

Mary Schwanke  
Vassalboro, Maine  
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Senator Carney, Representative Kuhn, and Honorable Members of the Judiciary Committee,

My name is Mary Schwanke, I'm a resident of Vassalboro, and I write to express my opposition to the bills, LD 233, LD 868, LD1134, and LD1337. I believe that we should not discriminate against transgender individuals; and specifically, I think we should not prohibit transgender girls and women from participating in school sports.

My opinions have been formed on the basis of current science and personal experience. I am a retired biology professor (I taught at UMF from 1987 to 2014), with a specialization in physiology. I was also a student-athlete in high school and college, an experience that has shaped my life in innumerable ways, including building my self-confidence, establishing life-long friendships, and improving my physical and mental health.

From the perspective of biology, it seems fairly well established that biological males, on average, outperform biological females in muscular strength, power, and endurance, primarily due to the effects of testosterone on physical changes during puberty. These fundamental differences that emerge at the onset of puberty are therefore thought to enable male athletes to outperform females in sports that rely on physical capacity. (Prior to puberty, differences between boys and girls in athletic performance are minimal). For this reason, the issue of whether transgender women athletes should be allowed to compete with cis-gender (biological) females has been raised as a matter of fairness. The issue has become especially controversial in areas of elite competition such as the Olympics and other international games, as well as professional sports, where significant financial benefits may be at stake.

However, a closer examination of the scientific literature reveals that the issue is more complicated than many would believe. There remain knowledge gaps in our understanding of sex differences in athletic performance and the training response of males and females across many different sports. Despite the sex differences that develop during puberty, there are still large areas of overlap in performance, the degree of which is dependent upon the physical demands of the activity vs. acquired skill level. The rate of improvement in athletic performance of women has exceeded that of men in the last hundred years across many sports, as women have gained access to more training, equipment, facilities, and opportunities. Research is needed on sex differences in brain function and motor control that may affect athletic performance, as well as explorations of the ways in which women tend to outperform men on a population level in certain attributes relevant to sports (e.g., endurance, recovery, perfusion, balance).

Unfortunately, there has been relatively little research on cis and trans gender differences, likely because trans individuals make up only ~0.5% of the general population. And the body of

research on transgender athletic performance is even more limited; this population being such a small proportion of highly trained athletes, making study subjects difficult to recruit. Gender affirming hormone therapy, used to lower testosterone levels in transgender women (biological males who identify as female in terms of gender identity) can reverse at least some of the changes initiated at puberty, with some differences disappearing after 1-3 years of treatment. A recent study showed that while suppression of testosterone among transgender women (who already completed masculinizing puberty) is associated with only minimal reductions in strength after one year of treatment, results in this cohort also suggest that transgender women lack lower body anaerobic power compared with both cis-gender men and cis women. These findings align with other studies that find strength and muscle mass do not adapt as quickly to gender affirming hormone therapy as cardiorespiratory parameters – e.g., relative aerobic capacity of trans women is decreased to levels similar to those of cis women. Little is known about the athletic performance changes in transgender athletes and the physiological and anatomical mechanisms involved. Longitudinal studies are needed to determine whether longer duration hormone suppression would result in declines in strength and endurance in transgender women. Scientists need to conduct studies with specific control groups to generate the biological and sports performance data for individual sports to inform the fair inclusion or exclusion of these athletes.

There are other factors affecting athletic ability. Overall, transgender individuals are less physically active compared to their cis-gender counterparts. A systematic review found that the primary barrier to sports participation was “the lack of inclusive and comfortable environments” and prior negative experiences in sports. Social factors like nutrition, training/coaching, and access to equipment have a large impact on athletic performance. The impacts of inclusion policies, or lack thereof, are significant and reach far beyond sport to affect how trans people are included in other areas of society. Sport can have a positive impact on the physical and mental health of transgender people and can therefore contribute to enhanced wellness.

At the level of school sports, the issue of trans girls and women participating in high school and intercollegiate athletics has received outsized attention, especially given the tiny number of transgender athletes in question. This group makes up a very small fraction of competitors – e.g., less than 0.002% of NCAA athletes - and most do not dominate their sport or win championships. Instead, we should be focusing attention on issues such as lack of investment in girls’ and women’s sports, pay disparities, and abuse scandals that pose far greater threats to women’s sports than the inclusion of transgender athletes.

Those favoring bans on transgender athletes tend to ignore differences amongst cis-only populations that lead to advantages (or disadvantages) in athletic and sport performance. Differences in natural ability, genetic predispositions, childhood experiences/training, and naturally occurring variations in testosterone levels - factors beyond the control of the individual athletes - result in a wide variation in athletic ability among girls and women. And yet we are focused only on excluding transgender individuals from sports and athletics, based on concerns of inequity or injury risk to cis-peers.

From a psycho-social perspective, the issue is perhaps more well understood. Transgender individuals are more likely to be overweight or obese, and have lower average bone mineral density than their cis-gender counterparts. Forty percent of transgender adults and 35% of transgender youth have attempted suicide in their lifetime, and experience a high prevalence of depression, anxiety and eating disorders. Those transgender girls and women who participate in sports do so, for the most part, for the same reasons as their cis-gender counterparts - for fitness, fun and bonding with their peers. Barriers to participation would be especially detrimental to trans individuals who may already be experiencing negative psychological stress. Our schools should create a supportive environment where every student can receive an education and participate in school activities. Laws that restrict athletic/sports participation based on sex will further decrease health and fitness opportunities and stigmatize transgender individuals.

As a retired educator, one of my greatest concerns is that these bills could affect many girls and women, not just trans individuals. In today's cultural environment, girls and women who don't fit the societal norm in terms of size, appearance, etc. are already subject to scrutiny and sometimes harassment. The bans being proposed could invite even greater harassment of any girl or woman suspected of being transgender, especially those wanting to play a sport. The benefits of being a student athlete are numerous, and we cannot afford to lose participation in sports by girls or women out of fear of being harassed or subjected to "gender checking".

In terms of legal aspects, any attempt to enforce such a ban blatantly violates the privacy of all Maine women and girls. Title IX prohibits sex discrimination and does not require a prohibition on transgender or intersex athletes. And the Maine Human Rights Act adopted protections for gender identity in 2005. Please consider that any laws, state or federal, that remove civil rights from trans human beings means that these individuals can be discriminated against in many other ways, including employment, housing, and public accommodations.

Thank you for reading my testimony . I urge you to vote "Ought not to Pass" on these bills.

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