



**Independent**<sup>®</sup>  
Women's Forum

**Independent Women's**  
LAW CENTER

# COMPETITION

Title IX, Male-Bodied Athletes, and  
the Threat to Women's Sports





**Independent Women's Forum ("IWF")** is a nonprofit, non-partisan 501(C)(3) organization founded by women to foster education and debate about legal, social, and economic issues. IWF is dedicated to developing and advancing policies that aren't just well-intended, but actually enhance people's freedom, opportunities and well-being.



**Independent Women's Law Center ("IWLC")**, a project of IWF, advocates—in the courts, before administrative agencies, in Congress, and in the media—for equal opportunity, individual liberty, and respect for the American constitutional order.





# COMPETITION

## Title IX, Male-Bodied Athletes, and the Threat to Women's Sports

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***“[T]here will always be significant numbers of boys and men who would beat the best girls and women in head-to-head competition. Claims to the contrary are simply a denial of science.”***

**MARTINA NAVRATILOVA**

**Winner of 18 Grand Slam Tennis Singles Titles**






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A photograph of a swimming pool with lane lines and starting blocks. The pool is blue, and the lane lines are white with red floats. The starting blocks are white with blue and red accents. The background shows a tiled wall with blue and white tiles.

***“(I) f sex classifications are abandoned...female athletes would almost always lose to males.... This is as true of athletes at the highest echelons like Serena Williams and Katie Ledecky as it is of the development athletes in high school, college, and beyond who aspire to take their place.”***

PROF. DORIANE LAMBELET COLEMAN  
Duke Law School



# EXECUTIVE SUMMARY

It is undisputed that the average male is bigger, faster, and stronger than the average female. Accordingly, when it comes to athletics, single-sex competitions have long been the norm.

Increasingly, however, males and transgender women (who were born male) are seeking to participate in women's sports. In the name of "inclusion," females are being asked to step aside to make room for these athletes. This isn't fair. And it undermines Title IX, the landmark legislation passed by Congress to increase opportunities for women and girls.

To help athletic associations, policy-makers, and courts understand the growing threat to female athletes, Independent Women's Forum and Independent Women's Law Center have prepared this report. In it, we summarize American law regarding sex discrimination and athletics, analyze the evidence regarding physiological sex differences and the male-female athletic gap, and review testimony from just a few of the many females who have competed with or against male-bodied athletes.

The evidence is clear: In almost every sport, allowing natal males to compete on women's teams or in women's events will put female athletes at a significant competitive disadvantage. In some cases, it will deny female athletes the opportunity to compete at all. Female athletes have fought too long and too hard for equal athletic opportunity to let that happen.




PHOTO BY KATHERINE FREY/THE WASHINGTON POST VIA GETTY IMAGES



PHOTO BY DANIEL POCKETT/AFL MEDIA VIA GETTY IMAGES





***“I would have won my first-ever high school track meet if it weren’t for this [male-bodied] athlete...It was very disappointing.”***

MARGARET ONEAL  
Hawaii



*Placed 2nd behind a transgender competitor who previously competed in high school sports as a male.*

# INTRODUCTION

In February 2020, high school student **Margaret Oneal** of Maui, Hawaii, lost a 400-meter women's track race to a transgender/male-bodied athlete.\* It was the first and only race of Oneal's freshman year at St. Anthony School in a track season cut short by the COVID-19 pandemic.

Just a year and a half earlier, Oneal's mother, Team USA Masters track athlete **Cynthia Monteleone**, also competed against a male-bodied athlete at the 2018 World Masters Athletics Championships in Málaga, Spain. Monteleone beat Yanelle Del Mar Zape by a hair in the 200-meter race. But Zape beat Monteleone's teammate Rachel Guest at the April 2019 World Championship indoor meet in Toruń, Poland.<sup>1</sup>

This mother-daughter story is just one illustration of the tension caused by the growing participation of transgender athletes in women's sports. But it is not only transgender athletes who are challenging eligibility requirements for women's sports. Across the U.S., high school boys increasingly are seeking spots on women's field hockey and volleyball teams where the schools offer no corresponding men's team.

While the total number of natal males seeking to compete in women's sports is relatively small, the harm they cause is not insignificant. In **head-to-head competitions**, allowing even one or two male-bodied athletes to compete in the women's division can severely limit the chances of success for female athletes. On **teams with limited roster spots**, allowing even one natal male to participate inevitably takes a spot and playing time (and, possibly, a scholarship) from a female athlete. And in many sports, allowing male-bodied athletes to compete with and against females will increase the risk of injury to female athletes. As the number of natal males seeking to compete in women's sports grows, the risks to female athletes also grow. Claims to the contrary deny science, defy logic, and undermine Title IX.

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\*A word about terminology: Throughout this report, we use the term "**male-bodied athlete**" or "**natal male**" to clarify the birth sex of a person who is not female but who is competing (or seeking to compete) on a women's team. More generally, we use the terms "**male**" and "**female**" to refer to the two main biological categories into which humans and most other living things are divided based on physical and physiological features including chromosomes, gene expression, hormone levels and function, and reproductive/sexual anatomy. We use the term "**sex**" to refer to the condition of being either male or female as observed at birth. (Sex differs from "**gender**", which is related to identity, expression, and social expectations/norms.) We use the term "**gender identity**" to describe the way in which a person understands and expresses himself or herself as male, female, or something else. And we use the term "**transgender**" to refer to people whose gender identity does not align with their observed sex at birth.





***“Those with a male sex advantage should not be able to compete in women’s sport.”***

**SHARRON DAVIES**  
British Olympic Silver Medalist





# I. WOMEN'S SPORTS AND AMERICAN LAW

## A. Title IX

Almost 50 years ago, Congress enacted Title IX, the landmark sex equality law, as part of the Education Amendments of 1972. Title IX bans sex discrimination in all federally-funded education programs. It states:

*No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving federal financial assistance.*<sup>2</sup>

Congress enacted Title IX to end unjust discrimination in education<sup>3</sup> and to expand educational opportunities for women and girls.<sup>4</sup> Although the statute originally made no mention of athletics, in 1974, Congress passed an amendment proposed by Senator Jacob Javits of New York that directed the Department of Health, Education, and Welfare to issue regulations “which shall include with respect to intercollegiate athletic activities reasonable provisions considering the nature of particular sports.”<sup>5</sup>

**Title IX's athletic regulations,** promulgated pursuant to the Javits Amendment, state that schools “may operate or sponsor separate teams for members of each sex where selection for such teams is based upon competitive skill.”<sup>6</sup> For non-contact sports, the regulations allow schools to offer **sex-specific athletic teams,** so long as the sport is offered to both sexes.<sup>7</sup> For contact sports, sex-based exclusions are permitted even where the school does not offer a team for the excluded sex.<sup>8</sup> Educational institutions are, therefore, permitted to operate single-sex athletics teams,<sup>9</sup> so long as they provide “**equal athletic opportunity for members of both sexes.**”<sup>10</sup> Schools must comply with Title IX irrespective of various local rules and irrespective of the policies of individual athletic associations.<sup>11</sup>

The federal government has taken steps to require (not just allow) schools to let male-bodied athletes play on female teams and against female athletes.

## B. Women's Progress in Sports

Title IX's binary conception of sex, under which schools may operate separate teams for male and female athletes helped to usher in a period of unprecedented athletic opportunity and achievement for women and girls.

Prior to the passage of Title IX, only one in 27 high school girls participated in organized sports. By 2016, two in five participated.<sup>12</sup> Only 31,852 women played college sports during the 1971-1972 school year.<sup>13</sup> **During the 2019-20 school year, the number of female college athletes reached 221,212.**<sup>14</sup>

Since the passage of Title IX, there has also been a steady increase in female participation in the **Olympic games**. In 1972, there were 84 women and 316 men in the U.S delegation to the Summer Olympics in Munich, Germany.<sup>15</sup> At the 2016 Rio games, there were 291 women and 263 men in the U.S. delegation.<sup>16</sup> At the 2020 Summer Olympics, held in Tokyo in 2021, there were 329 women and 294 men in the U.S. delegation.<sup>17</sup>

The significant increase in the number of female athletes since the 1970s was made possible by a binary approach that created separate teams for females.




PHOTO BY ISTOCKPHOTO

The female share of athletic scholarships has increased dramatically as well. In 1972, almost no such scholarships existed. By 2004, women received 45% of athletic scholarship dollars.<sup>18</sup> During the 2019-2020 school year, there were **84,901 athletic scholarships available to female athletes.**<sup>19</sup>

None of this progress in women's sports would have been possible without a binary approach to athletics that takes into account the average differences in the athletic performance of males and females.





***“We’re all about equality for women in sport but right now that equality is being taken away from us. . . . Unfortunately, there’s nothing we can do because every time we voice it we get told to be quiet.”***

**TRACEY LAMBRECHS**  
Former Women’s Olympic Weightlifter (2016 Rio), New Zealand

PHOTO BY MICHAEL BRADLEY VIA GETTY IMAGES

*Held several New Zealand national records that were broken by Laurel Hubbard, who formerly competed as a male.*





***NCAA Division II runner CeCe  
(formerly Craig) Telfer of  
Franklin Pierce University  
wins the 400 meter  
hurdles on May 25, 2019.***



## II. THE THREAT AND THE PUSHBACK

Challenges to single-sex athletic competition fall into three primary categories: (a) policies that allow transgender athletes who were born male to participate in women's sports; (b) policies that allow male athletes to participate on women's teams (usually field hockey or volleyball) where the institution offers no male counterpart; and (c) efforts to eliminate sex-specific sports altogether.

### A. Transgender Participation in Women's Sports

#### Athletic Associations

A growing number of state, national, and international athletic associations allow transgender participation in women's sports. The rules for participation vary by association.

- At least 19 **state athletic associations** allow athletes to compete according to their gender identity *without restriction*, meaning without surgery or hormone therapy.<sup>20</sup> In these states, the only requirement for participation on women's teams is self-identification as a female.<sup>21</sup>
- The **National Collegiate Athletic Association (NCAA)** allows natal males to compete on women's teams once they have completed *one calendar year of testosterone suppression treatment*.<sup>22</sup> In April 2021, the NCAA's Board of Governors issued a statement "firmly and unequivocally" supporting the participation of transgender (natal male) athletes on women's collegiate athletic teams.<sup>23</sup>
- The **International Olympic Committee (IOC)** allows natal males to compete as women, provided that they have declared a female gender identity (and do not change it, for sporting purposes, for at least four years) *and* can demonstrate testosterone levels below 10 nanomoles per liter for at least a year.<sup>24</sup> [By comparison, most females, including elite female athletes, have testosterone levels of 0.12 to 1.79 nanomoles per liter; the normal testosterone range for post-pubescent males is 7.7 to 29.4 nanomoles per liter.]<sup>25</sup>



## Federal law

Recently, the federal government has taken steps to require (not just allow) schools to let transgender/natal male athletes play on female teams and compete against female athletes. On his first day in office in 2021, President Joe Biden issued **Executive Order 13988**, requiring the Department of Education to develop a plan to address “discrimination on the basis of gender identity,” including “deni[al of] access to . . . school sports.”<sup>26</sup> The Biden administration based its order on the Supreme Court’s 2020 ruling in *Bostock v. Clayton County*,<sup>27</sup> which held that Title VII of the Civil Rights Act of 1964 prohibits *workplace* discrimination against gay and transgender employees.\*\*

By extending *Bostock* to education, the administration is telling schools that they may never take biological sex into consideration, including with respect to sports

In June, 2021, the **Department of Education** complied with Executive Order 13988 by issuing a **Notice of Interpretation** of Title IX. The Notice states that the Department will investigate, under threat of termination of an educational institution’s federal financial assistance, any allegations

of individuals being “excluded from, denied equal access to, or subjected to sex stereotyping in academic or extracurricular opportunities” because of “gender identity.”<sup>28</sup> By unilaterally extending *Bostock* beyond the employment context to education, the administration is telling schools that they may never take biological sex into consideration, including with respect to sports.<sup>29</sup>

### ***To be clear, the Department of Education’s Notice of Interpretation is unlawful.***

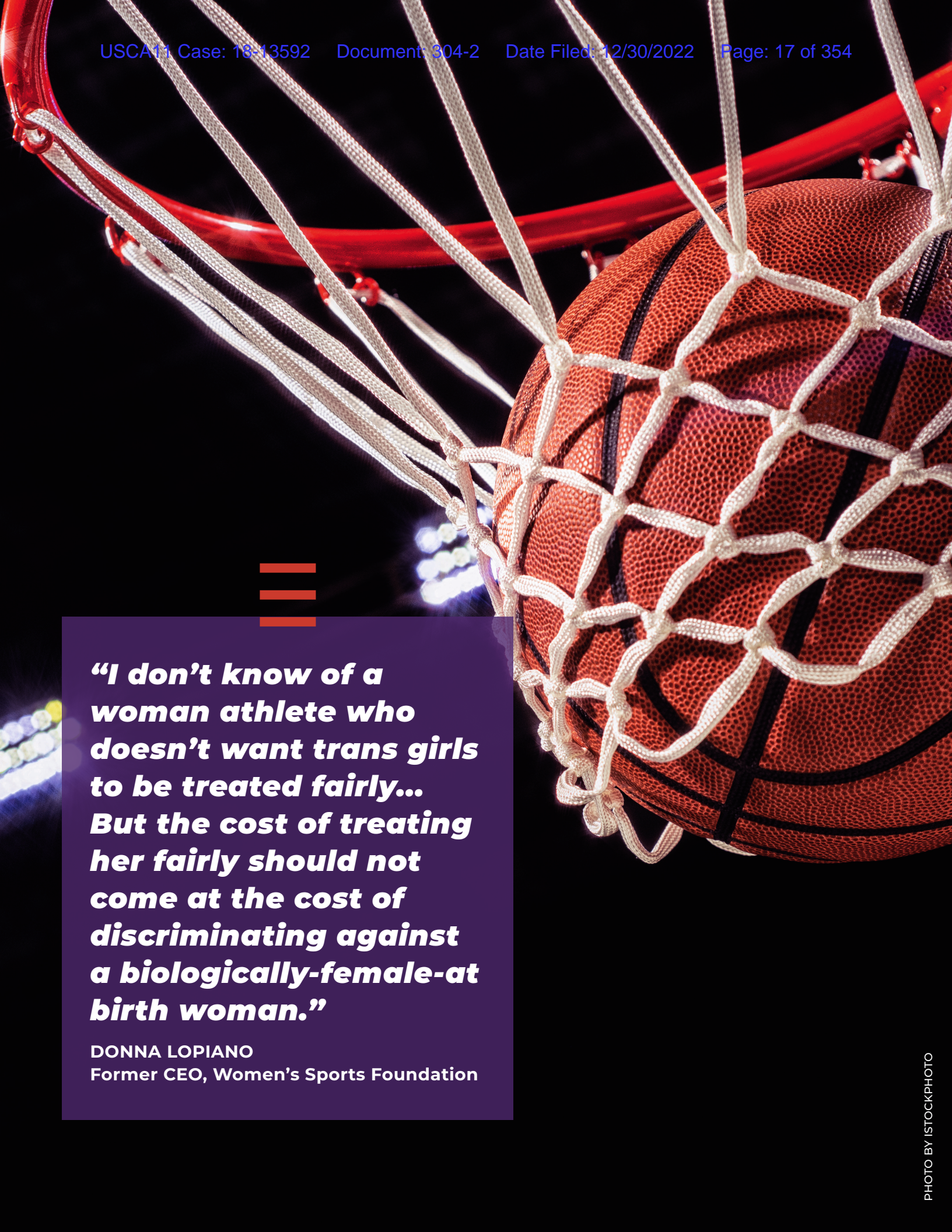
It is not the role of an administrative agency to make or change federal law. And the Supreme Court was crystal clear that *Bostock* concerned only Title VII (employment law), not Title IX (education). But by threatening revocation of federal financial assistance, the Department of Education’s Notice of Interpretation attempts to coerce schools into requiring women’s teams to include transgender athletes.

**Congress** has also entered the fray, attempting to codify transgender inclusion requirements across federal law. H.R. 5, known as the “Equality Act,”<sup>30</sup> would redefine “sex” under numerous federal statutes to include “gender identity.” If passed, **the Equality Act** would (among other things)<sup>31</sup> accomplish legislatively what the Biden administration has attempted to do administratively: require schools and athletic associations to open up girls’ and women’s sports to natal males who identify as female.<sup>32</sup>

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\*\* The *Bostock* decision did not purport to interpret Title IX, which applies to educational institutions that receive federal funds.





***“I don’t know of a woman athlete who doesn’t want trans girls to be treated fairly... But the cost of treating her fairly should not come at the cost of discriminating against a biologically-female-at birth woman.”***

**DONNA LOPIANO**  
Former CEO, Women’s Sports Foundation



## B. Male Participation on Women's Teams without a Male Counterpart

Across the U.S., many schools offer field hockey, volleyball, or other sports for females only. Significantly, schools initially created many of these programs to increase opportunities for female athletes so as to comply with Title IX.

Although female-only teams do not violate federal law,<sup>33</sup> they may run afoul of some state laws. For example, **Supreme Judicial Court of Massachusetts** has held that the state equal rights amendment prohibits schools from banning boys from girls' teams where the school offers no male counterpart.<sup>34</sup> As a result, and despite protest from parent groups,<sup>35</sup> Massachusetts today requires that public schools allow boys to play on girls' teams (such as field hockey and volleyball) where the school does not offer a boy's team. This policy applies even though such teams traditionally have limited rosters and need to cut students after tryouts.<sup>36</sup> In other words, males are allowed to play even where their participation means that female athletes get cut from the team or lose playing time.

**For gender activists, trans-inclusion is merely a vehicle for abolishing single-sex sport altogether.**

In applying *Bostock* to Title IX, the **Biden administration** has (perhaps inadvertently) adopted the position of the Massachusetts Supreme Judicial Court, requiring that schools across the country allow males to try out for and

compete on women's teams where the school does not offer the same sport for men. A quick review of the reasoning of *Bostock* illustrates why.

Prior to *Bostock*, courts interpreted Title VII (and, indeed, most federal sex-discrimination laws) as prohibiting: (1) discrimination against individuals because they are female or male and (2) policies that favor one sex over the other. Courts did *not* interpret federal law as prohibiting all policies that take biological sex into consideration. For example, prior to *Bostock*, courts would not have held an employer liable for sex discrimination under Title VII simply for offering separate male and female bathrooms, even though an employer clearly takes biological sex into consideration in providing separate sex-specific facilities.

In *Bostock*, however, the Court reasoned that discrimination against a transgender employee necessarily requires awareness of the employee's sex at birth in comparison to that employee's gender identity or mode of gender expression at work. Accordingly, the Court concluded that discrimination on the

basis of transgender status *is* discrimination “because of sex,” as prohibited by Title VII. *Bostock*, thus, established a “**but for**” test for determining liability.<sup>37</sup> This means that any employer who relies, even in part, on biological sex when making a particular decision or adopting a particular policy may be held liable for sex discrimination under Title VII.



The Biden administration’s decision to extend this reasoning to the education context has serious implications for women’s sports.

A coach who decides that an otherwise qualified male athlete cannot play on a women’s team is clearly making a decision that would have been different *but for* the particular student’s sex,<sup>38</sup> which *Bostock* seems to prohibit.<sup>39</sup>

Suppose, for example, that a male student who is cut from the men’s lacrosse team then tries out for the women’s team and demonstrates that he is a better player than any of the female students. Or suppose that a male student wants to play college field hockey, but his college only offers women’s field hockey (as is the case at most American colleges that offer the sport). The Department of Education’s Notice of Interpretation forbids coaches from denying roster spots to athletically superior male players simply because they are male.<sup>40</sup>

### C. Efforts to Eliminate Single-Sex Sport Altogether

Some gender ideologues argue for the elimination of sex-specific sports altogether.<sup>41</sup> These activists claim that allowing males and females to compete in separate divisions reinforces pernicious stereotypes about male and female abilities and perpetuates the presumption that sex is binary.<sup>42</sup>

Writing in the *Washington Post* in April 2021, for example, Professor Elizabeth Sharrow of the University of Massachusetts argues that single-sex athletic teams are a form of segregation that damages women and girls.<sup>43</sup> For gender activists, like Sharrow, trans-inclusion is not a goal in and of itself: it is a vehicle for abolishing single-sex sports.



Sharrow's goal of mandatory sex-integration in sport could very well become the law of the land if the United States adopts the proposed **Equal Rights Amendment (ERA)** to the Constitution. Although the ERA makes no mention of sports, its language is sufficiently broad that courts would likely interpret it as prohibiting the separation of the sexes in most contexts,<sup>44</sup> including athletics.<sup>45</sup>

The language of the ERA is so broad that courts would likely interpret it as prohibiting the separation of the sexes in most contexts, including sports.

But activists may not have to wait for a constitutional amendment to achieve their objective of open, sex-neutral sport. As noted above, the Biden administration has already taken steps unilaterally to apply *Bostock* to Title IX (despite Justice Gorsuch's insistence that the Court's decision was limited to

the employment context). Applying *Bostock*'s "but for" test to sports will call into question not just individual coaching decisions about particular players, but the existence of single-sex teams altogether.<sup>46</sup> Indeed, if federal courts (incorrectly) hold that *Bostock* applies to Title IX, as some already have,<sup>47</sup> it may become unlawful ever to separate athletes into men's and women's teams because to do so would require consideration of the participants' sex, the very thing that Justice Gorsuch's opinion in *Bostock* prohibits.

## D. The Pushback

Across the country, a number of federal and state legislators have begun to push back against efforts to force women's sports to include natal males.

Before leaving Congress in 2020, Rep. Tulsi Gabbard (D-HI) joined forces with Rep. Markwayne Mullin (R-OK) to introduce the "**Protect Women's Sports Act.**"<sup>48</sup> This bill seeks to statutorily define "sex" for purposes of athletics under Title IX as biological sex at birth, not gender identity.<sup>49</sup>

In March 2020, Idaho became the first state to pass a law limiting eligibility for women's teams to natal females.<sup>50</sup> Mississippi, Montana, Florida, West Virginia, Tennessee, Arkansas and Alabama have all followed suit, and a number of other states currently are considering similar measures.<sup>51</sup>

Unfortunately, some of the proposed legislative "fixes" miss the mark by, for example: (1) broadly covering youth and non-competitive sports without exception

and/or (2) excluding college level competitive sports (where the male physiological differences are most prominent and most disadvantage female athletes).

Although the laws that aim to protect women's sports differ from state to state, they all expressly contradict the federal Department of Education's Notice of Interpretation. This conflict between state legislative authority and federal administrative authority will, ultimately, have to be resolved in court.

Indeed, advocates for inclusion of natal males in women's sports have filed at least three lawsuits seeking to block enforcement of several of the above mentioned state laws. Ironically, these suits argue that state attempts to prohibit male-bodied athletes from participating in women's sports constitute unlawful sex discrimination under the Equal Protection Clause of the 14th Amendment and under Title IX, the law passed to expand opportunities for women and girls.<sup>52</sup>

**State efforts to protect women's sports expressly contradict federal mandates, setting up a conflict that, ultimately, will be resolved in court.**

On August 30, 2021, attorneys general from 20 states countered with a lawsuit of their own. The lawsuit, filed in the U.S. District Court for the Eastern District of Tennessee, seeks (among other things) a declaration that Title IX does not prohibit schools from offering single-sex sports teams or from determining eligibility for those teams on the basis of sex at birth. The lawsuit also seeks an injunction prohibiting the Department of Education from enforcing its Notice of Interpretation or any other non-binding guidance that administratively rewrites Title IX.<sup>53</sup>




PHOTO BY ALEX EDELMAN/AFP VIA GETTY IMAGES

Former Rep. Tulsi Gabbard (D-HI)

In resolving these cases, courts will need to consider the specific language of the legislation at issue (including the legal definition of "sex" under Title IX), the authority (if any) given to the Department of Education's Notice of Interpretation, and potentially the scientific evidence regarding the male-female athletic differential.





***“I didn’t feel it was fair for [this athlete] to be playing [and taking] away a position from girls who could have started, which to me was so wrong on so many levels.”***

DESTINY LABUANAN  
Maui, HI

*Played on the same high school volleyball team as a student who had previously competed on the school’s men’s team.*



# III. THE DATA

It is undisputed that the average male is bigger, faster, and stronger than the average female. These differences in athletic ability are not just the effect of human variation between top athletes and non-athletes. Nor are they the result of socialization, unequal opportunity, or lack of funding.<sup>54</sup> Rather, the male-female athletic differential is almost entirely the result of biology.<sup>55</sup>

## A. Physiological Differences Between Males and Females

### Men have:



larger hearts



larger lungs



more bone mass



more muscle mass



stronger muscles



less fat

Biological differences between females and males begin *in utero*,<sup>56</sup> becoming vastly more pronounced during puberty. Below are just some of the many differences that contribute to the male athletic advantage:

### Hearts, Lungs, Hemoglobin, and Aerobic Capacity

- Males have larger hearts than females,<sup>57</sup> which helps to pump blood to the muscles more efficiently.<sup>58</sup>
- Males have larger lungs than females,<sup>59</sup> which helps to oxygenate the blood.<sup>60</sup>
- Males have about a 12% higher concentration of hemoglobin than females,<sup>61</sup> which helps to transport oxygen in the blood.<sup>62</sup>
- As a result, males typically have better aerobic capacity than females.<sup>63</sup>

### Bones/Skeletal Structure:

- Grown males are, on average, 4.5 inches taller<sup>64</sup> and have longer, larger, and denser skeletal structures<sup>65</sup> than grown females.
- Grown males tend to have greater bone mass, even after taking body size into account.<sup>66</sup>
- In some parts of the body, males have different bone geometry than females.<sup>67</sup>
- As a result, male and female bodies have different biomechanics, with the female body “set up to produce less force in running, jumping and throwing.”<sup>68</sup>

### Muscle Mass, Muscle Strength, and Fat Distribution

- Grown males have approximately 36% greater muscle mass than grown females (with about 40% more muscle mass in the upper body, and 33% more muscle mass in the lower body).<sup>69</sup>



- Grown males have more fast-twitch muscle than females, which allows them to generate greater force, speed, and anaerobically-produced energy than females.<sup>70</sup>
- Grown males have less fat (and a different distribution of body fat) than grown females.<sup>71</sup>
- Even in males and females with similar body mass, male muscles are stronger than female muscles (both absolutely and relative to lean body mass).<sup>72</sup>

## B. The Male Athletic Advantage

How do physiological differences impact performance? Scientists believe that when it comes to sport-specific actions, such as tackling or throwing, the physiological differences between males and females combine in ways that are **“likely synergistic”** and that “widely surpass the sum of individual magnitudes of advantage in isolated fitness variables.”<sup>73</sup>

### Male puberty confers a significant, and lasting, athletic advantage.

It is widely believed that significant athletic gaps do not emerge until around age 12.<sup>74</sup> Nevertheless, boys may carry some athletic advantage over girls even in **childhood**. For example, a 2012 study

of physical fitness differences between pre-pubescent boys and girls found that boys performed better in tests of aerobic fitness, strength, speed, and agility, while girls performed better in tests of balance and flexibility.<sup>75</sup> Some studies also indicate significant sex differences in throwing ability from an early age.<sup>76</sup> And other studies indicate that boys have an advantage over girls in running, jumping, and aerobic capacity even before the age of ten.<sup>77</sup>

Irrespective of the debate surrounding any childhood athletic gap, the science is consistent and irrefutable that the 20-fold boost in testosterone that occurs during **male puberty**<sup>78</sup> creates a significant, and lasting, athletic advantage for men. Because most American boys begin puberty between ages 9 and 14,<sup>79</sup> **the male-female athletic differential is significant by age 15.**<sup>80</sup>

This advantage is particularly prominent with respect to activities where speed, size, power, strength, or cardiorespiratory/anthropometric characteristics are determinative of performance.<sup>81</sup> Males may also have an advantage in sports where aggressive behavior and risk taking influence performance, as these behaviors are more common in individuals exposed to higher levels of testosterone.<sup>82</sup>