

IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA  
CHARLESTON DIVISION

B.P.J., by her next friend and mother,  
HEATHER JACKSON,

*Plaintiff,*

v.

Civil Action No. 2:21-cv-00316  
Hon. Joseph R. Goodwin, District Judge

WEST VIRGINIA STATE BOARD OF  
EDUCATION, HARRISON COUNTY BOARD  
OF EDUCATION, WEST VIRGINIA  
SECONDARY SCHOOL ACTIVITIES  
COMMISSION, W. CLAYTON BURCH in his  
official capacity as State Superintendent,  
DORA STUTLER in her official capacity as  
Harrison County Superintendent, PATRICK  
MORRISEY in his official capacity as Attorney  
General, and THE STATE OF WEST VIRGINIA,

*Defendants,*

and

LAINY ARMISTEAD,

*Defendant-Intervenor.*

**DEFENDANTS HARRISON COUNTY BOARD OF EDUCATION  
AND DORA STUTLER'S RESPONSE IN OPPOSITION TO  
PLAINTIFF'S MOTION FOR SUMMARY JUDGMENT**

Defendants Harrison County Board of Education (“HCBOE”) and County Superintendent Dora Stutler (“Stutler”) (collectively the “County Board”), by counsel, submit that, in her motion for summary judgment, Plaintiff has provided no basis for holding *the County Board* liable under Title IX (brought against the HCBOE) or the Equal Protection Clause (“EPC”) (brought against Stutler). Rather, Plaintiff more generally argues that H.B. 3293 violates Title IX and the EPC. However, even if H.B. 3293 causes a violation of Title IX and/or the EPC, the County Board cannot be liable to Plaintiff as a matter of undisputed fact and established federal law.<sup>1</sup>

Title IX does not impose liability on the HCBOE unless its own intentional misconduct violates B.P.J.’s rights under Title IX. Yet, nowhere in her summary judgment briefing does Plaintiff allege that the HCBOE engaged in any intentional misconduct of its own. Nor can she do so because the undisputed facts demonstrate that the HCBOE did not engage in any intentional misconduct of its own. Rather, the HCBOE is required to act in accordance with State law. It is the state law that B.P.J. claims causes her harm, not the HCBOE. Regardless of whether Plaintiff has a viable Title IX claim against some other party, she has no viable claim against the HCBOE. To find otherwise would be to impermissibly impose liability on the HCBOE when the HCBOE is not at fault, which is contrary to both U.S. Supreme Court and Fourth Circuit precedent.

Similarly, Stutler cannot be liable to Plaintiff under the EPC unless the County Board, presented with various alternatives, deliberately chose a course of action that violates B.P.J.’s equal protection rights. In other words, Stutler could be liable only if the County Board’s own policies, procedures, or customs violate B.P.J.’s rights. Yet, again, nowhere in her summary

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<sup>1</sup> In addition to her supporting memorandum, Plaintiff also filed a document entitled “Plaintiff’s Statement of Undisputed Facts.” The County Board objects to this document because many of the alleged facts set forth in the document are in fact disputed, including but not limited to, various facts set forth in the following paragraphs: 16, 17, 18, 28, 44, 49, 58, 71, 72, 85, 88, 89, 90, 95, 108, 115, 131, 132, 133 and 134. The County Board also objects because the document uses and cites to Plaintiff’s expert witness opinions as undisputed facts. Those expert opinions, however, are in dispute.

judgment briefing does Plaintiff allege that the County Board has any choice regarding its enforcement of H.B. 3293 or that it has its own policy, procedure, or custom that violates B.P.J.'s rights. That is because the County Board undisputedly has no choice regarding whether to enforce H.B. 3293, and the County Board has no policy, procedure, or custom of its own that violates any of B.P.J.'s equal protection rights. Rather, H.B. 3293 is a state law that was proposed and enacted by the state legislature and was signed by the West Virginia Governor. Clear precedent from this Court, the Fourth Circuit, and the U.S. Supreme Court establishes that Stutler cannot be liable for any EPC violation under these circumstances.

If the Court should decide that a violation of the EPC exists (or might exist) and that Stutler is a proper defendant for the purpose of an injunction, then the County Board is still entitled to summary judgment as to any monetary award to Plaintiff, including, but not limited to, any award of attorneys' fees and costs. Clear precedent from this Court and the Fourth Circuit establish that, when a county official is sued in her official capacity because of her enforcement of *state* law, then suing the county official is a means of suing the state, and the *state* – not the county or the county official – is solely responsible for any monetary award.

Finally, while the HCBOE and Stutler did not have any role in the passage of H.B. 3293, B.P.J. has asserted claims seeking equitable and monetary damages (including costs, expenses, and attorneys' fees) against them. Thus, the HCBOE and Stutler find themselves in the position of having to defend a statute they had no part in creating or passing. To that extent, they observe that a clear legal basis exists for finding that H.B. 3293 survives legal scrutiny under Title IX and the EPC, and thus, the County Board is not liable to B.P.J for this additional reason.

Because the facts and law relevant to Plaintiff's motion for summary judgment overlap with those cited in the County Board's motion for summary judgment, the County Board hereby incorporates by reference "Defendants Harrison County Board of Education and Dora

Stutler’s Memorandum of Law in Support of Their Motion for Summary Judgment” (Doc. 281).

## I. ARGUMENT

### A. Standard of Review.

Rule 56 of the Federal Rules of Civil Procedure provides that the “court shall grant summary judgment if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.”

### B. **The undisputed facts and Plaintiff’s motion for summary judgment demonstrate that any injury B.P.J. suffers is not caused by any HCBOE policy or intentional conduct of the HCBOE. Thus, the HCBOE cannot be liable under Title IX.**<sup>2</sup>

In her motion, as in her Amended Complaint, Plaintiff does not claim that the HCBOE has any policy or custom of its own that injures B.P.J. Rather, she much more generally argues that, at least as it applies to her, H.B. 3293 violates Title IX. (Doc. 291, at 19-24, 29; Doc. 290, at 20 (¶ 105).) Even if Plaintiff is correct that H.B. 3293 violates Title IX, however, Plaintiff has not and cannot prove that the HCBOE is liable for that violation. The HCBOE is not, and should not be confused for, the State. It is the State’s law alone that B.P.J. takes issue with and claims violates Title IX. Therefore, Plaintiff’s motion should be denied with regard to the HCBOE.

As the HCBOE set forth in its own motion for summary judgment, “a recipient of federal funds may be liable in damages under Title IX *only for its own misconduct*. *The recipient itself* must ‘exclude persons from participation in, . . . deny persons the benefits of, or . . . subject persons to discrimination under’ its ‘programs or activities’ in order to be liable under Title IX.” *Davis Next Friend LaShonda D. v. Monroe Cty. Bd. of Educ.*, 526 U.S. 629, 640–41 (1999) (emphasis added) (internal brackets omitted). The Fourth Circuit has echoed that “the implied damages remedy is available only when *‘the funding recipient engages in intentional conduct*

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<sup>2</sup> B.P.J. does not bring her Title IX claim in Count I against County Superintendent Stutler.

that violates the clear terms of the statute.” *Baynard v. Malone*, 268 F.3d 228, 237 (4th Cir. 2001) (emphasis added) (quoting *Davis*). “When the municipality is acting ***under compulsion of state or federal law, it is the policy contained in that state or federal law***, rather than anything devised or adopted by the municipality, ***that is responsible for the injury***.” *Bethesda Lutheran Homes & Servs., Inc. v. Leean*, 154 F.3d 716, 718 (7th Cir. 1998) (emphasis added).

Here, Plaintiff’s motion for summary judgment itself sets forth the following undisputed facts, which demonstrate that the HCBOE did not engage in intentional misconduct of its own, but rather that it is compelled by state law to comply with H.B. 3293 to the extent that it goes into effect, and thus, it cannot be liable under Title IX:

1. ***Plaintiff acknowledges that H.B. 3293 compels and requires the HCBOE to exclude B.P.J. from girls’ sports teams.***

As Plaintiff acknowledges, “H.B. 3293 requires that all public secondary school or college sports in West Virginia be ‘expressly designated’ as either ‘males,’ ‘females,’ or ‘co-ed’ based solely on a student’s ‘biological sex.’” (Doc. 291, at 12 (citing, *inter alia*, W. Va. Code § 18-2-25d(b), (c)).) Under H.B. 3293, as Plaintiff acknowledges, “biological sex” is defined as “‘an individual’s physical form as a male or female *based solely on the individual’s reproductive biology and genetics at birth.*”” (Doc. 291, at 12 (quoting W. Va. Code § 18-2-25d(b)(1) (emphasis added in Doc. 291).) She further acknowledges that H.B. 3293 “provides that ‘[a]thletic teams or sports designated for females, women, or girls ***shall not*** be open to students of the male sex where selection for such teams is based upon competitive skill or the activity involved is a contact sport.’” (Doc. 291, at 12 (quoting, *inter alia*, W. Va. Code § 18-2-25d(c)(2); emphasis added).)

In “Plaintiff’s Statement of Undisputed Material Facts,” Plaintiff further acknowledges that it is undisputed that, “‘[a]bsent an injunction, the County Board and County Superintendent would be compelled and required to enforce H.B. 3293 against B.P.J.’ . . . The

County Board and County Superintendent's role in enforcing the law is 'mandatory, not merely optional.'" (Doc. 290, at 21 (¶ 109) (citations omitted).) While Plaintiff does not mention it, H.B. 3293 also compels the HCBOE to enforce it by creating a cause of action that may be brought by "any student aggrieved by a violation of" H.B. 3293 "against a county board of education" responsible for the violation. W. VA. CODE § 18-2-25d(d)(1).

In her summary judgment briefing, Plaintiff writes, "H.B. 3293 employs a definition of 'biological sex' that[] . . . categorically excludes B.P.J. and any other transgender girl from playing sports at the middle school, high school, and collegiate levels." (Doc. 291, at 13 (citation omitted).) As Plaintiff more specifically wrote in "Plaintiff's Statement of Undisputed Material Facts," "Under H.B. 3293, B.P.J. is forbidden from playing on a girls' team at Bridgeport Middle School, or on a girls' athletic team at any public secondary school in West Virginia." (Doc. 290, at 18 (¶ 93) (citations omitted).) Although H.B. 3293 prevents B.P.J. and other transgender girls from playing on West Virginia public higher education and secondary school teams designated for girls, it does not exclude them from participation on school teams designated for boys. W. Va. Code § 18-2-25d(c).

While Plaintiff does not mention these significant and dispositive facts in her summary judgment briefing, it is also undisputed that the County Board did not devise H.B. 3293; has not voted in any way relating to policies concerning H.B. 3293; did not pass any policy, proclamation, or other statement related to H.B. 3293; and has not taken any actions to implement the provisions of H.B. 3293. (County Board Dep., attached as "**Exhibit 1**," at 38, 192; Stipulation of Uncontested Facts (CM/ECF Doc. 252), at 2.) Moreover, the County Board had no role in drafting H.B. 3293, and it provided no comments or thoughts to the Legislature regarding H.B. 3293. (Exhibit 1, at 62.) Neither the County Board nor any of its agents or employees, in their official capacities, did anything officially to advocate for or support H.B. 3293 or to contribute to

its passage. (*Id.* at 191-92.) Also, prior to H.B. 3293’s enactment, the County Board had no conversations with the State Board of Education or the WVSSAC about transgender students’ participation in sports. (*Id.* at 65, 83.)

In sum, Plaintiff acknowledges that H.B. 3293 (the creation and passage of which the HCBOE was uninvolved with) contains a mandate that the HCBOE has no discretion to ignore, and thus, that if the HCBOE ever enforces H.B. 3293, its enforcement will not be the result of its own intentional (mis)conduct or its own intentional decision; rather, that would be because West Virginia law compels it to do so. Therefore, Plaintiff’s motion for summary judgment demonstrates that the HCBOE cannot be liable to her under Title IX due to its enforcement of H.B. 3293.

2. ***Plaintiff acknowledges that the HCBOE permitted B.P.J. to participate on the girls’ cross-country and track teams when the Court enjoined enforcement of H.B. 3293, demonstrating that no policy or intentional conduct of the HCBOE has caused her harm.***

In addition to acknowledging that H.B. 3293 affords the HCBOE no discretion regarding whether to enforce its provisions, Plaintiff’s brief demonstrates that the HCBOE has no policy of its own that causes the injury to B.P.J. that is alleged in this civil action. According to Plaintiff, when Ms. Jackson informed Bridgeport Middle School that B.P.J. wanted to participate on the girls’ cross-country team, “Principal Mazza communicated that B.P.J. would not be able to run on the girls’ cross-country team ***because of H.B. 3293.***” (Doc. 291, at 10 (emphasis added).)<sup>3</sup>

Plaintiff further acknowledges that, after the Court entered “its preliminary injunction on July 21, 2021, B.P.J. was permitted to participate on Bridgeport Middle School’s girls’ cross-country team” and that in “the spring of 2022, B.P.J. tried out for, made, and began running on the girls’ track team at Bridgeport Middle School.” (Doc. 291, at 15, 16.) The Court’s

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<sup>3</sup> While Plaintiff has asserted in her “Statement of Undisputed Facts” that Mr. Mazza made this alleged comment, the County Board disputes that Mr. Mazza made this comment. (Exhibit 1, at 220-21.)

preliminary injunction provided that “[w]hile this case is pending, Defendants are enjoined from enforcing Section 18-2-25d [i.e., H.B. 3293] against B.P.J.” (Doc. 67, at 14-15.) While the Court’s Order further provided that B.P.J. “will be permitted to sign up for and participate in school athletics in the same way as her girl classmates,” (Doc. 67, at 15), the enforcement of H.B.3293 was the only thing the Court had to enjoin in order to accomplish that result – it did not also need to enjoin any policy or intentional conduct of the HCBOE.

Indeed, the undisputed evidence shows that the County Board has no policy of its own regarding sex separation in sports. With regard to sports, the County Board has only two policies, neither of which is related to separation by sex. (Exhibit 1, at 56-57, 214.) The County Board also has no policy pertaining to transgender students or transgender students’ participation in sports. (*Id.* at 57, 125, 150.)

In sum, Plaintiff’s motion for summary judgment and the undisputed evidence show that the HCBOE has no policy of its own that prevents B.P.J., on the basis of her status as a transgender girl, from participating on girls’ school sports teams. Therefore, again, Plaintiff’s motion for summary judgment shows that the HCBOE cannot be liable under Title IX because no policy or intentional misconduct of its own has caused B.P.J. any injury under Title IX.

**3. *Plaintiff acknowledges that B.P.J.’s schools have demonstrated respect for her and her gender identity and have provided her with a positive educational environment and athletic experience.***

As further evidence that no policy or intentional misconduct by the HCBOE has harmed B.P.J. in violation of Title IX, Plaintiff demonstrates in her briefing that B.P.J. has had overwhelmingly positive experiences at her schools within the HCBOE, including while participating on the girls’ cross-country and track teams. Plaintiff’s motion states that B.P.J.’s elementary and middle schools acknowledged and respect her female gender identity and that B.P.J. “feels supported by her school given its commitment to treating her as the girl she is.” (Doc.

291, at 8-9, 19.) She also acknowledges that, “[f]or years, B.P.J. has lived as a girl and been recognized as a girl at school, where administrators in B.P.J.’s elementary school and middle school have both acknowledged and respected B.P.J.’s female gender identity.” (Doc. 291, at 22.)

In her motion, Plaintiff recognizes that B.P.J.’s elementary and middle schools both created gender support plans “designed to help ‘account[]’ for and ‘support[]’ B.P.J.’s ‘authentic gender’ at school” and that under the plan, “school staff were informed that B.P.J.’s authentic gender is female, and were instructed to refer to her with her female name and using female pronouns.” (Doc. 291, at 8-9 (citations omitted).) “School staff were also informed how to support B.P.J. if she faced problems from others at school because of her gender.” (*Id.*) As a result of these properly-implemented, agreed-to measures, B.P.J. feels supported by her school. (Doc. 291, at 9.) As stated by B.P.J., ““My first cross-country season was awesome, and I felt supported by my coaches and the other girls on the team. . . . We learned about teamwork, having a positive attitude, and how to have fun while being competitive.”” (Doc. 291, at 16.)

For these reasons, Plaintiff’s summary judgment briefing and the undisputed facts demonstrate that the HCBOE cannot be liable under Title IX. The HCBOE could be liable “only for its own misconduct,” and for liability to attach, that misconduct must be intentional on the part of the HCBOE. *Davis*, 526 U.S. at 640–41; *Baynard*, 268 F.3d at 237. Here, that is undisputedly not the case. There is no dispute that the HCBOE had no role in the creation or passage of H.B. 3293 or that H.B. 3293, to the extent that it goes into effect, compels the HCBOE to enforce it. There is no dispute that the HCBOE has no policy and has engaged in no intentional conduct that has or that will cause any harm to B.P.J. There is no dispute that the HCBOE permitted B.P.J. to try out for and participate on her school’s girls’ cross-country and track teams when the Court enjoined enforcement of H.B. 3293. And there is no dispute that B.P.J. feels respected by her school administrators, feels supported by her school and her coaches, and has had positive

experiences at her elementary and middle schools, which respect her female gender identity and treat her as the girl she is, including as a participant on girls' sports teams at school.

Particularly with regard to the HCBOE, this case is simply not *Grimm*, in which a county school board policy was the cause of the injury to a transgender male student who wished to use the boys' restrooms. *Grimm v. Gloucester Cty. Sch. Bd.*, 972 F.3d 586, 616 (4th Cir. 2020), *as amended* (Aug. 28, 2020) (citation omitted), *cert. denied sub nom. Gloucester County School Board v. Grimm, Gavin*, No. 20-1163, 2021 WL 2637992 (U.S. June 28, 2021). In *Grimm*, the Fourth Circuit found that the defendant county school board had violated Title IX because the school board had relied "on its own discriminatory notions of what 'sex' means." 972 F.3d at 618 (citation omitted). Unlike in the present case, in *Grimm*, the county school board did not act pursuant to a mandatory state law that it had no discretion to ignore; rather, the county school board acted pursuant to its own decisions and its own policy. This crucial detail distinguishes the HCBOE from the county school board that was sued in *Grimm*. Pursuant to *Davis, Baynard*, and *Bethesda Lutheran*, the HCBOE cannot be liable to Plaintiff because it has engaged in no intentional, discriminatory misconduct of its own. Instead, state law compels it to enforce H.B. 3293. The HCBOE cannot be liable under these circumstances.

Because Plaintiff cannot succeed on her Title IX claim against the HCBOE, the HCBOE is entitled to summary judgment on the Title IX claim, and Plaintiff's motion for summary judgment against the HCBOE should be denied.

**C. Because Stutler did not create or pass H.B. 3293, and because any injury B.P.J. suffers is not caused by any policy created by the HCBOE or by Stutler, Stutler cannot be liable for any violation of B.P.J.'s equal protection rights.<sup>4</sup>**

Similar to her Title IX argument, in her summary judgment briefing, Plaintiff does

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<sup>4</sup> Count II, Plaintiff's EPC claim, is not brought against the HCBOE.

not claim that Stutler (or the County Board) has made a deliberate choice to exclude B.P.J. from girls' athletic teams, and she has not argued that Stutler (or the County Board) in particular has violated B.P.J.'s equal protection rights. Rather, she much more generally argues that H.B. 3293 violates the EPC. (Doc. 291, at 24-40.) But as with her Title IX argument, even if Plaintiff is correct that H.B. 3293 violates her equal protection rights, Plaintiff has not and cannot prove that Stutler (or the County Board) is liable for that violation because the County Board has, and will, do no more than to enforce state law to the extent that state law compels it to do so. Stutler and the County Board are not, and should not be confused for, the State. It is a state law, not any policy or other decision of Stutler or the County Board, that Plaintiff alleges violates her EPC rights. Under these circumstances, Stutler cannot be liable for any EPC violation caused by H.B. 3293.

Crucially, as is set forth in detail in the County Board's brief in support of its own motion for summary judgment (Doc. 281, at 11-17), pursuant to federal law, a local governing body like a county board of education can be held liable only for its own "deliberate choice" – that is, where the county board of education itself causes harm. *City of Canton, Ohio v. Harris*, 489 U.S. 378, 389, 109 S. Ct. 1197, 1205 (1989); *Barker v. Gaylor*, No. 2:20-CV-00357, 2021 WL 3354161, at \*9 (S.D.W. Va. Aug. 2, 2021) (slip copy). This Court recently recognized this important point of law, stating that liability under § 1983 "attaches 'only where the municipality itself causes the constitutional violation at issue.'" *Barker*, 2021 WL 3354161, at \*9 (quoting *Harris*, 489 U.S. at 385). Where a county has done nothing more than comply with a mandate imposed on it by a state statute, the county and the county official have not violated § 1983.<sup>5</sup>

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<sup>5</sup> This inquiry is a purely objective one: "[T]he state of mind of local officials who enforce or comply with state or federal regulations is immaterial to whether the local government is violating the Constitution if the local officials could not act otherwise without violating state or federal law. The spirit, the mindset, the joy or grief of local officials has no consequences for the plaintiffs if these officials have no discretion that they could exercise in the plaintiffs' favor." *Bethesda Lutheran*, 154 F.3d at 718.

As the U.S. Supreme Court has stated, local government units cannot “be held liable unless action pursuant to official [local government unit] policy of some nature caused a constitutional tort[.]” *Monell v. Dep’t of Soc. Servs. of City of New York*, 436 U.S. 658, 691 (1978); *see also id.* 436 U.S. at 691 n.5 (the same rules apply to actions against local government unit officers because “official-capacity suits generally represent only another way of pleading an action against an entity of which an officer is an agent”). Here, B.P.J. has brought her EPC claim against Stutler in her official capacity as County Superintendent of the HCBOE.

Accordingly, the “first inquiry in any case alleging municipal liability under § 1983 is the question whether there is a direct causal link between *a municipal policy or custom* and the alleged constitutional deprivation.” *Harris*, 489 U.S. at 385, 109 S. Ct. at 1203 (emphasis added).

The Supreme Court went on to state,

**“[Local government unit] liability under § 1983 attaches where—and only where—a deliberate choice to follow a course of action is made from among various alternatives” by [local government unit] policymakers. . . . Only where [a policy, procedure, custom, etc.] reflects a “deliberate” or “conscious” choice by a [local government unit]—a “policy” as defined by our prior cases—can a [local government unit] be liable for such [policy, etc.] under § 1983.**

*Id.*, 489 U.S. at 389, 109 S. Ct. at 1205 (emphasis added; second alteration in original) (citation omitted).

Thus, a local governing body, like a county board of education, can be liable for violating the United States Constitution only under limited circumstances in which “*the action that is alleged to be unconstitutional implements or executes a policy statement, ordinance, regulation, [custom,] or decision officially adopted and promulgated by that body’s officers.*” *Monell*, 436 U.S. at 690–91 (emphasis added). A “policy” of complying with mandatory state law is not a policy for which a county board of education may be liable under the EPC. As the Seventh

Circuit has recognized, “[i]t is difficult to imagine a municipal policy more innocuous and constitutionally permissible, and whose causal connection to the alleged violation is more attenuated, than the ‘policy’ of enforcing state law.” *Surplus Store & Exch., Inc. v. City of Delphi*, 928 F.2d 788, 791–92 (7th Cir. 1991). “If the language and standards from *Monell* are not to become a dead letter, such a ‘policy’ simply cannot be sufficient to ground liability against a municipality.” *Id.* (citation omitted).<sup>6</sup>

For example, the Fourth Circuit found that Grayson County, Virginia could not be held responsible under 42 U.S.C. § 1983 for personnel decisions made by the Board of Social Services for Grayson County “because the Board did not dismiss plaintiff pursuant to any County policy.” *Bockes v. Fields*, 999 F.2d 788, 789 (4th Cir. 1993).

In a recent example, the Fourth Circuit concluded that although a county “can be liable for enforcing a state regulation it has *voluntarily* adopted as its own, it cannot be held liable for state statutes it has not consciously adopted into its own policy.” *Bruce & Tanya & Assocs.*,

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<sup>6</sup> See also *Vives v. City of New York*, 524 F.3d 346, 356 (2d Cir. 2008) (“We have held today that a municipality cannot be held liable simply for choosing to enforce the entire Penal Law.”) (footnote omitted); *Dakota Rural Action v. Noem*, No. 19-cv-5026, 2019 WL 4546908, at \*5 (D.S.D. Sept. 18, 2019) (“Applying this standard [*Monell, et al.*] in this case, Plaintiffs have failed to allege that Pennington County sheriff officials have made any choices at all regarding enforcement of the challenged laws that could cause a violation of Plaintiffs’ First Amendment rights. Plaintiffs’ allegations show only that a policy choice was made by State officials.”); *Elabanjo v. Bellevance*, No. 1:11-CV-349, 2012 WL 4327090, at \*5 (M.D.N.C. Sept. 18, 2012) (“The enforcement of a state statute by a municipality does not qualify as a municipal policy or custom sufficient to support § 1983 liability.”), *report and recommendation adopted*, No. 1:11-CV-349, 2012 WL 5864004 (M.D.N.C. Nov. 19, 2012); cf. *Echnols v. Parker*, 909 F.2d 795, 801 (5th Cir. 1990) (“[W]hen a state statute directs the actions of an official, as here, the officer, be he state or local, is acting as a state official.”); *Doby v. DeCrescenzo*, 171 F.3d 858, 868 (3d Cir. 1999) (accepting that “when a county is merely enforcing state law, without adopting any particular policy of its own, it cannot be held liable under the *Monell* line of cases”); *Humphries v. Los Angeles Cty.*, No. SACV03697JVSMANX, 2012 WL 13014632, at \*3 (C.D. Cal. Oct. 17, 2012) (“A municipality cannot be held liable under *Monell* merely for enforcing a state law. . . . But where the municipality makes a deliberate choice from among various alternatives to adopt a particular policy, the municipality can be held liable.”) (citations omitted).

In cases where a court found local government liability, it has generally been because the local government unit’s conduct was not mandated, but merely allowed by (or unrelated to) state or federal law. See, e.g., *Cooper v. Dillon*, 403 F.3d 1208, 1221–22 (11th Cir. 2005) (police officer’s enforcement of state criminal law with no allegation that state law also made it mandatory for him to have done so).

*Inc. v. Bd. of Supervisors of Fairfax Cty., Virginia*, 854 F. App'x 521, 532 (4th Cir. 2021) (unpublished). Thus, the Court found that the defendant county could be liable for enforcing a section of a state statute “because it consciously chose to enforce” it, but that the county could not be liable for harms caused by a section of the statute it did not adopt as its own policy. *Id.* at 531-32. The Court noted that its decision aligned with “[t]he majority of our sister circuits to consider the question,” which “have suggested that a local government can be subjected to *Monell* liability if it makes an independent choice to enforce or follow parameters set by state law, rather than being obliged to do so.” *Id.* at 530.

In accordance with this established federal law, Stutler could be held liable under the EPC only for the County Board’s own policies, procedures, customs, or other deliberate or conscious choices. She cannot be held liable for acts that were not the result of the County Board’s deliberate, conscious choice to follow a course of action made from among various alternatives. It is therefore clear that Stutler cannot be held liable under the EPC because the County Board has made no deliberate or conscious choice; rather, it has no discretion but is compelled to enforce H.B. 3293 to the extent that it goes into effect.

Based on the same undisputed facts set forth above (in subsection B, which is incorporated into this argument) demonstrating why the County Board cannot be liable under Title IX, the County Board cannot be liable under the EPC. The following undisputed facts, including assertions by Plaintiff, demonstrate that Stutler cannot be liable under the EPC:

1) ***As Plaintiff has conceded, H.B. 3293 provides the County Board with no discretion to make a deliberate, conscious choice regarding whether to enforce it.*** Rather, H.B. 3293 compels the County Board to enforce it. (Doc. 290, at 21 (¶ 109).) Plaintiff acknowledges that it is undisputed that, “[a]bsent an injunction, the County Board and County Superintendent would be compelled and required to enforce H.B. 3293 against B.P.J.’ . . . The County Board and

County Superintendent’s role in enforcing the law is ‘mandatory, not merely optional.’” (Doc. 290, at 21 (¶ 109) (citations omitted).) Plaintiff also recognizes that “[u]nder H.B. 3293, B.P.J. is forbidden from playing on a girls’ team at Bridgeport Middle School, or on a girls’ athletic team at any public secondary school in West Virginia.” (Doc. 290, at 18 (¶ 93) (citations omitted).) The County Board had no part in the creation or passage of H.B. 3293, and it did nothing to support the bill or to contribute to its passage. (Exhibit 1, at 38, 62, 191-92.) Stutler cannot be liable for a violation of B.P.J.’s EPC rights simply because state law compels her to enforce H.B. 3293.

2) ***No policy or other deliberate choice by the County Board causes the harm alleged in this civil action.*** Plaintiff’s civil action challenges H.B. 3293, not any policy or other deliberate choice by the County Board. Moreover, H.B. 3293 is all that Plaintiff needs to challenge to obtain the relief she seeks, as indicated by the fact that H.B. 3293 was all the Court needed to enjoin to ensure that B.P.J. could participate on her school’s girls’ sports teams. (Doc. 67, at 14-15.) As Plaintiff acknowledges, she has participated on her school’s girls’ cross-country and track teams since the Court entered its preliminary injunction. (Doc. 291, at 15, 16.) The only existing impediment to B.P.J.’s participation on girls’ sports teams at Bridgeport Middle School is H.B. 3293; the County Board has only two policies regarding sports, neither of which is related to separation by sex. (Exhibit 1, at 56-57, 214.) The County Board also has no policy pertaining to transgender students or transgender students’ participation in sports. (*Id.* at 57, 125, 150.)

Because the County Board has made no deliberate choice and has no policy, custom, or procedure that prevents B.P.J. from participating on her school’s girls’ sports teams, it cannot be liable to Plaintiff for the alleged violation of B.P.J.’s EPC rights.

3) ***Plaintiff acknowledges that the County Board has provided B.P.J. with a supportive and respectful school environment and “awesome” athletics experiences, further demonstrating that no County Board policy, procedure, custom, or other deliberate choice has***

*violated her EPC rights.* As Plaintiff acknowledges, the undisputed evidence is that B.P.J.'s elementary and middle schools have recognized her female gender identity and committed "to treating her as the girl she is." (Doc. 291, at 8-9, 19, 22.) Her schools' proper implementation of their commitment to treating B.P.J. as a girl has resulted in B.P.J. feeling supported by her school and coaches and respected by her schools' administrators. (Doc. 291, at 8-9, 16, 19, 22.) In B.P.J.'s words, her "first cross-country season was awesome, and I felt supported by my coaches and the other girls on the team." (Doc. 291, at 16 (citing B.P.J.'s Declaration, Pl.'s SUF ¶ 124).)

Plaintiff's positive experiences at school, including in her participation on girls' sports teams, demonstrates that the HCBOE has made no deliberate choice that violates B.P.J.'s EPC rights. To the contrary, once the Court relieved the HCBOE of its mandated enforcement of H.B. 3293 against B.P.J., it permitted B.P.J. to participate in school sports just like any other girl.

In sum, Plaintiff's summary judgment briefing and the undisputed facts demonstrate that Stutler cannot be liable under the EPC. A county board of education, or its superintendent, can be liable only if they, themselves, cause harm by making their own "deliberate choice" among available alternatives. *Harris*, 489 U.S. at 389, 109 S. Ct. at 1205; *Barker*, 2021 WL 3354161, at \*9. Here, that is undisputedly not the case. It is undisputed that (a) Stutler and the County Board had no role in the creation or passage of H.B. 3293; (b) H.B. 3293, to the extent that it goes into effect, compels Stutler to enforce it and creates a cause of action against county boards of education for "[a]ny student aggrieved by a violation of" the H.B. 3293, *see* W. VA. CODE § 18-2-25d(c)(2), (d)(1); (c) Stutler and the County Board have not consciously adopted the H.B. 3293 into the County Board's own policy; (d) Stutler and the County Board have no policy and have made no deliberate choice that has or could cause any harm to B.P.J.; (e) the County Board permitted B.P.J. to try out for and participate on her school's girls' cross-country and track teams when the Court enjoined enforcement of H.B. 3293; and (f) B.P.J. feels respected by her school

administrators, feels supported by her school and her coaches, and has had positive experiences at her schools, which respect her female gender identity and treat her as the girl she is, including as a participant on girls' sports teams at school.

Therefore, B.P.J. cannot establish liability for her EPC claim because she cannot prove – and indeed has not even alleged or argued – that the alleged unconstitutional conduct arose from “a policy statement, ordinance, regulation, or decision officially adopted and promulgated by” the HCBOE’s officers or Stutler. *Monell*, 436 U.S. at 690. Because Stutler cannot be liable for Plaintiff’s EPC claim, Stutler is entitled to summary judgment on the EPC claim, and Plaintiff’s motion for summary judgment against Stutler should be denied.

**D. The HCBOE is not a proper defendant even for purposes of an injunction, and if Stutler is retained as a defendant for purposes of an injunction, then she should be retained solely as a state – not a county – official, and any award assessed against her is the responsibility of the State, not the County Board.**

While Plaintiff does not argue that the HCBOE, in particular, is liable under Title IX or that Stutler, in particular, is liable under the EPC, Plaintiff does claim that the County Board “is a proper subject of injunctive relief” due to its obligation to enforce H.B. 3293 as to B.P.J. (Doc 291, at 18.) As shown above, the HCBOE cannot be liable to B.P.J. under Title IX, and Stutler cannot be liable to B.P.J. under the EPC.

However, the County Board recognizes that this Court has stated that, “[u]nder the doctrine of *Ex parte Young*, a plaintiff may challenge the constitutionality of a state law . . . by bringing suit against an official, in her official capacity, for enforcing or administering that law or rule. . . . If the plaintiff succeeds, any judgment against the official in her official capacity,” including an award of attorneys’ fees, “imposes liability on the entity that [s]he represents.” *McGee v. Cole*, 115 F. Supp. 3d 765, 772 (S.D.W. Va. 2015) (alteration in *McGee*) (citing, *inter alia*, *Ex parte Young*, 209 U.S. 123, 155–56 (1908)).

Importantly, *county officials are considered to be “state officials* for purposes of an *Ex parte Young* suit *where they are responsible for enforcing or administering state law rather than local or county policies.*” *Id.* at 773 (emphasis added). For example, when “same-sex couples challenged Virginia’s same-sex marriage ban” by suing a *city clerk* who had denied one of the couples a marriage license, the “U.S. Court of Appeals for the Fourth Circuit held that the *clerk* was a proper defendant *through which to sue the state of Virginia* under *Ex parte Young* because he was responsible for enforcing Virginia’s same-sex marriage ban.” *Id.* (emphasis added) (citing *Bostic v. Schaefer*, 760 F.3d 352 (4th Cir. 2014)).

The U.S. District Court for the Southern District of West Virginia’s decision in *McGee* is directly on point with the situation in this case. In *McGee*, which involved determining which party was responsible for paying attorneys’ fees when *county clerks* enforced a West Virginia state law, the District Court stated:

The Court agrees with Defendant Clerks. Sections 48–2–104 and 48–2–401 of the West Virginia Code were state laws prohibiting same-sex marriage. Each Plaintiff couple attempted to obtain a marriage license, and each was denied by one of the defendants pursuant to these state laws. . . . The State has not provided, and the Court has not found, any evidence that Defendant Clerks were administering county rules or policies rather than state law. Moreover, the clerks had no discretion to disregard state law and issue marriage licenses to the plaintiffs. . . . It is clear that Defendant Clerks were required by state law to deny marriage licenses to the plaintiffs and administered state law when they did so. The clerks were thus acting as state agents, rather than county officials, at the time of Plaintiffs’ injuries. Accordingly, they are considered state officials for the purposes of this *Ex parte Young* suit. *See Bostic*, 760 F.3d at 371 n. 2; *Brotherton [v. Cleveland]*, 173 F.3d [552] at 566 [(6th Cir. 1999)].

Furthermore, although not named as a defendant in this case, the State was clearly the intended target of this litigation. *See Hutto [v. Finney]*, 437 U.S. [678] at 700, 98 S. Ct. 2565 [(1978)] (“[S]uits brought against individual officers for injunctive relief are for all practical purposes suits against the State itself.”). Not only did the Court grant an injunction preventing the clerks from administering

the same-sex marriage ban, it declared two of the State's laws unconstitutional. This declaration is part and parcel of the total relief obtained and **shows that the State, not the clerks, is responsible for the legislation that violated Plaintiffs' civil rights.** For the foregoing reasons, the **attorneys' fees assessed against Defendant Clerks will be the responsibility of the State of West Virginia.**

*McGee*, 115 F. Supp. 3d at 778–79 (emphasis added); *see also Brotherton v. Cleveland*, 173 F.3d 552, 566 (6th Cir. 1999) (“Where county officials are sued simply for complying with state mandates that afford no discretion, they act as an arm of the State.”) (citations omitted).

The *McGee* Court found that the clerks themselves and the counties for which they worked were *not* jointly and severally liable for attorneys' fees, because the clerks were sued in their official capacities, and they represented only the State at the time of the plaintiffs' injury. *Id.*, 115 F. Supp. 3d at 777 n.3.

Just as in *McGee*, here, the State is clearly the intended target of the litigation. Stutler and the HCBOE have been named as defendants in this civil action only because they must enforce State law – not because of any policy or custom of their own. Any civil rights violation H.B. 3293 could cause B.P.J. is a result of the State's legislation; whether or not it agrees with it, the County Board is compelled to enforce State law to the extent that it goes into effect.

As a result, in enforcing H.B. 3293, Stutler would be acting as a State agent, and would be considered a State official rather than a county official. Thus, if the Court determines that Stutler, who was sued only in her official capacity, should be retained as a defendant to Count II pursuant to *Ex parte Young* for injunction purposes, then any damages, costs, expenses, and/or fees assessed against her must be paid by the State, which is the only government entity that she would represent if she is ever required to enforce the State's Act.

The HCBOE, on the other hand, is not a proper defendant even for the sole purpose of an injunction. *McGee* (like *Ex parte Young*) does not stand for the proposition that an *entity*

such as the HCBOE is a proper defendant for purposes of an injunction where an alleged *statutory* injury arises from the enforcement of a state law; rather, it permits only a suit against a local *official* as a means of suing the State for an allegedly *unconstitutional* act. *McGee*, 115 F. Supp. 3d at 772; *Ex parte Young*, 209 U.S. at 157, 28 S. Ct. at 453 (1908) (recognizing that “an officer of the state” may be made “a party defendant in a suit to enjoin the enforcement of an act alleged to be unconstitutional” if “the state officer, by virtue of his office, has some connection with the enforcement of the act”). The HCBOE is not an official, and it has been sued only for an alleged violation of Title IX, not for an allegedly unconstitutional act. Therefore, the HCBOE is not a proper defendant even for purposes of an injunction.

In summary, there is no reason or basis in law to retain the HCBOE as a defendant because, as detailed above, there is no basis to hold the HCBOE liable for any Title IX violation as alleged in Count I, it is not a state officer, and it is not named as a defendant to the EPC claim in Count II. Therefore, Plaintiff’s motion for summary judgment against the HCBOE should be denied, and the HCBOE’s motion for summary judgment should be granted.

If Stutler is retained as a defendant to Count II for the sole purpose of an injunction, and if any monetary award, including but not limited to attorneys’ fees and costs, is assessed against Stutler on Count II, that award must be paid by the State, not by the County Board or Stutler, as a matter of law and undisputed fact. Therefore, to the extent that Plaintiff seeks summary judgment against Stutler with regard to B.P.J.’s claims for any monetary award, her motion should be denied. At most, Stutler may be retained as a defendant to Count II as a State agent for injunction purposes only, and any monetary award must be paid by the State.

**E. B.P.J.’s claims against the County Board should be dismissed on the additional basis that H.B. 3293 does not violate Title IX or the EPC.**

As demonstrated above, the County Board is not the entity that *caused* any

purported violation of Title IX or the EPC, a sufficient reason to deny Plaintiff's motion for summary judgment (and to grant summary judgment to the County Board). Undisputedly, the County Board had no part in the creation or passage of H.B. 3293, and it undisputedly has no policy of its own that prevents B.P.J. from joining girls' sports teams based on transgender status. However, because the County Board has been sued for damages, fees, and costs over H.B. 3293, the County Board finds itself in the position of defending H.B. 3293. Thus, as set forth in the following sections, the County Board observes that a legal foundation clearly exists for finding that H.B. 3293 does not violate Title IX or the EPC. (*See also* Doc. 281, at 18-29.)

**1. Title IX permits sex-separated sports to promote sex equality.**

B.P.J. can prove a violation of Title IX occurred only if she was excluded from participating in an education program due to sex, and "improper discrimination caused [her] harm." *Grimm*, 972 F.3d at 616. Plaintiff's argument that a Title IX violation occurred fails because she has not shown that "improper discrimination" has occurred.

Plaintiff relies heavily on the Fourth Circuit's decision in *Grimm* to support her Title IX argument. *Grimm* addressed a transgender boy's ability to use the boys' restroom at his school.<sup>7</sup> The Court found that his exclusion on the basis of his sex was improper discrimination. However, important interests are at stake in the present civil action, which were not present in *Grimm*. That crucial difference renders the different treatment of cisgender girls and transgender girls *in athletics* not "improper discrimination" even though different treatment of cisgender and transgender students with regard to restroom use was determined to be "improper discrimination" in *Grimm*. Bathroom use does not implicate the concerns and interests that participation in athletics

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<sup>7</sup> When analogizing to *Grimm*, Plaintiff uses bracketed phrases that make it appear as if *Grimm* addressed participation in athletics. (*See* Doc. 291, at 23, 31.) To be clear, *Grimm* addressed a transgender male student's restroom use – it in no way addressed transgender students' participation in school athletics.

implicates, including important safety and displacement (i.e., lost opportunity) concerns for cisgender females.

There can be no question that the possibility of displacement of cisgender females certainly exists, and the prevention of such a result is one of the purposes of H.B. 3293 – just as it is one of the purposes of Title IX regulations. Specifically, Title IX regulations permit sex-separated sports teams “where selection for such teams is based upon competitive skill or the activity involved is a contact sport.” 34 C.F.R. § 106.41(b). The regulations also require recipients to “provide equal athletic opportunity for members of both sexes,” including by considering whether the “levels of competition effectively accommodate the interests and abilities of members of both sexes.” 34 C.F.R. § 106.41(c). These provisions are important to promote sex equality.<sup>8</sup>

As stated by expert witness Gregory A. Brown, Ph.D., FACSM, in his report:

[M]en, adolescent boys, and prepubertal male children perform better in almost all sports than women, adolescent girls, and prepubertal female children because of their inherent physiological advantages. In general, men, adolescent boys, and prepubertal male children, can run faster, output more muscular power, jump higher, and possess greater muscular endurance than women, adolescent girls, and prepubertal female children. These advantages become greater during and after male puberty, but they exist before puberty.

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<sup>8</sup> See, e.g., *Cohen v. Brown Univ.*, 991 F.2d 888, 897 (1st Cir. 1993) (“Equal opportunity to participate lies at the core of Title IX’s purpose.”); *Clark, By and Through Clark v. Arizona Interscholastic Ass’n*, 695 F.2d 1126, 1130 (9th Cir. 1982) (noting that cases have upheld boys’ exclusion from girls’ teams as “a legitimate means of providing athletic opportunities for girls” due to innate physical differences between the sexes); *O’Connor v. Bd. of Ed. of Sch. Dist. No. 23*, 645 F.2d 578, 582 (7th Cir. 1981) (“Title IX aims to provide equal opportunity in educational programs” and permits “separate-sex teams and . . . exclusion of girls from” certain boys’ teams); *Lafler v. Athletic Bd. of Control*, 536 F. Supp. 104, 106 (W.D. Mich. 1982) (“Although many courts have recognized a woman’s right to an equal opportunity to participate in sports, . . . courts have also recognized that such equal opportunity may be provided through separate teams or competitions for men and women. . . . The regulations promulgated under Title IX . . . specifically permit the establishment of separate male and female teams in contact sports. The United States Congress, in calling for the provision of ‘equal opportunity to amateur athletes . . . to participate . . . without discrimination on the basis of . . . sex . . .’ in the Amateur Sports Act, 36 U.S.C. s 391(b)(6), anticipated that such equal opportunity would sometimes be provided through the use of separate programs for men and women. . . .”) (citations omitted).

(See Excerpts from Expert Report of Dr. Brown, attached as “**Exhibit 2**,” at 4.) Moreover, citing to several sources, Dr. Brown found “in the literature a widespread consensus that the large performance and physiological advantages possessed by males – rather than social considerations or considerations of identity – are precisely the *reason* that most athletic competitions are separated by sex, with women treated as a ‘protected class.’” (*Id.* at 8-10 (emphasis supplied).)

According to several of the sources cited by Dr. Brown, “[t]he main justification [for sex separation in sports] is to allow women a chance to win, as women have major disadvantages against men who are, on average, taller, stronger, and faster and have greater endurance due to their larger, stronger, muscles and bones as well as a higher circulating hemoglobin level.” (Exhibit 2, at 8 (citation omitted).) Moreover, “[w]e have separate sex sport and eligibility criteria based on biological sex because this is the only way we can assure that female athletes have the same opportunities as male athletes not only to participate but to win in competitive sport.” (*Id.* at 9 (citation omitted).)

As a result, competing with biological males may cause girls to lose out on various opportunities, including opportunities to start for a team, to play for a team, or to even make a team, as well as opportunities for scholarships and an opportunity to win.

Additionally, the safety of cisgender females is a significant concern, particularly with regard to contact sports when they compete against persons other than other cisgender females. Thus, one important interest that both H.B. 3293 and Title IX regulations address is cisgender females’ safety. Plaintiff argues that the only justification provided within H.B. 3293 is “promot[ing] equal athletic opportunities for the female sex,” which she argues does not include the purpose of promoting cisgender females’ safety. (Doc. 291, at 29-30 (quoting, *inter alia*, W. Va. Code § 18-2-25d(a)(5)).) However, safety is a key purpose of H.B. 3293, which also states that the “inherent differences between biological males and biological females” “are a valid

justification for sex-based classifications when they realistically reflect the fact that the sexes are not similarly situated in certain circumstances[.]” W. Va. Code § 18-2-15d(a)(1)-(2).

Reading these provisions together, it follows that the Legislature was concerned about female athletes’ safety, or at least about broader equality concerns that include female athletes’ safety. That is, “equal athletic opportunities for the female sex” include an equal opportunity to avoid unnecessary injury (and displacement) caused by “the fact that the sexes are not similarly situated” with regard to physical characteristics relevant to safety in athletics, including males’ typically larger and stronger muscles and bones. Thus, the argument that a purpose and justification for H.B. 3293 is to protect the safety of cisgender females who participate in school sports is not a “belated *post hoc* effort to proffer [this safety] interest[] as justification for the law,” as Plaintiff claims. (*See* Doc. 291, at 30, 37.) Rather, it is an important concern addressed by both H.B. 3293 and Title IX regulations (34 C.F.R. § 106.41(b)-(c)). While cross-country and track may not involve safety issues the same way a contact sport does, it is possible that B.P.J. will at some time in the future decide to play one or more contact sports (and that other transgender female students will decide to play contact sports).

Again, the analysis in *Grimm* is not dispositive or even applicable here because the *Grimm* Court did not address athletics. Whereas transgender students may use restrooms corresponding with their gender identity without imposing the dangers of decreased opportunities for, and compromised safety of, cisgender females, these concerns are present regarding athletic participation. It is these concerns that make H.B. 3293 lawful under Title IX, which permits sex-separated teams and promotes sex equality, because biological sex-related physical differences make a difference in contact sports and on teams involving competitive skill.

Thus, sex-separated sports are lawful and permissible under Title IX. Moreover, in compliance with Title IX, H.B. 3293 defines “male” and “female” in a way intended to promote

the goal of sex equality in athletics. Furthermore, and using the same language used in the Title IX regulations, H.B. 3293 separates sports teams based on sex “where selection for such teams is based upon competitive skill or the activity involved is a contact sport.” W. Va. Code § 18-2-25d(c)(2); 34 C.F.R. § 106.41(b). As a result, B.P.J. cannot prove that H.B. 3293 violates Title IX, and her motion for summary judgment on Count I should be denied.

**2. H.B. 3293 is substantially related to an important government purpose and thus survives scrutiny under the EPC.<sup>9</sup>**

“The Equal Protection Clause of the Fourteenth Amendment provides that ‘[n]o State shall . . . deny to any person within its jurisdiction the equal protection of the laws. It is ‘essentially a direction that all persons similarly situated should be treated alike.’” *Grimm*, 972 F.3d at 606 (quoting *City of Cleburne v. Cleburne Living Ctr.*, 473 U.S. 432 (1985)). EPC challenges based on sex, as here, are subject to intermediate scrutiny. *See H.B. Rowe Co. v. Tippett*, 615 F.3d 233, 242 (4th Cir. 2010). Under intermediate scrutiny, the challenged classification must serve an important government purpose, and the means employed must be substantially related to that purpose. *U.S. v. Virginia*, 518 U.S. 515, 524, 532-33 (1996).

Plaintiff argues that “the government must provide an ‘exceedingly persuasive justification’ for H.B. 3293’s discriminatory classification” in order to survive heightened scrutiny. (Doc. 291, at 28 (quoting *Virginia*, 518 U.S. at 534, 116 S. Ct. at 2276).) As this Court has recognized, however, Justice Ginsburg’s use of the term “exceedingly persuasive justification” in *U.S. v. Virginia* did not change the jurisprudence in this area; she merely used a different term for the same concept. (Memorandum Opinion & Order, Doc. 67 (“To survive a review under

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<sup>9</sup> The County Board hereby incorporates by reference the arguments it made in “Defendant Harrison County Board of Education and Defendant Dora Stutler in her Official Capacity’s Response in Opposition to Plaintiff’s Motion for Preliminary Injunction” regarding why the Act survives scrutiny under the EPC. (Doc. 50, at 15-22.) For purposes of brevity, a truncated version of those arguments is presented here.

intermediate scrutiny, the government must provide an “exceedingly persuasive justification” for the classification created by a law or policy. . . . At a minimum, the government must show that “the classification serves important governmental objectives and that the discriminatory means employed are substantially related to the achievement of those objectives.” (citations omitted).) *See also Cohen v. Brown Univ.*, 101 F.3d 155, 183–84 (1st Cir. 1996).

In the end, under intermediate scrutiny, “how important” the government interest must be is only “important,” and “how closely related” the means must be to the achievement of that interest is only “substantially related.” *Virginia*, 518 U.S. at 524. Courts routinely accept that a classification that relies on some degree of generality can still be “substantially related” to its end.<sup>10</sup> Furthermore, “legislatures are presumed to have acted within their constitutional power despite the fact that, in practice, their laws result in some inequality.” *Nordlinger v. Hahn*, 505 U.S. 1, 10 (1992) (quoting *McGowan v. Maryland*, 366 U.S. 420, 425–26 (1961)).

An EPC plaintiff must first show “governmental treatment dissimilar to that received by others similarly situated.” *Republican Party of N.C. v. Martin*, 980 F.2d 943, 953 (4th Cir. 1992). For EPC purposes, “similarly situated” means “persons who are in all relevant respects alike.” *Nordlinger*, 505 U.S. at 10. Here, those “similarly situated” under H.B. 3293 are biological males, regardless of gender identity, and the “relevant respects” are physical attributes relevant to competitive fairness and safety. H.B. 3293 closes biological females’ teams to all biological males because biological sex, not gender identity, causes the problems that H.B. 3293 seeks to prevent, notably competitive fairness and safety.

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<sup>10</sup> A blanket rule limiting selective service registration to men, for example, thus satisfied intermediate scrutiny even “assuming that a small number of women could be drafted for noncombat roles” because “Congress simply did not consider it worth the added burdens of including women in draft and registration plans.” *Rostker v. Goldberg*, 453 U.S. 57, 81 (1981). Additionally, a social security rule advantageous to women satisfied such scrutiny because “women *on the average* received lower retirement benefits than men.” *Califano v. Webster*, 430 U.S. 313, 318 n.5 (1977).

Importantly, these concerns were not present in *Grimm*, which addressed restroom use – not safety and fairness concerns unique to participation in athletics, making *Grimm* non-dispositive here. Moreover, “there is no question that the Supreme Court allows for these average real [physiological] differences between the sexes to be recognized or that they allow gender to be used as a proxy in this sense if it is an accurate proxy.” *Clark, By & Through Clark v. Arizona Interscholastic Ass’n*, 695 F.2d 1126, 1131 (9th Cir. 1982) (citing *Kahn v. Shevin*, 416 U.S. 351, 355, 94 S. Ct. 1734, 1737 (1974); *Michael M. v. Superior Ct. of Sonoma Cty.*, 450 U.S. 464, 469, 101 S. Ct. 1200, 1204 (1981); *Orr v. Orr*, 440 U.S. 268, 280-82, 99 S. Ct. 1102, 1112-13 (1979)).

Notably, Plaintiff appears to have brought both an “as applied” and a facial challenge to H.B. 3293. (See Memorandum Opinion & Order, Doc. 67 (“Whether the law [W. Va. Code § 18-2-25d] is facially unconstitutional is an issue raised in the Complaint and will be resolved at a later stage of litigation.”); Am. Compl., Doc. 64, at 24 ¶ C (seeking preliminary and permanent injunctions of the enforcement of H.B. 3293 that is not limited to its application to B.P.J.); Doc. 291, at 25 (“On its face, H.B. 3293 targets B.P.J. and other girls who are transgender for discriminatory treatment.”); *id.* at 36 (“as applied to B.P.J. and on its face, H.B. 3293 is not substantially related to creating equal athletic opportunities for women in general or cisgender women in particular”); *but see id.* at 41 (“this Court should also permanently enjoin Defendants from enforcing H.B. 3293 against B.P.J.” (citing Am. Compl., Doc. 64, at 24 ¶ C)).)

Thus, H.B. 3293 must be analyzed both as it would be applied to B.P.J. and as it may be applied to other transgender females who wish to play school sports. B.P.J. has had medical treatment, including nearly two years of puberty-delaying treatment, and she plans to receive gender-affirming hormone therapy, such that she will not undergo puberty typical of cisgender males. (See Doc. 291, at 34.) She claims that she has not personally “substantially displaced cisgender female athletes,” at least at this stage of her athletic life. (See Doc. 291, at 34-35.)

But other transgender females who wish to play school sports may not receive the medical treatment B.P.J. has had and plans to have in the future and, thus, they will experience (or are already experiencing) levels of circulating testosterone and other physical traits typical of cisgender males. (*See* Doc. 291, at 34.) To permit transgender females who, despite their gender identity are in a cisgender male’s physical condition, to participate on girls’ athletic teams would be to risk the competitive fairness and safety of females’ school sports. Indeed, as Plaintiff notes in her summary judgment briefing, the NCAA, World Athletics, International Olympic Committee (“IOC”), and USA Swimming all require transgender females to undergo medical treatment before permitting them to compete in womens’ sporting events. (Doc. 291, at 35, 35 n.12.) While they are not as specific as the NCAA, World Athletics, IOC, or USA Swimming’s provisions, H.B. 3293’s provisions are still “substantially related” to the important government interest of “promot[ing] equal athletic opportunities for the female sex,” including fair opportunities to compete without unnecessarily compromising athletes’ safety. *See* W. Va. Code § 18-2-25d(a)(5).

A primary purpose of H.B. 3293 is to help ensure competitive fairness. As confirmed by expert reports in this case, biological males are, on average, bigger, stronger, and faster than biological females.<sup>11</sup> (Exhibit 2, at 10-22; Excerpts from Expert Report of Chad Carlson, M.D., FACM, attached as “**Exhibit 3**,” at 24-33.) As was detailed in “Defendants

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<sup>11</sup>*See, e.g., Clark*, 695 F.2d at 1129–31, which discussed other cases, including *Petrie v. Illinois High School Athletic Association*, 75 Ill. App.3d 980, 31 Ill. Dec. 653, 394 N.E.2d 855 (1979), in which the court found that exclusion of boys from girls’ teams “was a legitimate means of providing athletic opportunities for girls,” noted “that the classification of teams based on sex was based on the innate physical differences between the sexes, [rather than on] generalizations that are archaic . . . [or attitudes of] romantic paternalism,” acknowledged “that the sexual classification could be avoided by classifying directly on the basis of physical differences such as height or weight, but concluded that such classifications would be too difficult to devise, . . . primarily because of strength differentials between the sexes,” concluded that “[h]andicapping competitions . . . would be difficult and contrary to the interest of achieving the best competition possible,” noted that “multi-tiered teams . . . [would be] too expensive to impose on the schools,” and concluded “that sex was the only feasible classification to promote the legitimate and substantial state interest of providing for interscholastic athletic opportunities for girls.” *Clark*, 695 F.2d at 1130 (internal quotations and citations omitted).

Harrison County Board of Education and Dora Stutler’s Memorandum of Law in Support of Their Motion for Summary Judgment” (Doc. 281, at 24-26), compared to (cisgender) females, on average, (cisgender) males have, for example, greater arm and leg strength; an overwhelming 10-12% advantage in running after puberty; the ability to jump higher and farther and to throw and kick farther; advantages in cardiovascular endurance, muscular strength, muscular endurance, speed/agility and power tests from the age of six; stronger handgrips; and better performance in push-ups and bent-arm hangs. (Exhibit 2, at 10-12, 14-16, 28-29 (citations omitted).)

Biological males’ many athletic advantages cause unfairness for biological females who have to compete against them in sports. In prohibiting biological males from playing on female sports teams or competing in female sports, H.B. 3293 serves the important government purpose of allowing biological females to play sports and compete in a fair environment.

Evidence in this case also shows that physiological differences between biological males and biological females will increase the frequency and the severity of injury to females if biological males are allowed to compete against biological females.<sup>12</sup> (Exhibit 3, at 9.) As Dr. Carlson concluded, “[m]ales exhibit large average advantages in size, weight, and physical capacity over females—often falling far outside female ranges. Even before puberty, males have a performance advantage over females in most athletic events.” (*Id.*)

The risk of female injury is even greater when considering studies showing that females have an enhanced susceptibility to suffering an injury in sports. To support this opinion, Dr. Carlson cited to multiple studies demonstrating that girls (around middle school age) have higher rates of injury in sports than do boys. (Exhibit 3, at 34 (citations omitted).) Dr. Carlson also cited to research and a study indicating that females are more susceptible to Anterior Cruciate

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<sup>12</sup> As shown above in section E.1., H.B. 3293’s purpose of enhancing safety in womens’ sports is not merely a *post hoc* justification.

Ligament (“ACL”) injuries and concussions. (Exhibit 3, at 35-45.) Furthermore, “females on average suffer materially greater cognitive impairment than males” when they suffer a concussion. (*Id.*, at 38-39 (citations omitted).) Therefore, “when females compete against each other, they already have higher rates of concussive injury than males, across most sports. The addition of biologically male athletes into women’s contact sports will inevitably increase the risk of concussive injury to girls and women[.]” (Exhibit 3, at 41.) Clearly, protecting the safety of biological female athletes is an important purpose. In prohibiting biological males from playing on female sports teams, H.B. 3293 advances the important government purpose of protecting the safety of biological female athletes.

Ultimately, Plaintiff’s facial and as-applied challenge to H.B. 3293 is about more than B.P.J. and whether she creates the risks H.B. 3293 seeks to prevent. It is about the fairness to and safety of any number of cisgender female athletes. It is of inadequate constitutional significance that any particular student has not gained some or all of the differences in physical characteristics that medical intervention either can or cannot equalize. A perfect or even best possible fit between a government’s chosen means (*i.e.*, the classification) and its important goals is not what intermediate scrutiny demands. Intermediate scrutiny tolerates such imperfections in classifications.

B.P.J. argues that participation on girls’ sports teams should be determined not based on biological sex at birth but on circulating testosterone levels. However, the science on the relationship between testosterone levels and the promotion of fairness and safety is debated. More importantly, the possibility that testosterone levels are *a* way to accomplish H.B. 3293’s goals does not, under intermediate scrutiny, necessarily mean that testosterone levels are *the only* constitutionally permissible way to do so. That is, “the alternative chosen may not maximize equality, and may represent trade-offs between equality and practicality. But . . . even the existence

of wiser alternatives than the one chosen does not serve to invalidate the policy here since it is substantially related to the goal.” *Clark*, 695 F.2d at 1131–32 (citation omitted). Because H.B. 3293 survives intermediate scrutiny, B.P.J. cannot prove that H.B. 3293 violates the EPC. As a result, Stutler is entitled to summary judgment on that claim.

For these reasons, the County Board observes that a clear basis exists for finding that H.B. 3293 does not violate the EPC and that, thus, Plaintiff’s motion for summary judgment and attendant relief (including monetary awards and a permanent injunction) should be denied.

### III. CONCLUSION

For the foregoing reasons, the HCBOE and Stutler respectfully request that the Court **DENY** Plaintiff’s Motion for Summary Judgment. Her motion against the HCBOE should be denied because it cannot be liable for the State’s law, and thus it cannot be liable on the sole claim against it. Stutler has not violated any right of B.P.J.’s, and thus, she also cannot be liable to Plaintiff. If Stutler is retained as a defendant to Count II for purposes of an injunction, then she must be retained as an agent of the State, not of the HCBOE. Thus, to the extent that Plaintiff moves for any damages or other monetary award against Stutler, including any award for attorneys’ fees and costs, her motion should be denied because any monetary award is the sole responsibility of the State. Finally, H.B. 3293 does not violate Title IX or the EPC for the reasons stated herein.

Respectfully submitted this 12th day of May, 2022.

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IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA  
CHARLESTON DIVISION

B.P.J., by her next friend and mother, HEATHER  
JACKSON,

*Plaintiff,*

v.

Civil Action No. 2:21-cv-00316  
Hon. Joseph R. Goodwin, District Judge

WEST VIRGINIA STATE BOARD OF  
EDUCATION, HARRISON COUNTY BOARD  
OF EDUCATION, WEST VIRGINIA  
SECONDARY SCHOOL ACTIVITIES  
COMMISSION, W. CLAYTON BURCH in his  
official capacity as State Superintendent,  
DORA STUTLER in her official capacity as  
Harrison County Superintendent, PATRICK  
MORRISEY in his official capacity as Attorney  
General, and THE STATE OF WEST VIRGINIA,

*Defendants,*

and

LAINEY ARMISTEAD,

*Defendant-Intervenor.*

**CERTIFICATE OF SERVICE**

I hereby certify that on 12th day of May, 2022, I electronically filed the foregoing  
“Defendants Harrison County Board of Education and Dora Stutler’s Response in Opposition to  
Plaintiff’s Motion for Summary Judgment” with the Clerk of the Court using the CM/ECF system,  
which will send notification of such filing to all counsel of record.

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# **EXHIBIT 1**

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IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA  
CHARLESTON DIVISION

-----  
 B.P.J. by her next friend and )  
 mother, HEATHER JACKSON, )  
 Plaintiff, )  
 vs. ) Case No.  
 WEST VIRGINIA STATE BOARD OF ) 2:21-cv-00316  
 EDUCATION, HARRISON COUNTY )  
 BOARD OF EDUCATION, WEST )  
 VIRGINIA SECONDARY SCHOOL )  
 ACTIVITIES COMMISSION, W. )  
 CLAYTON BURCH in his official )  
 capacity as State )  
 Superintendent, DORA STUTLER, )  
 in her official capacity as )  
 Harrison County )  
 Superintendent, and THE STATE )  
 OF WEST VIRGINIA, )  
 Defendants. )  
 And )  
 LAINIEY ARMISTEAD, )  
 Defendant-Intervenor. )  
 -----

REMOTE VIDEOTAPED DEPOSITION OF  
DORA STUTLER  
AND  
DAVE MAZZA  
Tuesday, March 8, 2022  
Volume I

Reported by:  
ALEXIS KAGAY, CSR No. 13795  
Job No. 5079542  
PAGES 1 - 240

1 Q Did you or anyone at the county board present  
2 the county board members with the -- with the bill  
3 H.B. 3293?

4 A No.

5 Q Has the board voted in any way relating to 01:05:04  
6 policies around H.B. 3293?

7 A No.

8 Q What is the county board's relationship with  
9 the Department of Education?

10 A I believe, as the superintendent, I am the 01:05:21  
11 conduit from the County Board of Education to my  
12 board. So information that comes from the state  
13 board is usually a conduit through me to the board,  
14 although my board has -- our state boards have their  
15 own association that also has a relationship with 01:05:50  
16 the state board, and they do have a fall meeting and  
17 a winter meeting to update board members. So  
18 they -- they have a relationship outside of my  
19 relationship with the state board through that  
20 organization. 01:06:08

21 Q When you say "they," who are you referring  
22 to?

23 A My board members. My five board members are  
24 part of a state -- it's just an association. Like I  
25 have an association for superintendents, there's an 01:06:23

1 Q Understood. Does the county board have any  
2 policies pertaining to sports?

3 A We have minimal. We have two.

4 Q And what are those two policies?

5 A We have a policy on extracurricular 01:44:45  
6 activities for 6 to 12, just defining what  
7 extracurricular would be for 6 to 12th grade. And  
8 the other policy that we have is on how you obtain a  
9 letter, how are you a lettermen, as far as sports is  
10 concerned. 01:45:07

11 Q When were those policies developed?

12 A I believe 2008 was one. I don't remember the  
13 date on the other. They were early. They're --  
14 they're older policies.

15 Q So as it relates to the lettermen policy, 01:45:20  
16 I'll use that as an example, who is responsible for  
17 enforcing it?

18 A That would be the school AD and the athletic  
19 program at the school. That would be really  
20 pertaining to the high school athletic directors. 01:45:40

21 Q And does the county board ever need to step  
22 in, as far as enforcing those policies?

23 A Only if there would be a disagreement. I  
24 would assume that if a child thought they were  
25 supposed to get a letter, and they didn't, then I 01:46:00

1 would probably be -- it would be brought to my  
2 attention.

3 Q Understood. And just for clarity, does the  
4 county board have any policies related to sex  
5 separation in sports? 01:46:12

6 A No, we do not have an adopted policy for  
7 that. We follow SSAC guidelines on what teams are  
8 coed.

9 Q Does the County have any policies pertaining  
10 to transgender students? 01:46:40

11 A No.

12 Q What do you know about H.B. 3293?

13 MS. DENIKER: Objection to the form.

14 THE WITNESS: It -- it was a state law passed  
15 in July of '21. 01:47:05

16 BY MS. REINHARDT:

17 Q What does H.B. 3293 do?

18 MS. DENIKER: Objection to the form.

19 THE WITNESS: I can really only tell you what  
20 I know when I read the statute. It's a -- it makes 01:47:24

21 a distinction between -- it begins by saying that  
22 there is an inherent difference between a male and a  
23 female. It talks about safety during sporting  
24 activities or doing -- during athletics. And it  
25 also addresses the equity or displacement of female 01:47:46

1 Q And once the association made you aware of  
2 H.B. 3293, did you report -- did you report anything  
3 related to H.B. 3293 to someone you report to?

4 And I can rephrase that if that was not  
5 clear. 01:59:29

6 A No.

7 Q Did you discuss H.B. 3293 with anyone who  
8 reports to you?

9 A No.

10 Q Was the County Board of Education -- did the 01:59:45  
11 County Board of Education have a role in drafting  
12 H.B. 3293?

13 A No.

14 Q Did the county board provide any comments or  
15 thoughts to the legislature regarding H.B. 3293 that 02:00:01  
16 you are aware of as Superintendent Stutler?

17 A Are you speaking about my county-elected  
18 board or --

19 Q The County Board of Education, generally.

20 A No. 02:00:22

21 Q How was H.B. 3293 described to you as  
22 Superintendent Stutler?

23 MS. DENIKER: Objection to the form.

24 THE WITNESS: I truly just read the

25 administrative updates, and I will tell you that we 02:00:42

1 Do you see that?

2 A Yes.

3 Q Then on the following page, which is  
4 HCBOE 00345, it says, "WV House Bill 3293."

5 Do you see that? 02:04:54

6 A Yes.

7 Q And is it correct that you, as Dora Stutler,  
8 were not present for this presentation?

9 A I do not attend all of those association  
10 meetings. So I do not recall that particular 02:05:12  
11 presentation. These attorneys do present often at  
12 these organization meetings.

13 Q After this presentation, did any of the --  
14 other superintendents that are members of this  
15 associations speak with you about a presentation? 02:05:33

16 A No.

17 Q Has the county board had any conversations  
18 with the State Board of Education, prior to the  
19 enactment of H.B. 3293, about students who are  
20 transgender participating in sports? 02:05:54

21 A No.

22 Q Now, looking at this page, which I believe is  
23 345, is that the same page you're currently on?

24 A Yes.

25 Q Can you just review it and let me know if 02:06:07

1 THE WITNESS: No. Because we are not  
2 operating under House B. -- House Bill 3293.

3 BY MS. REINHARDT:

4 Q Despite the injunction, if one was not put in  
5 place, would the process that you've described be 03:09:05  
6 the same for H.B. 3293?

7 MS. DENIKER: Object to the form.

8 THE WITNESS: If a student -- if a student  
9 athlete is objecting to something, according to SSAC  
10 rules, they could follow that process. 03:09:20

11 BY MS. REINHARDT:

12 Q Thank you. Did the county board have any  
13 conversations with WVSSAC prior to the enactment of  
14 H.B. 3293 about students who are transgender  
15 participating in sports? 03:09:40

16 A No.

17 Q Do you know who Bernie Dolan is?

18 A Yes.

19 Q Who is Bernie Dolan?

20 A He's the executive director of the SSAC. 03:09:52

21 Q Did the county board have any conversations  
22 with Mr. Dolan, prior to the enactment of H.B. 3293,  
23 about students who are transgender participating in  
24 sports?

25 A No. 03:10:11

1 for the fifth-grade year?

2 A Tarra Shields -- in conversation with  
3 Tarra Shields, they put this plan into place, her  
4 going into fourth grade. And, now, this is from  
5 Tarra Shields. There were -- they -- she had a -- 04:08:05  
6 I'm talking from Tarra, that she had a good  
7 fourth-grade year. They were going -- she was going  
8 into the fifth grade, and they felt there was really  
9 no need to change anything.

10 At any time, a parent can request that the 04:08:20  
11 plan be reviewed. So I would take that if there's  
12 not another plan dated, that they felt that, you  
13 know, she was having a good two years.

14 Q And who are you referring to when you say  
15 "they"? 04:08:35

16 A I -- I would say Tarra Shields, this team  
17 that was with her at Norwood. And you've also got  
18 to understand the parent is involved in this.  
19 And -- and B [REDACTED].

20 Q Did the county board implement any policies 04:08:46  
21 related to transgender students after implementing  
22 B [REDACTED]'s gender support plan?

23 A No.

24 Q Now I'm going to ask you to go back to what  
25 was previously marked as WV-19. 04:09:05

1 MS. DENIKER: And I'm going to ask for --  
2 this is Susan Deniker again.

3 What is the scope of timing on your question,  
4 Ms. Reinhardt?

5 MS. REINHARDT: It will be from January 1st, 04:57:03  
6 2019, to present.

7 THE WITNESS: No.

8 BY MS. REINHARDT:

9 Q Thank you. And just as one last final  
10 follow-up question, has the county board implemented 04:57:12  
11 any Title IX policies pertaining to transgender  
12 students' participation in sports?

13 A No.

14 MS. REINHARDT: Thank you very much,  
15 Superintendent Stutler. I believe that opposing 04:57:26  
16 counsel may have a few questions for you.

17 THE WITNESS: Thank you.

18

19 EXAMINATION

20 BY MS. GREEN: 04:57:34

21 Q Hello, Superintendent Stutler. This is  
22 Roberta Green with WVSSAC --

23 MS. GREEN: Kelly, did -- were you guys  
24 hopping on to go first? Okay. I'll just leap to  
25 the front of the line, then. 04:58:02

1 Q Do you know how that process is done?

2 A Not from beginning to end. I know parts.

3 Q Is it fair to say that you will defer

4 testimony on behalf of the Harrison County Board of

5 Education about rostering for school sports in 05:54:29

6 Harrison County to the other designee for today's

7 30(b)(6) deposition?

8 A Yes.

9 Q You were also asked questions today about

10 House Bill 3293. 05:54:44

11 Superintendent Stutler, are you familiar with

12 that house bill that was passed by the West Virginia

13 legislature?

14 A Yes.

15 Q And you would have reviewed that bill; is 05:54:55

16 that correct?

17 A Yes.

18 Q You were asked some questions about whether

19 the Harrison County Board of Education supported

20 that bill, and I want to ask you more specific 05:55:03

21 questions about that.

22 Did the Harrison County Board of Education as

23 an entity do anything officially to advocate or

24 support that bill?

25 MS. REINHARDT: Objection to form. 05:55:15

1 THE WITNESS: No.

2 BY MS. DENIKER:

3 Q Did any employee or agent of Harrison County,  
4 in their official capacities, take any action to  
5 advocate for the passage of that bill? 05:55:25

6 MS. REINHARDT: Objection.

7 THE WITNESS: No.

8 BY MS. DENIKER:

9 Q Did any employee or agent of the  
10 Harrison County Board of Education in any way 05:55:34  
11 contribute to the passage of that bill by providing  
12 testimony or information to support passage of  
13 House Bill 3293?

14 MS. REINHARDT: Objection to form.

15 THE WITNESS: No. 05:55:48

16 BY MS. DENIKER:

17 Q Did the Harrison County Board of Education,  
18 through the elected board, pass any policy  
19 proclamation or other statement that related to  
20 House Bill 3293 in any way? 05:56:00

21 A No.

22 Q Has the Harrison County Board of Education  
23 taken any action to implement the provisions of  
24 House Bill 3293 as you sit here today?

25 A No. 05:56:13

1 items that only go to certain people.

2 The secretaries have, usually, residency  
3 information, scheduling, the schedules, things like  
4 that, but some of the stuff that is put in the  
5 WVEIS, it's mostly my counselor, myself and my 06:40:03  
6 assistant.

7 Q In WVEIS, are students' names listed and  
8 other -- so I'm asking, are student names listed,  
9 including their ID number?

10 A That is correct. 06:40:16

11 Q And are students' genders listed in WVEIS?

12 A Yes, they are.

13 Q And if a student were to participate in a  
14 school athletic program, would the athletic director  
15 need to check WVEIS to know which team the student 06:40:39  
16 needed to be on?

17 A No.

18 Q How is it -- how are students designated  
19 between teams?

20 A They are given an information sheet that is 06:40:48  
21 filled out by them or the -- the student or the  
22 parent. That information goes back to the athletic  
23 director who then puts it in a portal that would be  
24 seen by the WVSSAC.

25 Q Does that portal have a name? 06:41:03



1 support meeting back in May of '21.

2 Q And what was the conversation about?

3 A As we were going through the gender support  
4 plan, and we were finishing up, she was -- Heather  
5 was asking specific questions about band. I said 06:50:15  
6 that would not be a problem. You know, we do offer  
7 related art classes other than our five core  
8 classes, which is reading, English, science, math,  
9 social studies. So we were pretty much asking B [REDACTED]  
10 what other related art classes she would be 06:50:33  
11 interested in other than band. She -- B [REDACTED] said,  
12 art. And we do offer STEAM, etcetera.

13 And then Heather asked me, B [REDACTED] wants to  
14 participate in cross-country. I said, No problem.  
15 And then Heather asked me, B [REDACTED] wants to run with 06:50:48  
16 the girls. And I -- I know -- I've known Heather --  
17 I've had both of her -- I had her oldest son go  
18 through, and she has another son that is an  
19 eighth-grader in our building. And I looked at  
20 Heather, and I said, You did hear about the bill 06:51:07  
21 that was signed into law, that's going into effect  
22 in July.

23 And she said, We know all about that.

24 And that was the only discussion we had with  
25 this law that went into effect in the state of 06:51:17

1 West Virginia.

2 Q And if you know, did Mrs. Jackson take that  
3 to mean that B [REDACTED] would have to participate on the  
4 boys' sports team?

5 MS. DENIKER: Objection to the form of the 06:51:30  
6 question, calls for speculation.

7 THE WITNESS: I honestly don't know.

8 BY MS. REINHARDT:

9 Q And what was the purpose in raising H.B. 3293  
10 with Mrs. Jackson? 06:51:48

11 A Her question was pretty forward, and I just  
12 wondered if she knew that that bill was going to  
13 turn into a law in July.

14 Q Understood. I'm just checking my notes. One  
15 moment. 06:52:13

16 And just for background information, do  
17 you -- have you ever coached any sports?

18 A I have.

19 Q Which sports have you coached?

20 A I've coached football and track. 06:52:26

21 Q And were those in Harrison County?

22 A Football was in Monongalia County, 1989, and  
23 track was in Harrison County, 1991, Lincoln High  
24 School. Football was the -- what was then  
25 Westover Junior High, which is now Westwood Middle. 06:52:51

# **EXHIBIT 2**

IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA  
CHARLESTON DIVISION

B.P.J., by her next friend and mother,  
HEATHER JACKSON,

*Plaintiff,*

vs.

WEST VIRGINIA STATE BOARD OF  
EDUCATION; HARRISON COUNTY BOARD  
OF EDUCATION; WEST VIRGINIA  
SECONDARY SCHOOLS ACTIVITIES  
COMMISSION; W. CLAYTON BURCH, in his  
official capacity as State Superintendent, DORA  
STUTLER, in her official capacity as the  
Harrison County Superintendent, and the  
STATE OF WEST VIRGINIA,

*Defendants,*

and

LAINIEY ARMISTEAD,

*Defendant-Intervenor.*

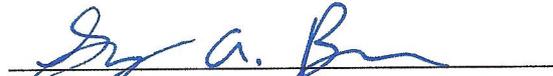
Case No. 2:21-cv-00316

Hon. Joseph R. Goodwin

**DECLARATION OF GREGORY A. BROWN, PH.D., FACSM**

I, Dr. Gregory A. Brown, pursuant to 28 U.S. Code § 1746, declare under penalty of perjury under the laws of the United States of America that the facts contained in my Expert Declaration of Gregory A. Brown, Ph.D., FACSM in the Case of B.P.J. v. West Virginia State Board of Education, attached hereto, are true and correct to the best of my knowledge and belief, and that the opinions expressed therein represent my own expert opinions.

Executed on February 23, 2022.

  
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Gregory A. Brown

G. Brown

Expert Report, B.P.J. v. WV BOE et al.

Expert Report of  
Gregory A Brown, Ph.D. FACSM  
In the case of B.P.J. vs. West Virginia State Board of Education.

## Overview

In this declaration, I explore three important questions relevant to current discussions and policy decisions concerning inclusion of transgender individuals in women's athletic competitions. Based on my professional familiarity with exercise physiology and my review of the currently available science, including that contained in the many academic sources I cite in this report, I set out and explain three basic conclusions:

- At the level of (a) elite, (b) collegiate, (c) scholastic, and (d) recreational competition, men, adolescent boys, or male children, have an advantage over equally aged, gifted, and trained women, adolescent girls, or female children in almost all athletic events;
- Biological male physiology is the basis for the performance advantage that men, adolescent boys, or male children have over women, adolescent girls, or female children in almost all athletic events; and
- The administration of androgen inhibitors and cross-sex hormones to men or adolescent boys after the onset of male puberty does not eliminate the performance advantage that men and adolescent boys have over women and adolescent girls in almost all athletic events. Likewise, there is no published scientific evidence that the administration of puberty blockers to males before puberty eliminates the pre-existing athletic advantage that prepubertal males have over prepubertal females in almost all athletic events.

In short summary, men, adolescent boys, and prepubertal male children perform better in almost all sports than women, adolescent girls, and prepubertal female children because of their inherent physiological advantages. In general, men, adolescent boys, and prepubertal male children, can run faster, output more muscular power, jump higher, and possess greater muscular endurance than women, adolescent girls, and prepubertal female children. These advantages become greater during and after male puberty, but they exist before puberty.

Further, while after the onset of puberty males are on average taller and heavier than females, a male performance advantage over females has been measured in weightlifting competitions even between males and females matched for body mass.

Male advantages in measurements of body composition, tests of physical fitness, and athletic performance have also been shown in children before puberty. These advantages are magnified during puberty, triggered in large part by the higher testosterone concentrations in men, and adolescent boys, after the onset of

adolescent girls and prepubertal female children, in competitions involving running speed, swimming speed, cycling speed, jumping height, jumping distance, and strength (to name a few, but not all, of the performance differences). As I discuss later, it is now clear that these performance advantages for men, adolescent boys, and prepubertal male children, are inherent to the biological differences between the sexes.

10. In fact, I am not aware of any scientific evidence today that disproves that after puberty men possess large advantages in athletic performance over women—so large that they are generally insurmountable for comparably gifted and trained athletes at every level (i.e. (a) elite, (b) collegiate, (c) scholastic, and (d) recreational competition). And I am not aware of any scientific evidence today that disproves that these measured performance advantages are at least largely the result of physiological differences between men and women which have been measured and are reasonably well understood.

11. My use of the term “advantage” in this paper must not be read to imply any normative judgment. The adult female physique is simply different from the adult male physique. Obviously, it is optimized in important respects for the difficult task of childbearing. On average, women require far fewer calories for healthy survival. Evolutionary biologists can and do theorize about the survival value or “advantages” provided by these and other distinctive characteristics of the female physique, but I will leave that to the evolutionary biologists. I use “advantage” to refer merely to performance advantages in athletic competitions.

12. I find in the literature a widespread consensus that the large performance and physiological advantages possessed by males—rather than social considerations or considerations of identity—are precisely the *reason* that most athletic competitions are separated by sex, with women treated as a “protected class.” To cite only a few statements accepting this as the justification:

- Handelsman et al. (2018) wrote, “Virtually all elite sports are segregated into male and female competitions. The main justification is to allow women a chance to win, as women have major disadvantages against men who are, on average, taller, stronger, and faster and have greater endurance due to their larger, stronger, muscles and bones as well as a higher circulating hemoglobin level.” (803)
- Millard-Stafford et al. (2018) wrote “Current evidence suggests that women will not swim or run as fast as men in Olympic events, which speaks against eliminating sex segregation in these individual sports” (530) “Given the historical context (2% narrowing in swimming over 44 y), a reasonable assumption might be that no more than 2% of the

current performance gap could still potentially be attributed to sociocultural influences.”, (533) and “Performance gaps between US men and women stabilized within less than a decade after federal legislation provided equal opportunities for female participation, but only modestly closed the overall gap in Olympic swimming by 2% (5% in running).” (533) Dr. Millard-Stafford, a full professor at Georgia Tech, holds a Ph.D. in Exercise Physiology and is a past President of the American College of Sports Medicine.

- In 2021, Hilton et al. wrote, “most sports have a female category the purpose of which is the protection of both fairness and, in some sports, safety/welfare of athletes who do not benefit from the physiological changes induced by male levels of testosterone from puberty onwards.” (204)
- In 2020 the Swiss High Court (“Tribunal Fédéral”) observed that “in most sports . . . women and men compete in two separate categories, because the latter possess natural advantages in terms of physiology.”<sup>1</sup>
- The members of the Women’s Sports Policy Working Group wrote that “If sports were not sex-segregated, female athletes would rarely be seen in finals or on victory podiums,” and that “We have separate sex sport and eligibility criteria based on biological sex because this is the only way we can assure that female athletes have the same opportunities as male athletes not only to participate but to win in competitive sport. . . . If we did not separate athletes on the basis of biological sex—if we used any other physical criteria—we would never see females in finals or on podiums.” (WSPWG Briefing Book 2021 at 5, 20.)
- In 2020, the World Rugby organization stated that “the women's category exists to ensure protection, safety and equality for those who do not benefit from the biological advantage created by these biological performance attributes.” (World Rugby Transgender Women Guidelines 2020.)
- In 2021 Harper et al. stated “...the small decrease in strength in transwomen after 12–36 months of GAHT [Gender Affirming Hormone Therapy] suggests that transwomen likely retain a strength advantage

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<sup>1</sup> “dans la plupart des sports . . . les femmes et les hommes concourent dans deux catégories séparées, ces derniers étant naturellement avantagés du point de vue physique.” Tribunal Fédéral decision of August 25, 2020, Case 4A\_248/2019, 4A\_398/2019, at §9.8.3.3.

over cisgender women.” (7) and “...observations in trained transgender individuals are consistent with the findings of the current review in untrained transgender individuals, whereby 30 months of GAHT may be sufficient to attenuate some, but not all, influencing factors associated with muscular endurance and performance.” (8)

- Hamilton et al. (2021), in a consensus statement for the International Federation of Sports Medicine (FIMS) concluded that “Transwomen have the right to compete in sports. However, cisgender women have the right to compete in a protected category.” (1409)

13. While the sources I mention above gather more extensive scientific evidence of this uncontroversial truth, I provide here a brief summary of representative facts concerning the male advantage in athletic performance.

#### A. Men are stronger.

14. Males exhibit greater strength throughout the body. Both Handelsman et al. (2018) and Hilton & Lundberg (2021) have gathered multiple literature references that document this fact in various muscle groups.

15. Men have in the neighborhood of 60%-100% greater **arm strength** than women. (Handelsman 2018 at 812.)<sup>2</sup> One study of elbow flexion strength (basically, bringing the fist up towards the shoulder) in a large sample of men and women found that men exhibited 109% greater isometric strength, and 89% higher strength in a single repetition. (Hilton 2021 at 204, summarizing Hubal (2005) at Table 2.)

16. **Grip strength** is often used as a useful proxy for strength more generally. In one study, men showed on average 57% greater grip strength than women. (Bohannon 2019.) A wider meta-analysis of multiple grip-strength studies not limited to athletic populations found that 18- and 19-year-old males exhibited in

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<sup>2</sup> Handelsman expresses this as women having 50% to 60% of the “upper limb” strength of men. Handelsman cites Sale, *Neuromuscular function*, for this figure and the “lower limb” strength figure. Knox et al., *Transwomen in elite sport* (2018) are probably confusing the correct way to state percentages when they state that “differences lead to decreased trunk and lower body strength by 64% and 72% respectively, in women” (397): interpreted literally, this would imply that men have **almost 4x as much** lower body strength as do women.

the neighborhood of 2/3 greater grip strength than females. (Handelsman 2017 Figure 3, summarizing Silverman 2011 Table 1.)<sup>3</sup>

17. In an evaluation of maximal isometric handgrip strength in 1,654 healthy men, 533 healthy women aged 20-25 years and 60 “highly trained elite female athletes from sports known to require high hand-grip forces (judo, handball),” Leyk et al. (2007) observed that, “The results of female national elite athletes even indicate that the strength level attainable by extremely high training will rarely surpass the 50th percentile of untrained or not specifically trained men.” (Leyk 2007 at 415.)

18. Men have in the neighborhood of 25%-60% greater **leg strength** than women. (Handelsman 2018 at 812.) In another measure, men exhibit 54% greater knee extension torque and this male leg strength advantage is consistent across the lifespan. (Neder 1999 at 120-121.)

19. When male and female Olympic weightlifters of the same body weight are compared, the top males lift weights between 30% and 40% greater than the females of the same body weight. But when top male and female performances are compared in powerlifting, without imposing any artificial limitations on bodyweight, the male record is 65% higher than the female record. (Hilton 2021 at 203.)

20. In another measure that combines many muscle groups as well as weight and speed, moderately trained males generated 162% greater punching power than females even though men do not possess this large an advantage in any single bio-mechanical variable. (Morris 2020.) This objective reality was subjectively summed up by women’s mixed-martial arts fighter Tamikka Brents, who suffered significant facial injuries when she fought against a biological male who identified as female and fought under the name of Fallon Fox. Describing the experience, Brents said:

“I’ve fought a lot of women and have never felt the strength that I felt in a fight as I did that night. I can’t answer whether it’s because she was born a man or not because I’m not a doctor. I can only say, I’ve never felt so overpowered ever in my life, and I am an abnormally strong female in my own right.”<sup>4</sup>

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<sup>3</sup> Citing Silverman, *The secular trend for grip strength in Canada and the United States*, J. Ports Sci. 29:599-606 (2011).

<sup>4</sup> <http://whoatv.com/exclusive-fallon-foxs-latest-opponent-opens-up-to-whoatv/> (last accessed October 5, 2021).

## B. Men run faster.

21. Many scholars have detailed the wide performance advantages enjoyed by men in running speed. One can come at this reality from a variety of angles.

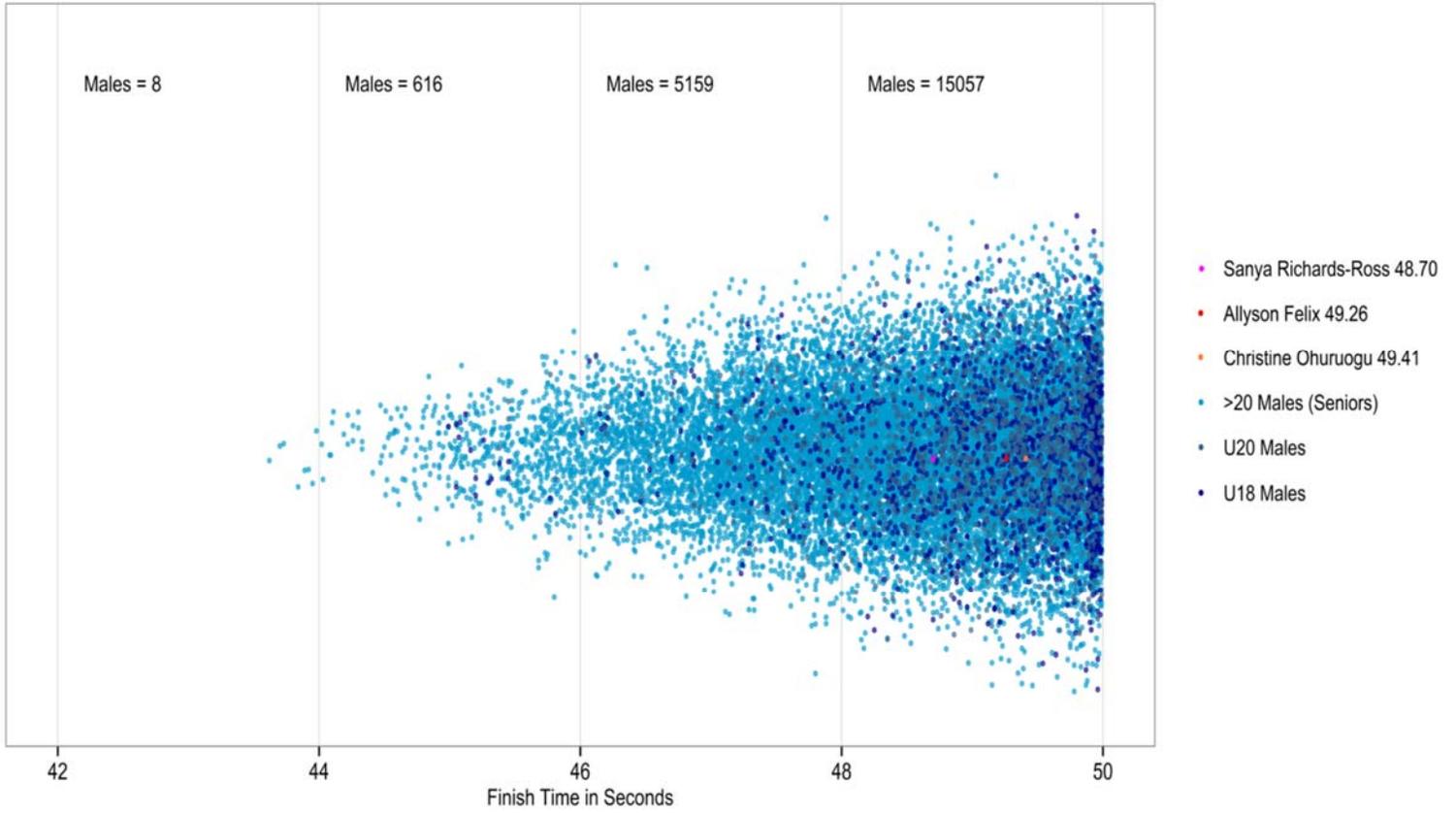
22. Multiple authors report a male speed advantage in the neighborhood of 10%-13% in a variety of events, with a variety of study populations. Handelsman et al. 2018 at 813 and Handelsman 2017 at 70 both report a male advantage of about 10% by age 17. Thibault et al. 2010 at 217 similarly reported a stable 10% performance advantage across multiple events at the Olympic level. Tønnessen et al. (2015 at 1-2) surveyed the data and found a consistent male advantage of 10%-12% in running events after the completion of puberty. They document this for both short sprints and longer distances. One group of authors found that the male advantage increased dramatically in ultra-long-distance competition (Lepers & Knechtle 2013.)

23. A great deal of current interest has been focused on track events. It is worth noting that a recent analysis of publicly available sports federation and tournament records found that men enjoy the *least* advantage in running events, as compared to a range of other events and metrics, including jumping, pole vaulting, tennis serve speed, golf drives, baseball pitching speed, and weightlifting. (Hilton 2021 at 201-202.) Nevertheless, as any serious runner will recognize, the approximately 10% male advantage in running is an overwhelming difference. Dr. Hilton calculates that “approximately 10,000 males have personal best times that are faster than the current Olympic 100m female champion.” (Hilton 2021 at 204.) Professors Doriane Coleman, Jeff Wald, Wickliffe Shreve, and Richard Clark dramatically illustrated this by compiling the data and creating the figure below (last accessed on February 10, 2022, at <https://bit.ly/35yOyS4>), which shows that the *lifetime best performances* of three female Olympic champions in the 400m event—including Team USA’s Sanya Richards-Ross and Allyson Felix—would not match the performances of “literally thousands of boys and men, including thousands who would be considered second tier in the men’s category” *just in 2017 alone*: (data were drawn from the International Association of Athletics Federations (IAAF) website which provides complete, worldwide results for individuals and events, including on an annual and an all-time basis).

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Expert Report, B.P.J. v. WV BOE et al.

Comparing the Best Elite Females to Boys and Men:  
Personal Bests for 3 Female Gold Medalists versus 2017 Performances by Boys and Men



24. Professor Coleman and her colleague Wicklyffe Shreve also created the table below (last accessed on February 10, 2022, at <https://bit.ly/37E1s2X>), which “compares the number of men—males over 18—competing in events reported to the International Association of Athletics Federation whose results in each event in 2017 would have ranked them above the very best elite woman that year.”

Event	Best Women’s Result	Best Men’s Result	# of Men Outperforming
100 Meters	10.71	9.69	2,474
200 Meters	21.77	19.77	2,920
400 Meters	49.46	43.62	4,341
800 Meters	1:55.16*	1:43.10	3,992+
1500 Meters	3:56.14	3:28.80	3,216+
3000 Meters	8:23.14	7:28.73	1307+
5000 Meters	14:18.37	12:55.23	1,243
High Jump	2.06 meters	2.40 meters	777
Pole Vault	4.91 meters	6.00 meters	684
Long Jump	7.13 meters	8.65 meters	1,652
Triple Jump	14.96 meters	18.11 meters	969

25. The male advantage becomes insuperable well before the developmental changes of puberty are complete. Dr. Hilton documents that even “schoolboys”—defined as age 15 and under—have beaten the female world records in running, jumping, and throwing events. (Hilton 2021 at 204.)

26. Similarly, Coleman and Shreve created the table below (last accessed on February 10, 2022, at <https://bit.ly/37E1s2X>), which “compares the number of boys—males under the age of 18—whose results in each event in 2017 would rank them above the single very best elite [adult] woman that year:” data were drawn from the International Association of Athletics Federations (IAAF) website

Event	Best Women’s Result	Best Boys’ Result	# of Boys Outperforming
100 Meters	10.71	10.15	124 <sup>+</sup>
200 Meters	21.77	20.51	182
400 Meters	49.46	45.38	285
800 Meters	1:55.16*	1:46.3	201+
1500 Meters	3:56.14	3:37.43	101+
3000 Meters	8:23.14	7:38.90	30
5000 Meters	14:18.37	12:55.58	15
High Jump	2.06 meters	2.25 meters	28
Pole Vault	4.91 meters	5.31 meters	10
Long Jump	7.13 meters	7.88 meters	74
Triple Jump	14.96 meters	17.30 meters	47

27. In an analysis I have performed of running events (consisting of the 100 m, 200 m, 400 m, 800 m, 1500 m, 5000 m, and 10000 m) in the Division 1, Division 2, and Division 3 NCAA Outdoor track championships for the years of 2010-2019, the average performance across all events of the 1<sup>st</sup> place man was 14.1% faster than the 1<sup>st</sup> place woman, with the smallest difference being a 10.2% advantage for men in the Division 1 100 m race. The average 8<sup>th</sup> place man across all events (the last place to earn the title of All American) was 11.2% faster than 1<sup>st</sup> place woman, with the smallest difference being a 6.5% advantage for men in the Division 1 100 m race. (Brown et al. Unpublished observations, to be presented at the 2022 Annual Meeting of the American College of Sports Medicine.)

28. Athletic.net® is an internet-based resource providing “results, team, and event management tools to help coaches and athletes thrive.” Among the resources available on Athletic.net are event records that can be searched by nationally or by state age group, school grade, and state. Higerd (2021) in an evaluation of high school track running performance records from five states (CA, FL, MN, NY, WA), over three years (2017 – 2019) observed that males were 14.38% faster than females in the 100M (at 99), 16.17% faster in the 200M (at 100), 17.62% faster in the 400M (at 102), 17.96% faster in the 800M (at 103), 17.81% faster in the 1600M (at 105), and 16.83% faster in the 3200M (at 106).

### **C. Men jump higher and farther.**

29. Jumping involves both leg strength and speed as positive factors, with body weight of course a factor working against jump height. Despite their substantially greater body weight, males enjoy an even greater advantage in jumping than in running. Handelsman 2018 at 813, looking at youth and young adults, and Thibault 2010 at 217, looking at Olympic performances, both found male advantages in the range of 15%-20%. See also Tønnessen 2015 (approximately 19%); Handelsman 2017 (19%); Hilton 2021 at 201 (18%). Looking at the vertical jump called for in volleyball, research on elite volleyball players found that males jumped on average 50% higher during an “attack” at the net than did females. (Sattler 2015; see also Hilton 2021 at 203 (33% higher vertical jump).)

30. Higerd (2021) in an evaluation of high school high jump performance available through the track and field database athletic.net®, which included five states (CA, FL, MN, NY, WA), over three years (2017 – 2019) (at 82) observed that in 23,390 females and 26,843 males, females jumped an average of 1.35 m and males jumped an average of 1.62 m, for an 18.18% performance advantage for males (at 96). In an evaluation of long jump performance in 45,705 high school females and 54,506 high school males the females jumped an average of 4.08 m and males jumped an average of 5.20 m, for a 24.14% performance advantage for males (at 97).

31. The combined male advantage of body height and jump height means, for example, that a total of seven women in the WNBA have ever dunked a basketball in the regulation 10 foot hoop,<sup>5</sup> while the ability to dunk appears to be almost universal among NBA players: “Since the 1996–97 season (the earliest data is available from Basketball-Reference.com), 1,801 different [NBA] players have combined for 210,842 regular-season dunks, and 1,259 out of 1,367 players (or 92%) who have played at least 1,000 minutes have dunked at least once.”<sup>6</sup>

#### **D. Men throw, hit, and kick faster and farther.**

32. Strength, arm-length, and speed combine to give men a large advantage over women in throwing. This has been measured in a number of studies.

33. One study of elite male and female baseball pitchers showed that men throw baseballs 35% faster than women—81 miles/hour for men vs. 60 miles/hour for women. (Chu 2009.) By age 12, “boys’ throwing velocity is already between 3.5 and 4 standard deviation units higher than the girls’.” (Thomas 1985 at 276.) By age seventeen, the *average* male can throw a ball farther than 99% of seventeen-year-old females. (Lombardo 2018; Chu 2009; Thomas 1985 at 268.) Looking at publicly available data, Hilton & Lundberg found that in both baseball pitching and the field hockey “drag flick,” the *record* ball speeds achieved by males are more than 50% higher than those achieved by females. (Hilton 2021 at 202-203.)

34. Men achieve serve speeds in tennis more than 15% faster than women; and likewise in golf achieve ball speeds off the tee more than 15% faster than women. (Hilton 2021 at 202.)

35. Males are able to throw a javelin more than 30% farther than females. (Lombardo 2018 Table 2; Hilton 2021 at 203.)

36. Men serve and spike volleyballs with higher velocity than women, with a performance advantage in the range of 29-34%. (Hilton 2021 at 204 Fig. 1.)

37. Men are also able to kick balls harder and faster. A study comparing collegiate soccer players found that males kick the ball with an average 20% greater velocity than females. (Sakamoto 2014.)

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<sup>5</sup> [https://www.espn.com/wnba/story/\\_/id/32258450/2021-wnba-playoffs-brittney-griner-owns-wnba-dunking-record-coming-more](https://www.espn.com/wnba/story/_/id/32258450/2021-wnba-playoffs-brittney-griner-owns-wnba-dunking-record-coming-more).

<sup>6</sup> <https://www.si.com/nba/2021/02/22/nba-non-dunkers-patty-mills-tj-mccconnell-steve-novak-daily-cover>

### **E. Males exhibit faster reaction times.**

38. Interestingly, men enjoy an additional advantage over women in reaction time—an attribute not obviously related to strength or metabolism (e.g.  $\text{VO}_2\text{max}$ ). “Reaction time in sports is crucial in both simple situations such as the gun shot in sprinting and complex situations when a choice is required. In many team sports this is the foundation for tactical advantages which may eventually determine the outcome of a game.” (Dogan 2009 at 92.) “Reaction times can be an important determinant of success in the 100m sprint, where medals are often decided by hundredths or even thousandths of a second.” (Tønnessen 2013 at 885.)

39. The existence of a sex-linked difference in reaction times is consistent over a wide range of ages and athletic abilities. (Dykiert 2012.) Even by the age of 4 or 5, in a ruler-drop test, males have been shown to exhibit 4% to 6% faster reaction times than females. (Latorre-Roman 2018.) In high school athletes taking a common baseline “ImPACT” test, males showed 3% faster reaction times than females. (Mormile 2018.) Researchers have found a 6% male advantage in reaction times of both first-year medical students (Jain 2015) and world-class sprinters (Tønnessen 2013).

40. Most studies of reaction times use computerized tests which ask participants to hit a button on a keyboard or to say something in response to a stimulus. One study on NCAA athletes measured “reaction time” by a criterion perhaps more closely related to athletic performance—that is, how fast athletes covered 3.3 meters after a starting signal. Males covered the 3.3 meters 10% faster than females in response to a visual stimulus, and 16% faster than females in response to an auditory stimulus. (Spierer 2010.)

41. Researchers have speculated that sex-linked differences in brain structure, as well as estrogen receptors in the brain, may be the source of the observed male advantage in reaction times, but at present this remains a matter of speculation and hypothesis. (Mormile at 19; Spierer at 962.)

### **III. Men have large measured physiological differences compared to women which demonstrably or likely explain their performance advantages.**

42. No single physiological characteristic alone accounts for all or any one of the measured advantages that men enjoy in athletic performance. However, scientists have identified and measured a number of physiological factors that contribute to superior male performance.

### **A. Men are taller and heavier than women**

43. In some sports, such as basketball and volleyball, height itself provides competitive advantage. While some women are taller than some men, based on data from 20 countries in North America, Europe, East Asia, and Australia, the 50<sup>th</sup> percentile for body height for women is 164.7 cm (5 ft 5 inches) and the 50<sup>th</sup> percentile for body height for men is 178.4 cm (5 ft 10 inches). Helping to illustrate the inherent height difference between men and women, from the same data analysis, the 95<sup>th</sup> percentile for body height for women is 178.9 cm (5 feet 10.43 inches), which is only 0.5 cm taller than the 50<sup>th</sup> percentile for men (178.4 cm; 5 feet 10.24 inches), while the 95<sup>th</sup> percentile for body height for men is 193.6 cm (6 feet 4.22 inches). (Roser 2013.)

44. To look at a specific athletic population, an evaluation of NCAA Division 1 basketball players compared 68 male guards and 59 male forwards to 105 female guards and 91 female forwards, and found that on average the male guards were  $187.4 \pm 7.0$  cm tall and weighed  $85.2 \pm 7.4$  kg while the female guards were  $171.6 \pm 5.0$  cm tall and weighed  $68.0 \pm 7.4$  kg. The male forwards were  $201.7 \pm 4.0$  cm tall and weighed  $105.3 \pm 5.9$  kg while the female forwards were  $183.5 \pm 4.4$  cm tall and weighed  $82.2 \pm 12.5$  kg. (Fields 2018 at 3.)

### **B. Males have larger and longer bones, stronger bones, and different bone configuration.**

45. Obviously, males on average have longer bones. “Sex differences in height have been the most thoroughly investigated measure of bone size, as adult height is a stable, easily quantified measure in large population samples. Extensive twin studies show that adult height is highly heritable with predominantly additive genetic effects that diverge in a sex-specific manner from the age of puberty onwards.” (Handelsman 2018 at 818.) “Pubertal testosterone exposure leads to an ultimate average greater height in men of 12–15 centimeters, larger bones, greater muscle mass, increased strength and higher hemoglobin levels.” (Gooren 2011 at 653.)

46. “Men have distinctively greater bone size, strength, and density than do women of the same age. As with muscle, sex differences in bone are absent prior to puberty but then accrue progressively from the onset of male puberty due to the sex difference in exposure to adult male circulating testosterone concentrations.” (Handelsman 2018 at 818.)

47. “[O]n average men are 7% to 8% taller with longer, denser, and stronger bones, whereas women have shorter humerus and femur cross-sectional

areas being 65% to 75% and 85%, respectively, those of men.” (Handelsman 2018 at 818.)

48. Greater height, leg, and arm length themselves provide obvious advantages in several sports. But male bone geometry also provides less obvious advantages. “The major effects of men’s larger and stronger bones would be manifest via their taller stature as well as the larger fulcrum with greater leverage for muscular limb power exerted in jumping, throwing, or other explosive power activities.” (Handelsman 2018 at 818.)

49. Male advantage in bone size is not limited to length, as larger bones provide the mechanical framework for larger muscle mass. “From puberty onwards, men have, on average, 10% more bone providing more surface area. The larger surface area of bone accommodates more skeletal muscle so, for example, men have broader shoulders allowing more muscle to build. This translates into 44% less upper body strength for women, providing men an advantage for sports like boxing, weightlifting and skiing. In similar fashion, muscle mass differences lead to decreased trunk and lower body strength by 64% and 72%, respectively in women. These differences in body strength can have a significant impact on athletic performance, and largely underwrite the significant differences in world record times and distances set by men and women.” (Knox 2019 at 397.)

50. Meanwhile, distinctive aspects of the female pelvis geometry cut against athletic performance. “[T]he widening of the female pelvis during puberty, balancing the evolutionary demands of obstetrics and locomotion, retards the improvement in female physical performance.” (Handelsman 2018 at 818.) “[T]he major female hormones, oestrogens, can have effects that disadvantage female athletic performance. For example, women have a wider pelvis changing the hip structure significantly between the sexes. Pelvis shape is established during puberty and is driven by oestrogen. The different angles resulting from the female pelvis leads to decreased joint rotation and muscle recruitment ultimately making them slower.” (Knox 2019 at 397.)

51. There are even sex-based differences in foot size and shape. Wunderlich & Cavanaugh (2001) observed that a “foot length of 257 mm represents a value that is ... approximately the 20th percentile men’s foot lengths and the 80th percentile women’s foot lengths.” (607) and “For a man and a woman, both with statures of 170 cm (5 feet 7 inches), the man would have a foot that was approximately 5 mm longer and 2 mm wider than the woman.” (608). Based on these, and other analyses, they conclude that “female feet and legs are not simply scaled-down versions of male feet but rather differ in a number of shape characteristics, particularly at the arch, the lateral side of the foot, the first toe, and the ball of the foot.” (605) Further, Fessler et al. (2005) observed that “female foot length is consistently smaller than male foot length” (44) and concludes that

“proportionate foot length is smaller in women” (51) with an overall conclusion that “Our analyses of genetically disparate populations reveal a clear pattern of sexual dimorphism, with women consistently having smaller feet proportionate to stature than men.” (53)

52. Beyond simple performance, the greater density and strength of male bones provide higher protection against stresses associated with extreme physical effort: “[S]tress fractures in athletes, mostly involving the legs, are more frequent in females, with the male protection attributable to their larger and thicker bones.” (Handelsman 2018 at 818.)

### **C. Males have much larger muscle mass.**

53. The fact that, on average, men have substantially larger muscles than women is as well known to common observation as men’s greater height. But the male advantage in muscle size has also been extensively measured. The differential is large.

54. “On average, women have 50% to 60% of men’s upper arm muscle cross-sectional area and 65% to 70% of men’s thigh muscle cross-sectional area, and women have 50% to 60% of men’s upper limb strength and 60% to 80% of men’s leg strength. Young men have on average a skeletal muscle mass of >12 kg greater than age-matched women at any given body weight.” (Handelsman 2018 at 812. See also Gooren 2011 at 653, Thibault 2010 at 214.)

55. “There is convincing evidence that the sex differences in muscle mass and strength are sufficient to account for the increased strength and aerobic performance of men compared with women and is in keeping with the differences in world records between the sexes.” (Handelsman 2018 at 816.)

56. Once again, looking at specific and comparable populations of athletes, an evaluation of NCAA Division 1 basketball players consisting of 68 male guards and 59 male forwards, compared to 105 female guards and 91 female forwards, reported that on average the male guards had  $77.7 \pm 6.4$  kg of fat free mass and  $7.4 \pm 3.1$  kg fat mass while the female guards had  $54.6 \pm 4.4$  kg fat free mass and  $13.4 \pm 5.4$  kg fat mass. The male forwards had  $89.5 \pm 5.9$  kg fat free mass and  $15.9 \pm 5.6$  kg fat mass while the female forwards had  $61.8 \pm 5.9$  kg fat free mass and  $20.5 \pm 7.7$  kg fat mass. (Fields 2018 at 3.)

### **D. Females have a larger proportion of body fat.**

57. While women have smaller muscles, they have proportionately more body fat, in general a negative for athletic performance. “Oestrogens also affect body

composition by influencing fat deposition. Women, on average, have higher percentage body fat, and this holds true even for highly trained healthy athletes (men 5%–10%, women 8%–15%). Fat is needed in women for normal reproduction and fertility, but it is not performance-enhancing. This means men with higher muscle mass and less body fat will normally be stronger kilogram for kilogram than women.” (Knox 2019 at 397.)

58. “[E]lite females have more (<13 vs. <5 %) body fat than males. Indeed, much of the difference in [maximal oxygen uptake] between males and females disappears when it is expressed relative to lean body mass. . . . Males possess on average 7–9 % less percent body fat than females.” (Lepers 2013 at 853.)

59. Knox et al. observe that both female pelvis shape and female body fat levels “disadvantage female athletes in sports in which speed, strength and recovery are important,” (Knox 2019 at 397), while Tønnessen et al. describe the “ratio between muscular power and total body mass” as “critical” for athletic performance. (Tønnessen 2015 at 7.)

**E. Males are able to metabolize and release energy to muscles at a higher rate due to larger heart and lung size, and higher hemoglobin concentrations.**

60. While advantages in bone size, muscle size, and body fat are easily perceived and understood by laymen, scientists also measure and explain the male athletic advantage at a more abstract level through measurements of metabolism, or the ability to deliver energy to muscles throughout the body.

61. Energy release at the muscles depends centrally on the body’s ability to deliver oxygen to the muscles, where it is essential to the complex chain of biochemical reactions that make energy available to power muscle fibers. Men have multiple distinctive physiological attributes that together give them a large advantage in oxygen delivery.

62. Oxygen is taken into the blood in the lungs. Men have greater capability to take in oxygen for multiple reasons. “[L]ung capacity [is] larger in men because of a lower diaphragm placement due to Y-chromosome genetic determinants.” (Knox 2019 at 397.) Supporting larger lung capacity, men have “greater cross-sectional area of the trachea”; that is, they can simply move more air in and out of their lungs in a given time. (Hilton 2021 at 201.)

63. More, male lungs provide superior oxygen exchange even for a given volume: “The greater lung volume is complemented by testosterone-driven **enhanced alveolar multiplication** rate during the early years of life. Oxygen exchange takes place between the air we breathe and the bloodstream at the alveoli,

so more alveoli allows more oxygen to pass into the bloodstream. Therefore, the greater lung capacity allows more air to be inhaled with each breath. This is coupled with an improved uptake system allowing men to absorb more oxygen.” (Knox 2019 at 397.)

64. “Once in the blood, oxygen is carried by haemoglobin. **Haemoglobin concentrations** are directly modulated by testosterone so men have higher levels and can carry more oxygen than women.” (Knox 2019 at 397.) “It is well known that levels of circulating hemoglobin are androgen-dependent and consequently higher in men than in women by 12% on average.... Increasing the amount of hemoglobin in the blood has the biological effect of increasing oxygen transport from lungs to tissues, where the increased availability of oxygen enhances aerobic energy expenditure.” (Handelsman 2018 at 816.) (See also Lepers 2013 at 853; Handelsman 2017 at 71.) “It may be estimated that as a result the average maximal oxygen transfer will be ~10% greater in men than in women, which has a direct impact on their respective athletic capacities.” (Handelsman 2018 at 816.)

65. But the male metabolic advantage is further multiplied by the fact that men are also able to **circulate more blood per second** than are women. “Oxygenated blood is pumped to the active skeletal muscle by the heart. The left ventricle chamber of the heart is the reservoir from which blood is pumped to the body. The larger the left ventricle, the more blood it can hold, and therefore, the more blood can be pumped to the body with each heartbeat, a physiological parameter called ‘stroke volume’. The female heart size is, on average, 85% that of a male resulting in the stroke volume of women being around 33% less.” (Knox 2018 at 397.) Hilton cites different studies that make the same finding, reporting that men on average can pump 30% more blood through their circulatory system per minute (“cardiac output”) than can women. (Hilton 2021 at 202.)

66. Finally, at the cell where the energy release is needed, men appear to have yet another advantage. “Additionally, there is experimental evidence that testosterone increases . . . **mitochondrial biogenesis**, myoglobin expression, and IGF-1 content, which may augment energetic and power generation of skeletal muscular activity.” (Handelsman 2018 at 811.)

67. “Putting all of this together, men have a much more efficient cardiovascular and respiratory system.” (Knox 2019 at 397.) A widely accepted measurement that reflects the combined effects of all these respiratory, cardiovascular, and metabolic advantages is referred to as “ $\dot{V}O_2\text{max}$ ,” which refers to the maximum rate at which an individual can consume oxygen during aerobic

outperforming girls by 100% – 1200%, highlighting the advantages in upper body strength in males.

81. A very recent literature review commissioned by the five United Kingdom governmental Sport Councils concluded that while “[i]t is often assumed that children have similar physical capacity regardless of their sex, . . . large-scale data reports on children from the age of six show that young males have significant advantage in cardiovascular endurance, muscular strength, muscular endurance, speed/agility and power tests,” although they “score lower on flexibility tests.” (UK Sports Councils’ Literature Review 2021 at 3.)

82. Hilton et al., also writing in 2021, reached the same conclusion: “An extensive review of fitness data from over 85,000 Australian children aged 9–17 years old showed that, compared with 9-year-old females, 9-year-old males were faster over short sprints (9.8%) and 1 mile (16.6%), could jump 9.5% further from a standing start (a test of explosive power), could complete 33% more push-ups in 30 [seconds] and had 13.8% stronger grip.” (Hilton 2021 at 201, summarizing the findings of Catley & Tomkinson 2013.)

83. The following data are taken from Catley & Tomkinson (2013 at 101) showing the low, middle, and top decile for 1.6 km run (1.0 mile) run time for 11,423 girls and boys ages 9-17.

**1.6 km run (1.0 mile) run time for 11,423 girls and boys ages 9-17**

Age	Male			Female			Male-Female % Difference		
	10th %ile	50th %ile	90th %ile	10th %ile	50th %ile	90th %ile	10th %ile	50th %ile	90th %ile
9	684	522	423	769.0	609.0	499.0	11.1%	14.3%	15.2%
10	666	511	420	759.0	600.0	494.0	12.3%	14.8%	15.0%
11	646	500	416	741.0	586.0	483.0	12.8%	14.7%	13.9%
12	621	485	408	726.0	575.0	474.0	14.5%	15.7%	13.9%
13	587	465	395	716.0	569.0	469.0	18.0%	18.3%	15.8%
14	556	446	382	711.0	567.0	468.0	21.8%	21.3%	18.4%
15	531	432	373	710.0	570.0	469.0	25.2%	24.2%	20.5%
16	514	423	366	710.0	573.0	471.0	27.6%	26.2%	22.3%
17	500	417	362	708.0	575.0	471.0	29.4%	27.5%	23.1%

84. Tomkinson et al. (2018) performed a similarly extensive analysis of literally millions of measurements of a variety of strength and agility metrics from the “Eurofit” test battery on children from 30 European countries. They provide detailed results for each metric, broken out by decile. Sampling the low, middle, and top decile, 9-year-old boys performed better than 9-year-old girls by between 6.5%

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and 9.7% in the standing broad jump; from 11.4% to 16.1% better in handgrip; and from 45.5% to 49.7% better in the “bent-arm hang.” (Tomkinson 2018.)

85. The Bent Arm Hang test is a measure of upper body muscular strength and endurance used in the Eurofit Physical Fitness Test Battery. To perform the Bent Arm Hang, the child is assisted into position with the body lifted to a height so that the chin is level with the horizontal bar (like a pull up bar). The bar is grasped with the palms facing away from body and the hands shoulder width apart. The timing starts when the child is released. The child then attempts to hold this position for as long as possible. Timing stops when the child's chin falls below the level of the bar, or the head is tilted backward to enable the chin to stay level with the bar.

86. Using data from Tomkinson (2018; table 7 at 1452), the following table sampling the low, middle, and top decile for bent arm hang for 9- to 17-year-old children can be constructed:

**Bent Arm Hang time (in seconds) for children ages 9 - 17 years**

Age	Male			Female			Male-Female % Difference		
	10th %ile	50th %ile	90th %ile	10th %ile	50th %ile	90th %ile	10th %ile	50th %ile	90th %ile
9	2.13	7.48	25.36	1.43	5.14	16.94	48.95%	45.53%	49.70%
10	2.25	7.92	26.62	1.42	5.15	17.06	58.45%	53.79%	56.04%
11	2.35	8.32	27.73	1.42	5.16	17.18	65.49%	61.24%	61.41%
12	2.48	8.79	28.99	1.41	5.17	17.22	75.89%	70.02%	68.35%
13	2.77	9.81	31.57	1.41	5.18	17.33	96.45%	89.38%	82.17%
14	3.67	12.70	38.39	1.40	5.23	17.83	162.14%	142.83%	115.31%
15	5.40	17.43	47.44	1.38	5.35	18.80	291.30%	225.79%	152.34%
16	7.39	21.75	53.13	1.38	5.63	20.57	435.51%	286.32%	158.29%
17	9.03	24.46	54.66	1.43	6.16	23.61	531.47%	297.08%	131.51%

87. Evaluating these data, a 9-year-old boy in the 50th percentile (that is to say a 9-year-old boy of average upper body muscular strength and endurance) will perform better in the bent arm hang test than 9 through 17-year-old girls in the 50th percentile. Similarly, a 9-year-old boy in the 90th percentile will perform better in the bent arm hang test than 9 through 17-year-old girls in the 90th percentile.

88. Using data from Tomkinson et al. (2017; table 1 at 1549), the following table sampling the low, middle, and top decile for running speed in the last stage of the 20 m shuttle run for 9- to 17-year-old children can be constructed.

# **EXHIBIT 3**

IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA  
CHARLESTON DIVISION

B.P.J., by her next friend and mother, HEATHER JACKSON,

*Plaintiff,*

vs.

WEST VIRGINIA STATE BOARD OF EDUCATION; HARRISON COUNTY BOARD OF EDUCATION; WEST VIRGINIA SECONDARY SCHOOLS ACTIVITIES COMMISSION; W. CLAYTON BURCH, in his official capacity as State Superintendent, DORA STUTLER, in her official capacity as the Harrison County Superintendent, and the STATE OF WEST VIRGINIA,

*Defendants,*

and

LAINY ARMISTEAD,

*Defendant-Intervenor.*

Case No. 2:21-cv-00316

Hon. Joseph R. Goodwin

**DECLARATION OF DR. CHAD T. CARLSON, M.D., FACSM**

I, Dr. Chad T. Carlson, pursuant to 28 U.S. Code § 1746, declare under penalty of perjury under the laws of the United States of America that the facts contained in my Expert Report of Dr. Chad T. Carlson, M.D., FACM prepared for *B.P.J. v. West Virginia*, attached hereto, are true and correct to the best of my knowledge and belief, and that the opinions expressed therein represent my own expert opinions.

Executed on February 23, 2022.



Chad T. Carlson, MD

**Expert Report of Dr. Chad Thomas Carlson, M.D., FACM  
prepared for *B.P.J. v. West Virginia*  
February 23, 2022**

c. Males exhibit large average advantages in size, weight, and physical capacity over females—often falling far outside female ranges. Even before puberty, males have a performance advantage over females in most athletic events. Failure to preserve protected female-only categories in contact sports (broadly defined) will ultimately increase both the frequency and severity of injury suffered by female athletes who share playing space with these males.

d. Current research supports the conclusion that suppression of testosterone levels by males who have already begun puberty will not fully reverse the effects of testosterone on skeletal size, strength, or muscle hypertrophy, leading to persistence of sex-based differences in power, speed, and force-generating capacity.

12. In this white paper, I use the term “contact sports” to refer broadly to all sports in which collisions between players, or collisions between equipment such as a stick or ball and the body of a player, occur with some frequency (whether or not permitted by the rules of the game), and are well recognized in the field of sports medicine as causes of sport-related injuries.<sup>8</sup> The 1975 Title IX implementing regulations (34 CFR § 106.41) say that “for purposes of this [regulation] contact sports include boxing, wrestling, rugby, ice hockey, football, basketball, *and other sports* the purpose or major activity of which involves bodily contact.” Certainly, all of the sports specifically named in the regulation fall within my definition of “contact sport.” Mixed martial arts, field hockey (Barboza 2018), soccer (Kuczinski 2018), rugby (Viviers 2018), lacrosse

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<sup>8</sup> It is common to see, within the medical literature, reference to distinctions between “contact” and “collision” sports. For purposes of clarity, I have combined these terms, since in the context of injury risk modeling, there is no practical distinction between them.

body is impacted at the waist can result in high torque and acceleration on the neck and head.

40. Sport-related concussion—a common sports injury and one with potentially significant effects—is attributable to linear, angular, or rotational acceleration and deceleration forces that result from impact to the head, or from an impact to the body that results in a whiplash “snap” of the head. (Rowson 2016.) In the case of a concussive head injury, it is the brain that accelerates or decelerates on impact, colliding with the inner surface of the skull. (Barth 2001 at 255.)

41. None of this is mysterious: each of us, if we had to choose between being hit either by a large, heavy athlete running at full speed, or by a small, lighter athlete, would intuitively choose collision with the small, light athlete as the lesser of the two evils. And we would be right. One author referred to the “increase in kinetic energy, and therefore imparted forces” resulting from collision with larger, faster players as “profound.” (Dashnaw 2012.)

## **V. GENDER DIFFERENCES RELEVANT TO INJURY**

42. It is important to state up front that it is self-evident to most people familiar with sport and sport injuries that if men and women were to consistently participate together in competitive contact sports, there would be higher rates of injury in women. This is one reason that rule modifications often

exist in leagues where co-ed participation occurs.<sup>14</sup> Understanding the physics of sports injuries helps provide a theoretical framework for why this is true, but so does common sense and experience. All of us are familiar with basic objective physiological differences between the sexes, some of which exist in childhood, and some of which become apparent after the onset of puberty, and persist throughout adulthood. And as a result of personal experience, all of us also have some intuitive sense of what types of collisions are likely to cause pain or injury. Not surprisingly, our “common sense” on these basic facts about the human condition is also consistent with the observations of medical science. Below, I provide quantifications of some of these well-known differences between the sexes that are relevant to injury risk, as well as some categorical differences that may be less well known.

**A. Height and weight**

43. It is an inescapable fact of the human species that males as a group are statistically larger and heavier than females. On average, men are 7% to 8% taller than women. (Handelsman 2018 at 818.) According to the most recently available Centers for Disease Control and Prevention (CDC) statistics, the weight of the average U.S. adult male is 16% greater than that of the average U.S. adult female. (CDC 2018.) This disparity persists into the athletic cohort.

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<sup>14</sup> For example, see <https://www.athleticbusiness.com/college/intramural-coed-basketball-playing-rules-vary-greatly.html> (detailing variety of rule modifications applied in co-ed basketball). Similarly, coed soccer leagues often prohibit so-called “slide tackles,” which are not prohibited in either men’s or women’s soccer. See, e.g., <http://www.premiercoedsports.com/pages/rulesandpolicies/soccer>.

Researchers find that while athletes tend on average to be lighter than non-athletes, the weight difference between the average adult male and female athlete remains within the same range—between 14% and 23%, depending on the sport analyzed. (Santos 2014; Fields 2018.) Indeed, World Rugby estimates that the typical male rugby player weighs 20% to 40% more than the typical female rugby player. (World Rugby Transgender Women Guidelines 2020.) This size advantage by itself allows men to bring more force to bear in a collision.

**B. Bone and connective tissue strength**

44. Men have bones in their arms, legs, feet, and hands that are both larger and stronger per unit volume than those of women, due to greater cross-sectional area, greater bone mineral content, and greater bone density. The advantage in bone size (cross-sectional area) holds true in both upper and lower extremities, even when adjusted for lean body mass. (Handelsman 2018 at 818; Nieves 2005 at 530.) Greater bone size in men is also correlated with stronger tendons that are more adaptable to training (Magnusson 2007), and an increased ability to withstand the forces produced by larger muscles (Morris 2020 at 5). Male bones are not merely larger, they are stronger per unit of volume. Studies of differences in arm and leg bone mineral density – one component of bone strength – find that male bones are denser, with measured advantages of between 5% and 14%. (Gilsanz 2011; Nieves 2005.)

45. Men also have larger ligaments than women (Lin 2019 at 5), and stiffer connective tissue (Hilton 2021 at Table 1), providing greater protection against joint injury.

**C. Speed**

46. When it comes to acceleration from a static position to a sprint, men are consistently faster than women. World record sprint performance gaps between the sexes remain significant at between 7% and 10.5%, with world record times in women now exhibiting a plateau (no longer rapidly improving with time) similar to the historical trends seen in men. (Cheuvront 2005.) This performance gap has to do with, among other factors, increased skeletal stiffness, greater cross-sectional muscle area, denser muscle fiber composition and greater limb length. (Handelsman 2018.) Collectively, males, on average, run about 10% faster than females. (Lombardo 2018 at 93.) This becomes important as it pertains to injury risk, because males involved in sport will often be travelling at faster speeds than their female counterparts in comparable settings, with resultant faster speed at impact, and thus greater impact force, in a given collision.

**D. Strength/Power**

47. In 2014, a male mixed-martial art fighter identifying as female and fighting under the name Fallon Fox fought a woman named Tamikka Brents, and caused significant facial injuries in the course of their bout. Speaking about their fight later, Brents said:

“I’ve fought a lot of women and have never felt the strength that I felt in a fight as I did that night. I can’t answer whether it’s because she was born a man or not because I’m not a doctor. I can only say, I’ve never felt so overpowered ever in my life, and I am an abnormally strong female in my own right.”<sup>15</sup>

48. So far as I am aware, mixed martial arts is not a collegiate or high school interscholastic sport. Nevertheless, what Brent experienced in an extreme setting is true and relevant to safety in all sports that involve contact. In absolute terms, males as a group are substantially stronger than women.

49. Compared to women, men have “larger and denser muscle mass, and stiffer connective tissue, with associated capacity to exert greater muscular force more rapidly and efficiently.” (Hilton 2021 at 201.) Research shows that on average, during the prime athletic years (ages 18-29) men have, on average, 54% greater total muscle mass than women (33.7 kg vs. 21.8 kg) including 64% greater muscle mass in the upper body, and 47% greater in the lower body. (Janssen 2000 at Table 1.) The cross-sectional area of muscle in women is only 50% to 60% that of men in the upper arm, and 65% to 70% of that of men in the thigh. This translates to women having only 50% to 60% of men's upper limb strength and 60% to 80% of men's lower limb strength. (Handelsman 2018 at 812.) Male weightlifters have been shown to be approximately 30% stronger than female weightlifters of equivalent stature and mass. (Hilton 2021 at 203.) But in competitive athletics, since the stature and mass of the average male

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<sup>15</sup> <https://bjj-world.com/transgender-mma-fighter-fallon-fox-breaks-skull-of-her-female-opponent/>

exceeds that of the average female, actual differences in strength between average body types will, on average, exceed this. The longer limb lengths of males augment strength as well. Statistically, in comparison with women, men also have lower total body fat, differently distributed, and greater lean muscle mass, which increases their power-to-weight ratios and upper-to-lower limb strength ratios as a group. Looking at another common metric of strength, males average 57% greater grip strength (Bohannon 2019) and 54% greater knee extension torque (Neder 1999). Research shows that sex-based discrepancies in lean muscle mass begin to be established from infancy, and persist through childhood to adolescence. (Davis 2019; Kirchengast 2001; Taylor 1997; Taylor 2010; McManus 2011.)

50. Using their legs and torso for power generation, men can apply substantially larger forces with their arms and upper body, enabling them to generate more ball velocity through overhead motions, as well as to generate more pushing or punching power. In other words, isolated sex-specific differences in muscle strength in one region (even differences that in isolation seem small) can, and do combine to generate even greater sex-specific differences in more complex sport-specific functions. One study looking at moderately-trained individuals found that males can generate 162% more punching power than females. (Morris 2020.) Thus, multiple small advantages aggregate into larger ones.

### **E. Throwing and kicking speed**

51. One result of the combined effects of these sex-determined differences in skeletal structure is that men are, on average, able to throw objects faster than women. (Lombardo 2018; Chu 2009; Thomas 1985.) By age seventeen, the *average* male can throw a ball farther than 99% of seventeen-year-old females—which necessarily means at a faster initial speed assuming a similar angle of release— despite the fact that factors such as arm length, muscle mass, and joint stiffness individually don't come close to exhibiting this degree of sex-defined advantage. One study of elite male and female baseball pitchers showed that men throw baseballs 35% faster than women—81 miles/hour for men vs. 60 miles/hour for women. The authors of this study attribute this to a sex-specific difference in the ability to generate muscle torque and power. (Chu 2009.) A study showing greater throwing velocity in male versus female handball players attributed it to differences in body size, including height, muscle mass, and arm length. (Van Den Tillaar 2012.) Interestingly, significant sex-related difference in throwing ability has been shown to manifest even before puberty, but the difference increases rapidly during and after puberty. (Thomas 1985 at 266.) These sex-determined differences in throwing speed are not limited to sports where a ball is thrown. Males have repeatedly been shown to throw a javelin more than 30% farther than females. (Lombardo 2018 Table 2; Hilton 2021 at 203.) Even in preadolescent children, differences exist. International youth records for 5- to

12-year-olds in the javelin show 34-55% greater distance in males vs. females using a 400g javelin.<sup>16</sup>

52. Men also serve and spike volleyballs with higher velocity than women, with a performance advantage in the range of 29-34%. (Hilton 2021.) Analysis of first and second tier Belgian national elite male volleyball players shows ball spike speeds of 63 mph and 56 mph respectively. (Forthomme 2005.) NCAA Division I female volleyball players—roughly comparable to the second-tier male elite group referenced above—average a ball spike velocity of approximately 40 mph (18.1 m/s). (Ferris 1995 at Table 2.) Notably, based on the measurements of these studies, male spiking speed in *lower* elite divisions is almost 40% greater than that of NCAA Division I female collegiate players. Separate analyses of serving speed between elite men and women Spanish volleyball players showed that the average power serving speed in men was 54.6 mph (range 45.3–64.6 mph), with maximal speed of 76.4 mph. In women, average power serving speed was 49 mph (range 41–55.3 mph) with maximal speed of 59 mph. This translates to an almost 30% advantage in maximal serve velocity in men. (Palao 2014.)

53. Recall that kinetic energy is dependent on mass and the square of velocity. A volleyball (with fixed mass) struck by a male, and traveling an

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<sup>16</sup> <http://age-records.125mb.com/>.

average 35% faster than one struck by a female, will deliver 82% more energy to a head upon impact.

54. The greater leg strength and jumping ability of men confer a further large advantage in volleyball that is relevant to injury risk. In volleyball, an “attack jump” is a jump to position a player to spike the ball downward over the net against the opposing team. Research on elite national volleyball players found that on average, males exhibited a 50% greater vertical jump height during an “attack” than did females. (Sattler 2015.) Similar data looking at countermovement jumps (to block a shot) in national basketball players reveals a 35% male advantage in jump height. (Kellis 1999.) In volleyball, this dramatic difference in jump height means that male players who are competing in female divisions will more often be able to successfully perform a spike, and this will be all the more true considering that the women’s net height is seven inches lower than that used in men’s volleyball. Confirming this inference, research also shows that the successful attack percentage (that is, the frequency with which the ball is successfully hit over the net into the opponent’s court in an attempt to score) is so much higher with men than women that someone analyzing game statistics can consistently identify games played by men as opposed to women on the basis of this statistic alone. These enhanced and more consistently successful attacks by men directly correlate to their greater jumping ability and attack velocity at the net. (Kountouris 2015.)

55. The combination of the innate male-female differences cited above, along with the lower net height in women's volleyball, means that if a reasonably athletic male is permitted to compete against women, the participating female players will likely be exposed to higher ball velocities that are outside the range of what is typically seen in women's volleyball. When we recall that ball-to-head impact is a common cause of concussion among women volleyball players, this fact makes it clear that participation in girls' or women's volleyball by biologically male individuals will increase concussion injury risk for participating girls or women.

56. Male sex-based advantages in leg strength also lead to greater kick velocity. In comparison with women, men kick balls harder and faster. A study comparing kicking velocity between university-level male and female soccer players found that males kick the ball with an average 20% greater velocity than females. (Sakamoto 2014.) Applying the same principles of physics we have just used above, we see that a soccer ball kicked by a male, travelling an average 20% faster than a ball kicked by a female, will deliver 44% more energy on head impact. Greater force-generating capacity will thus increase the risk of an impact injury such as concussion.

## **VI. ENHANCED FEMALE VULNERABILITY TO CERTAIN INJURIES**

57. Above, I have reviewed physiological differences that result in the male body bringing greater weight, speed, and force to the athletic field or court,

and how these differences can result in a greater risk of injury to females when males compete against them. It is also true that the female body is more vulnerable than the male body to certain types of injury even when subject to comparable forces. This risk appears to extend to the younger age cohorts as well. An analysis of Finnish student athletes from 1987-1991, analyzing over 600,000 person-years of activity exposures, found, in students under fifteen years of age, higher rates of injury in girls than boys in soccer, volleyball, judo and karate. (Kujala 1995.) Another epidemiological study looking specifically at injury rates in over 14,000 middle schoolers over a 20 year period showed that “in sex-matched sports, middle school girls were more likely to sustain *any* injury (RR = 1.15, 95% CI = 1.1, 1.2) or a time-loss injury (RR = 1.09, 95% CI = 1.0, 1.2) than middle school boys.” In analyzed both-sex sports (i.e., sex-separated sports that both girls and boys play, like soccer), girls sustained higher injury rates, and greater rates of time-loss injury. (Beachy 2014.) Another study of over 2000 middle school students at nine schools showed that the injury rate was higher for girls’ basketball than for football (39.4 v 30.7/1000 AEs), and injury rates for girls’ soccer were nearly double that of boys’ soccer (26.3 v. 14.7/1000 AEs). (Caswell 2017.) In this regard, I will focus on two areas of heightened female vulnerability to collision-related injury which have been extensively studied: concussions, and anterior cruciate ligament injuries.

## A. Concussions

58. Females are more likely than males to suffer concussions in comparable sports, and on average suffer more severe and longer lasting disability once a concussion does occur. (Harmon 2013 at 4; Berz 2015; Blumenfeld 2016; Covassin 2003; Rowson 2016.) Females also seem to be at higher risk for post-concussion syndrome than males. (Berz 2015; Blumenfeld 2016; Broshek 2005; Colvin 2009; Covassin 2012; Dick 2009; Marar 2012; Preiss-Farzanegan 2009.)

59. The most widely-accepted definition of sport-related concussion comes from the Consensus Statement on Concussion in Sport (see below).<sup>17</sup> (McCrorry 2018.) To summarize, concussion is “a traumatically induced transient

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<sup>17</sup> “Sport related concussion is a traumatic brain injury induced by biomechanical forces. Several common features that may be utilised in clinically defining the nature of a concussive head injury include:

SRC may be caused either by a direct blow to the head, face, neck or elsewhere on the body with an impulsive force transmitted to the head.

SRC typically results in the rapid onset of short-lived impairment of neurological function that resolves spontaneously. However, in some cases, signs and symptoms evolve over a number of minutes to hours.

SRC may result in neuropathological changes, but the acute clinical signs and symptoms largely reflect a functional disturbance rather than a structural injury and, as such, no abnormality is seen on standard structural neuroimaging studies.

SRC results in a range of clinical signs and symptoms that may or may not involve loss of consciousness. Resolution of the clinical and cognitive features typically follows a sequential course. However, in some cases symptoms may be prolonged.

The clinical signs and symptoms cannot be explained by drug, alcohol, or medication use, other injuries (such as cervical injuries, peripheral vestibular dysfunction, etc) or other comorbidities (e.g., psychological factors or coexisting medical conditions).”

disturbance of brain function and involves a complex pathophysiological process” that can manifest in a variety of ways. (Harmon 2013 at 1.)

60. Sport-related concussions have undergone a significant increase in societal awareness and concurrent injury reporting since the initial passage of the Zachery Lystedt Concussion Law in Washington State in 2009 (Bompadre 2014), and the subsequent passage of similar legislation governing return-to-play criteria for concussed athletes in most other states in the United States. (Nat’l Cnf. of State Leg’s 2018). Concussion is now widely recognized as a common sport-related injury, occurring in both male and female athletes. (CDC 2007.) Sport-related concussions can result from player-surface contact or player-equipment contact in virtually any sport. However, sudden impact via a player-to-player collision, with rapid deceleration and the transmission of linear or rotational forces through the brain, is also a common cause of concussion injury. (Covassin 2012; Marar 2012; Barth 2001; Blumenfeld 2016; Boden 1998; Harmon 2013 at 4.)

61. A large retrospective study of U.S. high school athletes showed a higher rate of female concussions in soccer (79% higher), volleyball (0.6 concussions/10,000 exposures, with 485,000 reported exposures, vs. no concussions in the male cohort), basketball (31% higher), and softball/baseball (320% higher). (Marar 2012.) A similarly-sized, similarly-designed study comparing concussion rates between NCAA male and female collegiate athletes showed, overall, a concussion rate among females 40% higher than that of

males. Higher rates of injury were seen across individual sports as well, including ice hockey (10% higher); soccer (54% higher); basketball (40% higher); and softball/baseball (95% higher). (Covassin 2016.) The observations of these authors, my own observations from clinical practice, and the acknowledgment of our own Society's Position Statement (Harmon 2013), all validate the higher frequency and severity of sport-related concussions in women and girls.

62. Most epidemiological studies to date looking at sport-related concussion in middle schoolers show that more boys than girls are concussed. There are fewer studies estimating concussion *rate*. This is, in part, because measuring injury rate is more time and labor-intensive. Researchers at a childrens' hospital, for example, could analyze the number of children presenting to the emergency department with sport-related concussion and publish findings of absolute number. However, to study concussion incidence, athlete exposures also have to be recorded. Generally speaking, an athlete exposure is a single practice or game where an athlete is exposed to playing conditions that could reasonably supply the necessary conditions for an injury to occur. Rates of athletic injury, concussion among them, are then, by convention, expressed in terms of injury rate per 1000 athletic exposures. More recently, some studies have been published that analyze the rates of concussion in the middle school population. Looking at the evidence, the conclusion can be made that females experience increased susceptibility to concussive injuries before puberty. For example, Ewing-Cobbs, et al. (2018) found elevated post-

concussion symptoms in girls across all age ranges studied, including children between the ages of 4 and 8. Kerr's 2017 study of middle school students showed over three times the rate of female vs male concussion in students participating in sex-comparable sports [0.18 v. 0.66/1000 A.E.'s]. (Kerr 2017.) This is the first study I am aware of that mimics the trends seen in adolescent injury epidemiology showing a higher rate of concussion in girls than boys in comparable sports.

63. More recent research looking at the incidence of sport-related concussions in U.S. middle schoolers between 2015 and 2020, found that the rate of concussion was higher in middle school athletes than those in high school. In this study, girls had more than twice the rate of concussion injury (0.49/1000 athletic exposures vs 0.23/1000 AE) in analyzed sports (baseball/softball, basketball, soccer and track), as well as statistically greater time loss. (Hacherl 2021 (Journal of Athletic Training); Hacherl 2021 (Archives of Clinical Neuropsychology).) The authors hypothesized that the increasing incidence of concussion in middle school may relate to "other distinct differences associated with the middle school sport setting itself, such as, the large variations in player size and skill."<sup>18</sup>

64. In addition, females on average suffer materially greater cognitive impairment than males when they do suffer a concussion. Group differences in

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<sup>18</sup> <https://www.nata.org/press-release/062421/middle-school-sports-have-overall-higher-rate-concussion-reported-high-school>.

cognitive impairment between females and males who have suffered concussion have been extensively studied. A study of 2340 high school and collegiate athletes who suffered concussions determined that females had a 170% higher frequency of cognitive impairment following concussions, and that in comparison with males, female athletes had significantly greater declines in simple and complex reaction times relative to their preseason baseline levels. Moreover, the females experienced greater objective and subjective adverse effects from concussion even after adjusting for potentially protective effect of helmets used by some groups of male athletes. (Broshek 2005 at 856, 861; Colvin 2009; Covassin 2012.)

65. This large discrepancy in frequency and severity of concussion injury is consistent with my own observations across many years of clinical practice. The large majority of student athletes who have presented at my practice with severe and long-lasting cognitive disturbance have been adolescent girls. I have seen girls remain symptomatic for over a year, and lose ground academically and become isolated from their peer groups due to these ongoing symptoms. For patients who experience these severe effects, post-concussion syndrome can be life-altering.

66. Some of the anatomical and physiological differences that we have considered between males and females help to explain the documented differences in concussion rates and in symptoms between males and females. (Covassin 2016; La Fontaine 2019; Lin 2019; Tierney 2005; Wunderle 2014.)

Anatomically, there are significant sex-based differences in head and neck anatomy, with females exhibiting in the range of 30% to 40% less head-neck segment mass and neck girth, and 49% lower neck isometric strength. This means that when a female athlete's head is subjected to the same load as an analogous male, there will be a greater tendency for head acceleration, and resultant injury. (Tierney 2005 at 276-277.)

67. When modeling the effect of the introduction of male mass, speed, and strength into women's rugby, World Rugby gave particular attention to the resulting increases in forces and acceleration (and injury risk) experienced in the head and neck of female players. Their analysis found that "the magnitude of the known risk factors for head injury are . . . predicted by the size of the disparity in mass between players. The addition of [male] speed as a biomechanical variable further increases these disparities," and their model showed an increase of up to 50% in neck and head acceleration that would be experienced in a typical tackle scenario in women's rugby. As a result, "a number of tackles that currently lie beneath the threshold for injury would now exceed it, causing head injury." (World Rugby Transgender Women Guidelines 2020.) While rugby is notoriously contact-intensive, similar increases to risk of head and neck injury to women are predictable in any sport context in which males and females collide at significant speed, as happens from time to time in sports including soccer, softball, and basketball.

68. In addition, even when the heads of female and male athletes are subjected to identical accelerative forces, there are sex-based differences in neural anatomy and physiology, cerebrovascular organization, and cellular response to concussive stimuli that make the female more likely to suffer concussive injury, or more severe concussive injury. For instance, hypothalamic-pituitary disruption is thought to play a role in post-concussion symptomatology that differentially impacts women. (McGroarty 2020; Broshek 2005 at 861.) Another study found that elevated progesterone levels during one portion of the menstrual cycle were associated with more severe post-concussion symptomatology that differentially impacted women. (Wunderle 2014.)

69. As it stands, when females compete against each other, they already have higher rates of concussive injury than males, across most sports. The addition of biologically male athletes into women's contact sports will inevitably increase the risk of concussive injury to girls and women, for the multiple reasons I have explained above, including, but not limited to, the innate male advantage in speed and lean muscle mass. Because the effects of concussion can be severe and long-lasting, particularly for biological females, we can predict with some confidence that if participation by biological males in women's contact sports based on gender identity becomes more common, more biological females will suffer substantial concussive injury and the potential for long-term harm as a result.

## **B. Anterior Cruciate Ligament injuries**

70. The Anterior Cruciate Ligament (“ACL”) is a key knee stabilizer that prevents anterior translation of the tibia relative to the femur and also provides rotatory and valgus knee stability.<sup>19</sup> (Lin 2019 at 4.) Girls and women are far more vulnerable to ACL injuries than are boys and men. The physics of injury that we have reviewed above makes it inevitable that the introduction of biologically male athletes into the female category will increase still further the occurrence of ACL injuries among girls or women who encounter these players on the field.

71. Sports-related injury to the ACL is so common that it is easy to overlook the significance of it. But it is by no means a trivial injury, as it can end sports careers, require surgery, and usually results in early-onset, post-traumatic osteoarthritis, triggering long-term pain and mobility problems later in life. (Wang 2020.)

72. Even in the historic context in which girls and women limit competition to (and so only collide with) other girls and women, the rate of ACL injury is substantially higher among female than male athletes. (Flaxman 2014; Lin 2019; Agel 2005.) One meta-analysis of 58 studies reports that female athletes have a 150% relative risk for ACL injury compared with male athletes, with other estimates suggesting as much as a 300% increased risk. (Montalvo 2019; Sutton 2013.) Particularly in those sports designated as contact sports, or

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<sup>19</sup> Valgus force at the knee is a side-applied force that gaps the medial knee open.

sports with frequent cutting and sharp directional changes (basketball, field hockey, lacrosse, soccer), females are at greater risk of ACL injury. In basketball and soccer, this risk extends across all skill levels, with female athletes between two and eight times more likely to sustain an ACL injury than their male counterparts. (Lin 2019 at 5.) These observations are widely validated, and consistent with the relative frequencies of ACL injuries that I see in my own practice.

73. When the reasons underlying the difference in the incidence of ACL injury between males and females were first studied in the early 1990s, researchers speculated that the difference might be attributable to females' relative inexperience in contact sports, or to their lack of appropriate training. However, a follow-up 2005 study looking at ACL tear disparities reported that, "Despite vast attention to the discrepancy between anterior cruciate ligament injury rates between men and women, these differences continue to exist." (Agel 2005 at 524.) Inexperience and lack of training do not explain the differences. Sex seems to be an independent predictor of ACL tear risk.

74. In fact, as researchers have continued to study this discrepancy, they have determined that multiple identifiable anatomical and physiological differences between males and females play significant roles in making females more vulnerable to ACL injuries than males. (Flaxman 2014; Lin 2019; Wolf 2015.) Summarizing the findings of a number of separate studies, one researcher recently cited as anatomical risk factors for ACL injury smaller ligament size,

decreased femoral notch width, increased posterior-inferior slope of the lateral tibia plateau, increased knee and generalized laxity, and increased body mass index (BMI). With the exception of increased BMI, each of these factors is more likely to occur in female than male athletes. (Lin 2019 at 5.) In addition, female athletes often stand in more knee valgus (that is, in a “knock-kneed” posture) due to wider hips and a medially-oriented femur. Often, this is also associated with a worsening of knee valgus during jump landings. The body types and movement patterns associated with these valgus knee postures are more common in females and increase the risk for ACL tear. (Hewett 2005.)

75. As with concussion, the cyclic fluctuation of sex-specific hormones in women is also thought to be a possible risk factor for ACL injury. Estrogen acts on ligaments to make them more lax, and it is thought that during the ovulatory phase of menses (when estrogen levels peak), the risk of ACL tear is higher. (Chidi-Ogbolu 2019 at 1; Herzberg 2017.)

76. Whatever the factors that increase the injury risk for ACL tears in women, the fact that a sex-specific difference in the rate of ACL injury exists is well established and widely accepted.

77. Although non-contact mechanisms are the most common reason for ACL tears in females, tears related to contact are also common, with ranges reported across multiple studies of from 20%-36% of all ACL injuries in women. (Kobayashi 2010 at 672.) For example, when a soccer player who is kicking a ball is struck by another player in the lateral knee of the stance leg, medial and

rotational forces can tear the medial collateral ligament (MCL), the ACL, and the meniscus. Thus, as participation in the female category based on identity rather than biology becomes more common (entailing the introduction of athletes with characteristics such as greater speed and lean muscle mass), and as collision forces suffered by girls and women across the knee increase accordingly, the risk for orthopedic injury and in particular ACL tears among impacted girls and women will inevitably rise.

78. Of course there exists variation in all these factors within a given group of males or females. However, it is also true that within sex-specific pools, size differential is somewhat predictable and bounded, even considering outliers. When males are permitted to enter into the pool of female athletes based on gender identity rather than biological sex, there is an increased possibility that a statistical outlier in terms of size, weight, speed, and strength—and potentially an extreme outlier—is now entering the female pool. Although injury is not guaranteed, risks to female participants will increase. And as I discuss later, the available evidence together suggests that this will be true even with respect to males who have been on testosterone suppression for a year or more. World Rugby relied heavily upon this when they were determining their own policy, and I think it is important to reiterate that this policy, rooted in concern for athlete safety, is justifiable based upon current evidence from medical research and what we know about biology.