Elementary, Secondary and Postsecondary Schools should not be passed because there is no safety issue in reality, this bill misconstrues the idea that those on the spectrum of sex gender identity are a threat to others, where the individual is just trying to be their own best authentic self and to pass such a bill would just stigmatize the individual needlessly.

LD 1002 An Act to Protect Children's Identification by Requiring Public Schools to Use the Name and Gender Specified on a Child's Birth Certificate should not be

passed because the form options of only male/female have not kept up with the science and knowledge we humans have gained over time and to use such outdated dichotomy does not reflect real world existence and experience of a spectrum of gender/sex types modified by hormones and epigenetic expression.

LD 1704 An Act to Prohibit a School Administrative Unit from Adopting a Policy That Allows a Student to Use a Restroom Designated for Use by the Opposite Sex should not be passed because there is no "opposite" sex, there is a spectrum of sex gender identity types, with large and small variations and genetic conditions and epigenetic expressions.

LD 233 An Act to Prohibit Biological Males from Participating in School Athletic Programs and Activities Designated for Females When State Funding Is Provided to the School should not be passed because there needs to be allowance in proposed legislation for the spectrum of sex gender identity types.

LD 1134 An Act to Prohibit Males from Participating in Female Sports or Using Female Facilities should not be passed because there is a spectrum of sex gender types and the male/female construct determined at birth is outdated without additional scientific/technical understanding and in many cases time is needed to understand the effect of hormone variation and gene expression/epigenetics and where a kid aligns.

LD 1337 An Act to Amend the Maine Human Rights Act Regarding Female Athletes and Safety in Women's Single-sex Shelters should not be passed because this legislation does not include the important component in knowing where an athlete falls on the spectrum of sex gender type (as humans, we now know the birth certificate has limited capacity to determine the true placement on the spectrum for an individual) and the true nature of the individual cannot be determined by visual inspection alone, plus time may be needed to truly reflect that individual identity.

LD 1432 An Act to Remove Consideration of Gender Identity from the Maine Human Rights Act should not be passed because to do so, would reject the science of there being a spectrum of sex gender identity.

LD 380 An Act to Amend Certain Laws Regarding Gender-affirming Health Care Services should not be passed because such legislation ignores the science of and the existence of the spectrum of sex gender identity, ignores medical treatments, genetic variations and conditions.

To this end, I urge you to vote "ought not to pass" on these 'Bills', because there are not just 2 sexes: female (XX) chromosomes and male (XY) chromosomes, there is a spectrum of sex gender identity and that matters to each unique person and should not be determined by another individual, group or government entity. Gender identity has a place in improving the discussion based on scientific proof of a spectrum. It would be more appropriate to update the law to include all people on the very complex spectrum of sex gender identity instead of using an overly simplistic and outdated concept. It is no longer acceptable to have a cursory indication recorded on a birth certificate at birth to determine how the sex gender identity will manifest as the person develops by an official not versed in the complex details of chromosomal gender identification variances, genetic variances, and hormonal and epigenetic expression variances. And in cases this information is not apparent until puberty or even much later in life, as I've presented. Because we know better, we can do better than these bills.

Thank you for your time and attention to this important matter.

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Notes, sources:

1. <https://pmc.ncbi.nlm.nih.gov/articles/PMC9378311/>

2.

<https://genetic.org/qualitative-exploration-of-gender-identity-and-gender-questioning-xxy/>

3. <https://bmcendocrdisord.biomedcentral.com/articles/10.1186/s12902-020-0523-8>
4. <https://pmc.ncbi.nlm.nih.gov/articles/PMC3328784/>
5. <https://www.scientificamerican.com/article/sex-redefined-the-idea-of-2-sexes-is-overly-simplistic/>
6. <https://www.frontiersin.org/journals/neuroscience/articles/10.3389/fnins.2024.1340108/full>
7. <https://www.genderinclusivebiology.com/newsletter/poster-beyond-xx-and-xy>
8. <https://magazine.brighamandwomens.org/departments/feature-sidebar/bringing-sex-and-gender-into-medical-school-teaching#:~:text=Bartz%20teamed%20with%20JoAnn%20Manson,learning%20to%20the%20clinical%20setting.>
9. <https://www.nationwidechildrens.org/specialties/urology/spring-program#:~:text=What%20Are%20Differences%20of%20Sex,and%20others%20about%20the%20diagnosis.>
10. <https://rarediseases.info.nih.gov/diseases/5674/47xyy-syndrome>
11. <https://medicalxpress.com/news/2015-08-biological-sexual-gender-identity.html>
12. <https://www.facebook.com/share/r/1CccpDWaiy/>
13. <https://my.clevelandclinic.org/health/diseases/17892-triple-x-syndrome>
14. <https://mainemorningstar.com/2025/05/07/maine-gop-lawmakers-push-suite-of-bills-targeting-trans-students-amid-federal-scrutiny/>