

No. 24-43

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**In the Supreme Court of the United States**

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STATE OF WEST VIRGINIA, ET AL.,

v.

B.P.J., BY NEXT FRIEND AND MOTHER,  
HEATHER JACKSON,

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ON WRIT OF CERTIORARI  
TO THE UNITED STATES COURT OF APPEALS  
FOR THE FOURTH CIRCUIT

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**JOINT APPENDIX (VOLUME X OF X)**

**(Pages 4042-4436)**

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(continued from front cover)

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**IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF WEST  
VIRGINIA**

**CHARLESTON DIVISION**

B. P. J., et al.,

Plaintiffs,

v.

CIVIL ACTION NO. 2:21-cv-00316  
Hon. Joseph R. Goodwin

WEST VIRGINIA STATE BOARD OF EDUCATION,  
et al.,

Defendants,

and

LAINY ARMISTEAD,

Defendant-Intervenor.

**DEFENDANT-INTERVENOR AND THE STATE OF  
WEST VIRGINIA'S MEMORANDUM IN  
RESPONSE TO PLAINTIFF'S MOTION TO  
EXCLUDE THE EXPERT TESTIMONY OF  
DR. GREGORY A. BROWN**

## INTRODUCTION

Girls deserve a fair chance to play and to win at school sports. Recognizing this, West Virginia enacted the Sports Act to “promote equal athletic opportunities for the female sex” by limiting female sports teams starting in middle school to biological women. W. Va. Code § 18-2-25d(a)(5). Plaintiff B.P.J., though, attacks the Act for violating the Equal Protection Clause and Title IX, denying that the Act advances the State’s interest in providing equal athletic opportunities for biological women.

To rebut this contention, the State and Intervenor Lainey Armistead (Respondents) named Dr. Gregory Brown, Ph.D., a tenured professor of exercise science at a major public university, as an expert to offer opinions about sex-based advantages in sports. Dr. Brown opines that (1) adult and adolescent males have substantial performance advantages over age-matched adult and adolescent females; (2) once a biological male experiences puberty, testosterone suppression does not erase all of those advantages; (3) sex-based differences in athletic performance emerge before puberty; (4) there is a biological component to those differences; and (5) there is no published evidence showing the administration of puberty blockers erases the pre-existing advantages that males have over females before puberty.

Dr. Brown supported these opinions in a 58-page, 177-paragraph expert report that cited 85 sources—most of which were peer-reviewed academic studies—and contained his own independent analysis of athletic-performance data. Each opinion was grounded in and built upon multiple sources of evidence.

Nonetheless, B.P.J. moved to exclude some of Dr. Brown's opinions as unreliable. B.P.J. contends that Dr. Brown performed a "results-driven analysis" and quibbles with the way he described a few sources. But, tellingly, B.P.J. rarely disputes the underlying science Dr. Brown reported. Likewise, B.P.J. takes issue with the fact that Dr. Brown has been asked to testify in multiple court cases and legislative hearings—hardly a rarity for an academic active in his field. But this criticism doesn't get at the reliability of what Dr. Brown says.<sup>1</sup>

Dr. Brown's opinions in fact are reliable. They are well-sourced, well-cited, and based on methodologies common in the field of exercise science. His opinions easily clear the threshold for presentation to the factfinder.

### LEGAL STANDARD

Federal Rule of Evidence 702 allows the admission of expert testimony where an expert qualified by "knowledge, skill, experience, training, or education" offers testimony that will "help the trier of fact to . . . determine a fact in issue" and is "based on sufficient facts or data," "the product of reliable principles and methods," and the applications of principles and methods to the facts is reliable. Fed. R. Evid. 702.

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<sup>1</sup> Suppl. Appendix to Def.-Intervenor's Mot. for Summ. J. (Supp. App.) 359 (Brown Dep. 32:12–33:6) (listing organizations that asked Dr. Brown to testify). As this Court has noted, what matters is whether an expert's opinion is reliable, not whether it was developed for the purpose of litigation. *Eghnayem v. Boston Sci. Corp.*, 57 F. Supp. 3d 658, 670 (S.D.W. Va 2014). In any event, as discussed *infra*, Dr. Brown's opinions in this case "grow[] naturally and directly out of research" he is publishing and presenting on in purely academic circles. *Id.* (cleaned up).

The advent of Rule 702 “was intended to liberalize the introduction of relevant expert evidence.” *Westberry v. Gislaved Gummi AB*, 178 F.3d 257, 261 (4th Cir. 1999). And the Court’s gatekeeping function “is not intended to serve as a replacement for the adversary system.” *In re Lipitor (Atovastatin Calcium) Mktg., Sales Pracs. & Prods. Liab. Litig.*, 892 F.3d 624, 631 (4th Cir. 2018) (cleaned up). Rather, confirming that an expert opinion need not be “generally accepted” to be admissible, the Supreme Court emphasized the role of “conventional devices” for testing an expert’s testimony, such as “[v]igorous cross-examination,” “presentation of contrary evidence,” and summary judgment practice, rather than “wholesale exclusion.” *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 584 (1993).

The touchstone of this analysis is whether an expert’s opinion is reliable, not whether it is “irrefutable or certainly correct.” *Eghnayem*, 57 F. Supp. 3d at 668 (cleaned up). One of the “hallmarks” of reliability is the citation of peer-reviewed literature. *Sardis v. Overhead Door Corp.*, 10 F.4th 268, 295 (4th Cir. 2021). That literature need not be unanimous, just reliable. *R.W. v. Bd. of Regents of the Univ. Sys. of Ga.*, 114 F. Supp. 3d 1260, 1275 (N.D. Ga. 2015). Ultimately, Rule 702 calls for a “flexible” analysis “on the ‘principles and methodology’ employed by the expert, not on the conclusions reached.” *Westberry*, 178 F.3d at 261.

## ARGUMENT

**I. B.P.J. does not challenge Dr. Brown’s demonstration that biological men and adolescent boys have substantial physiological performance advantages over biological women and adolescent girls.**

Though styled as a motion to exclude Dr. Brown's report entirely, the motion argues no such thing. Nothing in the motion challenges the basic opinions reflected in Sections II and III of Dr. Brown's report, documenting the substantial performance and physiological advantages that men and adolescent boys (i.e., boys who have begun puberty) have over women and adolescent girls in most athletic events. Def.-Intervenor's App. in Supp. of Mot. for Summ. J., ECF No. 286-1 (App.) 127-143 (Brown Rep. ¶¶ 7-67).<sup>2</sup> As a professor of exercise science, these are opinions Dr. Brown is qualified to offer, and they are cited to copious peer-reviewed evidence. *Id.*

These opinions matter because the Sports Act primarily regulates pubertal and post-pubertal athletes.<sup>3</sup> The Act does not apply until sixth grade. W. Va. Code § 182-25d. Given that the typical sixth grader is, like B.P.J., 11 or 12 years old, and the average biological male begins puberty around 12 years old, App. 1077 (Dolan Dep. 39:7-10) App. 1091 (Dolan Dep. 97:11-16)), the Sports Act only regulates approximately one year of prepubertal athletic activity. Supp. App. to Def.-Intervenor's Mot. for Summ. J., ECF No. 300 (Supp. App.) 130-31 (Safer Rebuttal Rep. ¶ 17 n.4). The remainder of its effects—10 years' worth counting 7th through 12th grades and four years of college eligibility—are on pubertal and post-pubertal athletes, who are the focus of Sections II and III of Dr. Brown's report.

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<sup>2</sup> All citations to filed documents are to the original or bates-stamped page number.

<sup>3</sup> B.P.J.'s motion does not argue that these opinions are irrelevant. Accordingly, any such argument is waived. *Oliver v. Baity*, 208 F. Supp. 3d 681, 690 (M.D.N.C. 2016) (failure to address an issue concedes it). Respondents merely discuss relevance to inform the Court's understanding of Dr. Brown's testimony.



What's more, B.P.J. contends that Equal Protection and Title IX require that biological males be permitted to play women's sports ***based on gender identity alone***. Def.-Intervenor's Mot. for Summ. J. 12–13, ECF No. 288. Sections II and III of Dr. Brown's report show that this proposal would result in gross competitive unfairness to adolescent and adult biological females because of the physiological and performance advantages that adolescent and adult males have over them. These sections demonstrate that separation of sports teams based on biological sex advances the State's interest in equal opportunity.<sup>4</sup> Accordingly, regardless of the disposition of B.P.J.'s motion, Dr. Brown should be permitted to offer these opinions.

**II. Dr. Brown's use of the terms "biological male" and "biological female" are appropriate and well-grounded in the scientific literature.**

Dr. Brown's report begins with a section discussing biological sex, which is dichotomous and easily identifiable in the overwhelming majority of the population. App. 125–27 (Brown Rep. ¶¶ 1–6). The purpose of this section is simply to introduce the concept, as it is common in exercise science to study sex-based differences in various aspects of exercise physiology and performance, and Dr. Brown cites peer-reviewed literature discussing such differences throughout his report.

B.P.J., however, contends that Dr. Brown is not qualified to offer an opinion on "the medical and scientific

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<sup>4</sup> Sections II and III of Dr. Brown's report also negate any argument against the Sports Act's facial validity. Many biological males who identify as transgender receive no hormone treatment at all. B.P.J. offers no reason why they are similarly situated to biological women in athletics.

communities' understanding of sex's biological elements." Mem. in Supp. of Pl.'s Mot. to Exclude Expert Test. of Gregory Brown (Pl.'s Mot.), ECF No. 316 at 6. This criticism ignores that Dr. Brown *is* a member of the scientific community that studies sex-based differences. As the holder of a Ph.D. in health and human performance, a tenured professor of exercise science, someone who has studied graduate-level endocrinology,<sup>5</sup> and a Fellow in the American College of Sports Medicine, he plainly has the knowledge, skill, education, training, and experience to discuss the biological basis for sex difference. Daubert Resp. App. to the Def.-Intervenor and the State of W.V.'s Joint Mem. in Resp. to Pl.'s Mots. to Exclude Experts' Test. Daubert Resp. App. 7 (Brown CV).<sup>6</sup>

Further, Dr. Brown's discussion is grounded in the academic literature. It cites multiple peer-reviewed papers and statements from scientific bodies.<sup>7</sup> These sources support his statement that sex is a biological concept, determined at conception, and unambiguous in the overwhelming majority of humans.

B.P.J. ignores seven of the eight sources that Dr. Brown cites and focuses exclusively on a statement by the Endocrine Society, selectively quoting it to argue that Dr. Brown misrepresents that statement. He does not. While the Endocrine Society statement discusses a variety of

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<sup>5</sup> Supp. App. 364 (Brown Dep. 51:2–3).

<sup>6</sup> The Daubert Response Appendix was filed contemporaneously.

<sup>7</sup> See Daubert App. 379–418 (Endocrine Society), Daubert Resp. App. 656 (Sax, peer-reviewed), *id.* at 268 (Gershoni 2017, peer-reviewed), *id.* at 891 (Heydari 2022, peer-reviewed), *id.* at 289 (Haizlip 2015, peer-reviewed), *id.* at 33 (American Psychological Association), *id.* at 674 (Shah 2014, peer-reviewed), *id.* at 620 (Miller 2014, peer-reviewed).

disorders of sexual development that can lead to ambiguity in an individual's biological sex, the statement affirms these are rare, that "sex determination begins with the inheritance of XX or XY chromosomes," and "all phenotypic sex differences ... stem originally from the unequal effects of XX and XY sex chromosomes." Appendix to Def-Intervenor and the State of W. V.'s Mot. to Exclude Expert Testimony of Drs. Adkins, Fry, Janssen, and Safer, ECF No. 307-2 (Daubert App.) 381-82 (Bhargava 221-22). In other words, Dr. Brown is correct—and certainly within the acceptable bounds of expert testimony—in explaining that sex is a biological concept that is determined at conception and unambiguous in the overwhelming majority of cases.<sup>8</sup>

What's more, B.P.J.'s expert, Dr. Deanna Adkins, gave similar testimony at her deposition, affirming that "[s]ex is a biological concept," "the genetic sex of an infant is determined at the moment of conception," absent a "chromosomal abnormality," "an individual ... who has an X and Y chromosome is male," and reproduction requires "a gamete from a male and a gamete from a female." App. 772 (Adkins Dep. 74:13-14); App. 763 (Adkins Dep. 40:5-14; 40:16-24; 41:2-15). Further, as Dr. Adkins admitted, the academic literature—including a paper by Dr. Adkins—is replete with references to "biological sex" and

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<sup>8</sup> As is clear from Dr. Brown's report, and as he explained in his deposition, he is not offering any opinions with respect to disorders of sexual development. Supp. App. 363 (Brown Dep. 46:22-47:15). No such opinions would be relevant to this case in any event, since DSDs have nothing to do with B.P.J., the Sports Act, any legal theory advanced by B.P.J., or individuals who identify as transgender. *See* Mem. in Supp. of Mot. to Exclude Expert Testimony of Dr. Deanna Adkins, ECF 308, at 9-11.

affirmations that sex is a biological concept. Daubert App. 579 (Lapinski 692). In short, there is nothing controversial about Dr. Brown's discussion of sex as a biological reality.

"[T]he test for exclusion is a strict one .... [O]ne knowledgeable about a particular subject need not be precisely informed about all details of the issues raised in order to offer an opinion." *Kopf v. Skyrn*, 993 F.2d 374, 377 (4th Cir. 1993) (cleaned up). Here, Dr. Brown is plainly knowledgeable about the biology of sex differences, and there is no basis to preclude him from discussing it, particularly to introduce how exercise physiologists study the effects of those differences on athletic performance.

### **III. Dr. Brown's opinion that testosterone suppression does not remove athletic advantages in post-puberty males is reliable.**

In his report, Dr. Brown catalogued evidence from multiple peer-reviewed sources showing that male performance advantages endure after the suppression of testosterone. These studies showed a retained performance advantage in grip strength (four studies), which is typically used as a proxy for overall strength; arm strength (two studies); leg strength (two studies); and running / swimming speed (two studies and analysis of a transgender athlete's race times). App. 160–66 (Brown Rep. ¶¶ 123–144). They also showed a retained physiologic advantage in muscle mass (six studies), some but not all cardiovascular functions (one study),<sup>9</sup> and skeletal configuration (no dispute in the literature). App. 167–69

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<sup>9</sup> Contrary to any assertion that Dr. Brown engaged in "cherry-picking," he noted up front that the evidence as to whether there was a retained advantage in VO2max was mixed and that he was aware of no evidence in either direction with regard to mitochondrial biogenesis.

(Brown Rep. ¶¶ 149–157). Finally, he documented the trend in both the academic literature and sports organizations to recognize retained male advantage as a scientific reality that should inform policymaking. App. 170–76 (Brown Rep. ¶¶ 158–177).

B.P.J. contends that this evidence is somehow insufficient, but does not dispute evidence itself, much less provide any counter-evidence. And B.P.J. tries to deflect attention from the science by arguing that some of Dr. Brown's sources advocate a different policy than the one adopted by West Virginia. Neither argument undercuts the reliability of Dr. Brown's opinion.

**A. Dr. Brown's scientific opinion is well-supported by the literature and Dr. Brown's own research.**

Dr. Brown grounded his opinion on testosterone effects firmly in the applicable literature. *First*, Dr. Brown cited multiple sources of evidence that testosterone suppression does not eliminate the male advantage in running and swimming. These sources included the only peer-reviewed, published, controlled, non-self-reported study of running times in biological males undergoing testosterone suppression for two to two-and-a-half years. Daubert App. 691–697 (Roberts). And it showed that a 12% advantage in running time endured, which is particularly meaningful given that track events are often decided by far smaller margins. *Id.*; App. 155 (Brown Rep. ¶¶ 105–106). Dr. Brown also cited a recent study analyzing Lia Thomas's performance before and after testosterone suppression, and he included his own analysis of CeCe Telfer's performance before and after suppression. Daubert Resp. App. 671 (Senefeld); App. 163 (Brown Rep. ¶ 136). Notably, all of this direct evidence of durable performance advantage derived from running and

swimming—sports that display some of the smallest baseline male advantages. Daubert App. 558–573 (Hilton).

*Second*, Dr. Brown cited evidence that testosterone suppression does not eliminate the building blocks of male performance advantage, including overall strength, arm strength, leg strength, muscle mass, lung volume, heart size, and stroke volume. App. 160–62, 167–69 (Brown Rep. ¶¶ 123–133, 149–157). B.P.J. does not appear to dispute that these measures contribute to athletic performance. While studies measuring direct athletic performance might be in some sense more direct, exercise scientists routinely measure these building blocks as a proxy for athletic performance.<sup>10</sup> And these measures clearly show a retained advantage for males.

B.P.J. cites no contrary evidence. In fact, B.P.J. did not retain any experts who specialize in exercise science. Instead, B.P.J. simply asks this Court to ignore the evidence that does exist because better evidence may be developed in the future. To be sure, research changes over time. Dr. Brown forthrightly noted in his report that the research to date is “limited” before summarizing the peer-reviewed research that exists.<sup>11</sup> App. 159–160 (Brown Rep. ¶ 122). But “*Daubert* and *Kumho Tire* do not make the perfect the enemy of the reliable.” *BorgWarner, Inc. v. Honeywell Int’l, Inc.*, 750 F. Supp. 2d 596, 615 (W.D.N.C. 2010). Here, Dr. Brown cited more than 10 peer-reviewed studies. Whether that is “enough” evidence goes to the

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<sup>10</sup> Indeed, peer-reviewed studies regularly discuss these physiologic building blocks of athletic performance. *See, e.g.*, Daubert App. 514–522 (Harper), Daubert App. 483– 509 (Handelsman), Daubert App. 558–573 (Hilton).

<sup>11</sup> B.P.J.’s attempt to characterize Dr. Brown’s report as materially different from his academic writing on the subject is spurious. In every forum, he has noted that the available evidence is limited.

weight of his opinion, not its reliability. *Ruiz-Troche v. Pepsi Cola of Puerto Rico Bottling Co.*, 161 F.3d 77, 85 (1st Cir. 1998) (“As long as an expert’s scientific testimony rests upon good grounds, based on what is known, it should be tested by the adversary process ... rather than excluded ....”) (cleaned up).

**B. Dr. Brown does not offer an opinion on the “best” or “fairest” policy, as that is the role of policymakers, not expert witnesses.**

Rather than contest the science, B.P.J. faults Dr. Brown for ignoring how some of his sources pushed different sports policies than West Virginia’s Act. But this criticism misapprehends the purpose and relevance of Dr. Brown’s testimony.

This Court will evaluate whether the Sports Act has a “rational basis” or is “substantially related” to an important government objective. Dr. Brown’s report explains what science says about male performance advantage, including its durability after testosterone suppression, to aid the Court in understanding how the Sports Act advances the objective of equal athletic opportunity.

Dr. Brown does not offer an opinion as to what would be the “best” or “fairest” policy for handling athletes who identify with the opposite sex. Indeed, as Dr. Brown testified, his role is to lay out the scientific evidence, not to render an opinion on what policy would be “fair versus unfair.” Supp. App. 377 (Brown Dep. 102:19–24); Supp. App. 420 (Brown Dep. 277:24–278:22).

Thus, B.P.J.’s argument that Dr. Brown cites sources that disagree with West Virginia’s *policy decision* is of no moment. Two of these sources, Hilton and Harper, are academic literature reviews, which Dr. Brown cited for

their comments on the *scientific* question—whether there is retained male advantage despite testosterone suppression—not whether they, in B.P.J.’s words, “advocate” for the same policy as West Virginia.<sup>12</sup> Both are clear that, based on current evidence, testosterone suppression does not erase all contributors to male advantage.<sup>13</sup>

The other three sources B.P.J. identifies are policy documents, not peer-reviewed articles, each of which Dr. Brown cited to show a growing recognition that testosterone suppression does not erase all male advantages. Each citation was accurate. The first was a law review article by Duke Law Professor and former women’s All-American runner Doriane Coleman, cited for its data collection about male-performance advantage. App. 127 (Brown Rep. ¶ 8). The article summarizes literature showing that “even when trans women and girls use blockers and/or gender affirming hormones, male legacy advantages remain if their therapy begins only after the onset of puberty.” Daubert Resp. App. 142

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<sup>12</sup> Indeed, it is telling that B.P.J. describes the Women’s Sports Policy Working Group, Coleman, and Hilton articles as “advocat[ing]” for particular policies and then faults Dr. Brown for not citing their advocacy positions. Pl.’s Mot. at 21–23. The Court does not need “advocacy.” What matters is the science, and that’s what Dr. Brown cited.

<sup>13</sup> Daubert App. 568 (“The data presented here demonstrate that superior anthropometric, muscle mass and strength parameters achieved by males at puberty, and underpinning a considerable portion of the male performance advantage over females, are not removed by the current regimen of testosterone suppression .... Rather, it appears that the male performance advantage remains substantial.”); Daubert App. 520 (“[T]he small decrease in strength in transwomen after 12–36 months of GAHT suggests that transwomen likely retain a strength advantage over cisgender women.”).



(Coleman at 97). What Prof. Coleman thinks a state's policy should be is not relevant.

Similarly, Dr. Brown cited a “briefing book” by the Women's Sports Policy Working Group, which acknowledged, “the evidence is increasingly clear that hormones do not eliminate the legacy advantages associated with male physical development.” Daubert Resp. App. 855 (Women's Sports Policy Group at 8), App. 171–72 (Brown Rep. ¶¶ 169–70). This acknowledgement is repeated multiple times. *Id.* at 876–77 (Women's Sports Policy Group at 29–30). What policy the group thinks should derive from this evidence is not relevant.

Likewise, Dr. Brown cited a federation's statement to show the increasing recognition of legacy male performance advantage. App. 171 (Brown Rep. ¶ 167). That statement acknowledged such evidence, discussed the Hilton and Roberts papers concerning legacy advantage, noted current evidence does not demonstrate that “the athletic capabilities of transwomen individuals undergoing HRT or GAS are comparable to those of cisgender women,” and posited that more study is needed on “the extent of advantage remaining in transwomen athletes post-gender-affirming treatment.” Daubert Resp. App. 303–04 (Hamilton). While the statement does not recommend the policy West Virginia adopted, it serves as evidence that commentators admit that legacy advantage is something to be considered.

Differing policy conclusions do not undercut the reliability of the science Dr. Brown presented, nor are they evidence of improper cherry-picking. This is much different than *In re Lipitor (Atorvastatin Calcium) Mktg., Sales Pracs. & Prods. Liab. Litig.*, the case B.P.J. relies on. 174 F. Supp. 3d 911 (D.S.C. 2016). There, the court disqualified a non-epidemiologist from opining about

a causal link between Lipitor and diabetes because he *omitted* from his report eight key studies on that very question that conflicted with his opinion. *Id.* at 930. Here, Dr. Brown omitted nothing. Indeed, B.P.J.’s entire argument is based on policy statements (but not data) in documents *that Dr. Brown cited*.<sup>14</sup> And “it is not the Court’s position as gatekeeper to determine whose interpretation of the [cited] studies is correct.” *In re Johnson & Johnson Talcum Powder Prods. Mktg., Sales Pracs. & Prods. Liab. Litig.*, 509 F. Supp. 3d 116, 180 (D.N.J. 2020).

Moreover, organizational “position statements are not expert opinions.” *Eghnayem*, 57 F. Supp. 3d at 720. Accordingly, Dr. Brown was not required to cite them. And he certainly was not required to note every time a source’s policy recommendation differed from the policy adopted by West Virginia, as it is not an expert’s role to determine public policy. *Cf. Sec. & Exch. Comm’n v. Ambassador Advisors, LLC*, \_\_\_ F. Supp. 3d \_\_\_, Civil No. 5:20-cv-02274-JMB, 2021 WL 6052589, at \*6 (E.D. Pa. Dec. 21, 2021) (rejecting expert’s attempt to testify to appropriate policy for regulatory body); *Bd. of Trustees, Sheet Metal Workers’ Nat’l Pension Fund v. Palladium Equity Partners, LLC*, 722 F. Supp. 2d 845, 853 (E.D. Mich. 2010) (expert opinion is a “policy-type argument[s]”

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<sup>14</sup> B.P.J. also mischaracterizes Dr. Brown’s proffered reasons for not citing an organization’s policy recommendation as mere “disagreement.” What Dr. Brown really said is that he selected information to cite based on his “evaluat[ion] the other scientific information,” which is exactly what an expert should do to ensure his testimony is reliable. Supp. App. 409 (Brown Dep. 231:7–13). Regardless, an organization’s policy recommendation is irrelevant to the science Dr. Brown presents.

that “fall[s] outside of the scope of expert testimony”). In sum, what Dr. Brown has offered is a well-founded, well-cited scientific opinion based on the available data-driven evidence that testosterone suppression does not eliminate male performance advantage. That opinion is reliable.

**IV. Dr. Brown’s opinion that biological males outperform biological females in most athletic endeavors before puberty is reliable.**

In his report, Dr. Brown demonstrated that prepubertal boys exhibit athletic advantages over prepubertal girls.<sup>15</sup> He cited peer-reviewed evidence that, before puberty, boys tend to have more lean mass and less body fat than girls (five studies), higher aerobic output (two studies), and tend to outperform girls in a variety of athletic tests (twelve studies). He also analyzed performance data from fitness tests, national track and field records, and national results from cross-country meets.

B.P.J.’s motion ignores the bulk of this evidence, instead quibbling with Dr. Brown’s description of two studies, claiming two other studies (both of which Dr. Brown cited) undercut his opinion, suggesting it was somehow inappropriate for an exercise physiologist to analyze data on exercise, and contending that Dr. Brown improperly changed his opinion by analyzing prepubertal athletic performance. These criticisms are without merit.<sup>16</sup>

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<sup>15</sup> Dr. Brown did not opine that male advantage is static with age; rather, he was clear that male advantages “are magnified during puberty” and that “boys’ physiological and performance advantages increase rapidly from the beginning of puberty until around age 17-19.” App. 124–125, 145 (Brown Rep. Overview, 72).

<sup>16</sup> B.P.J.’s claim that Dr. Brown denied his opinions were developed with the rigor attendant to peer-review publication is a gross

**A. The McManus and Staiano articles support Dr. Brown's analysis.**

Dr. Brown cited a 2011 study by McManus for the proposition that prepubertal boys tend to have approximately 10% more lean body mass than prepubertal girls. App. 145 (Brown Rep. ¶ 71). This matters because it is well-settled that lean body mass is a key contributor to athletic performance.<sup>17</sup>

B.P.J. then faults Dr. Brown for not noting that the McManus study found no difference between the sexes in measures of *some other physical characteristics*. But Dr. Brown never claimed that prepubertal boys and girls are physically different in *every* respect. What Dr. Brown claimed—and what the McManus citation supports—is that prepubertal boys and girls are different in *some* areas that contribute to athletic performance. McManus found measurable differences between prepubertal boys and girls in lean body mass, fat mass, percent body fat, and peak oxygen uptake. Dauber Resp. App. 600–01, 603–04 (McManus at 27–28, 30–31). Accordingly, the citation was proper.

Likewise, Dr. Brown cited a Staiano paper for the proposition that prepubertal girls tend to have more body

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mischaracterization of the testimony. What Dr. Brown actually said was that an expert report must be truthful, accurate, and that he would be entirely comfortable submitting these opinions in a peer-reviewed publication. Supp. App. 385–86 (Brown Dep. 135:24–138:10). And, as discussed *infra* at 20–21, Dr. Brown has presented his evidence on prepubertal performance advantage at an academic conference and in a peer-reviewed online forum.

<sup>17</sup> Peer-reviewed papers acknowledging the contribution of lean body mass (the largest component of which is muscle mass) are cited throughout Dr. Brown's report. Daubert Resp. App. 543, 545 (Lepers, 853, 855); Daubert App. 564–66 (Hilton); Daubert App. 514 (Harper).

fat then prepubertal boys, which is exactly what it says: “In prepubertal children, girls typically have more T[otal] B[ody] F[at] than boys.” Daubert Resp. App. 709 (Staiano). Notably, Dr. Brown cited three other peer-reviewed studies for this point with no objection from B.P.J. App. 145 (Brown Rep. ¶ 73), Daubert Resp. App. 217 (Davis), Daubert Resp. App. 749 (Taylor 1997), App. 572 (Taylor 2010).

B.P.J., however, contends that Dr. Brown’s report is deceptive because Staiano’s conclusion—that prepubertal girls tend to have more body fat—was not based on unanimous evidence, but rather on the weight of the evidence. Staiano noted that, of the 22 studies reviewed, four of them found similar body fat between boys and girls. Staiano suggested that these studies were influenced by a failure to control for “other influences like age, maturational status and obesity status.” Daubert Resp. App. 709 (Staiano). In any event, Dr. Brown did not claim that the evidence was unanimous; he simply cited the peer-reviewed conclusion reached by Staiano based on 18 of the 22 studies Staiano reviewed. App. 145 (Brown Rep. ¶ 73). That isn’t deceptive. And experts do not need unanimity to reach a reliable conclusion; rather, they are to look to the “great weight of the evidence,” which is exactly what Dr. Brown did. *In re Bextra & Celebrex Mktg. Sales Pracs. & Prod. Liab. Litig.*, 524 F. Supp. 2d 1166, 1176 (N.D. Cal. 2007); *R.W. v. Bd. of Regents of the Univ. Sys. of Ga.*, 114 F. Supp. 3d 1260, 1274 (N.D. Ga. 2015) (affirming that unanimity is not required).

**B. The Tønnessen and Handelsman studies support Dr. Brown’s analysis.**

B.P.J. claims that Dr. Brown’s opinion is unreliable because it “relies on inapposite physical fitness surveys and his own collection of raw data” instead of

characterizations by Tønnessen and Handelsman that prepubertal differences are minimal.<sup>18</sup> This criticism ignores the numerous peer-reviewed papers Dr. Brown cited measuring athletic performance in prepubertal children and is therefore wrong on its face.<sup>19</sup> Moreover, neither the Tønnessen nor Handelsman study—both of which Dr. Brown cited and discussed in his report—undercuts Dr. Brown’s conclusion.

The Tønnessen study reviewed performance by 11 to 18 year-old boys and girls in Norway in four events—the 60m run, the 800m run, the high jump, and the long jump. And it found sex-based performance differences at the earliest age measured in all four. Daubert Resp. App. 827 (Tønnessen). The Handelsman study reviewed swimming, running, jumping, and handgrip results. And it reported sex-based differences in multiple categories at the earliest ages measured.<sup>20</sup> Daubert Resp. App. 314 (Handelsman 2017) App. 637 (Safer Dep. 91:12-20).

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<sup>18</sup> The use of the word “surveys” implies that Dr. Brown used self-reported data or questionnaires. He did not. He used actual measurements of performance on physical fitness tests, which is far more reliable than self-reported information.

<sup>19</sup> *See, e.g.*, App. 146–152 (Brown Rep. ¶ 75) (citing Lesinski, Daubert Resp. App. 554) ¶ 76 (citing Tambalis, Daubert Resp. App. 730), ¶ 81 (citing UK Sports Council Literature Review, Daubert App. 903), ¶ 82 (citing Hilton, Daubert App. 560), ¶ 83 (citing Catley & Tomkinson, Daubert Resp. App. 129), ¶ 84 (citing Tomkinson, Daubert Resp. App. 814), ¶ 88 (citing Tomkinson, Daubert Resp. App. 783), ¶ 91 (citing De Miguel-Etayo, Daubert Resp. App. 222), 95 (citing Silverman, Daubert Resp. App. 699), 97 (citing Ramirez-Velez, Daubert Resp. App. 639), ¶ 98 (citing Taylor, Daubert Resp. App. 742), ¶ 100 (citing Thomas, Daubert Resp. App. 760).

<sup>20</sup> Dr. Brown included in his report Handelsman’s chart showing prepubertal male performance advantages at ¶ 115 (App. 158).

To be sure, the prepubertal sex-based differences measured by Tønnessen and Handelsman tended to be less than 6%, which Handelsman elsewhere characterized as “minimal,” and which B.P.J. characterizes as “insignificant.” But B.P.J.’s characterizations have at least two problems.

*First*, B.P.J. cherry-picks these studies instead of taking them in the context of the 11 other peer-reviewed papers that Dr. Brown cited and the independent data analysis he performed, all of which demonstrate that Tønnessen and Handelsman are on the low end of the performance differences researchers have found. A complete review of the evidence shows performance differences are often (but not always) higher than 6% and sometimes well into double or even triple digits. App. 147–49, 151–53 (Brown Rep. ¶¶ 78, 80, 82–86, 88, 93, 95, 98–100).

*Second*, these characterizations are value judgments, not science.<sup>21</sup> Any argument about performance difference being “too small” is a legal argument against the Sports Act, not a reliability argument against Dr. Brown’s opinion.<sup>22</sup> Dr. Brown has carefully laid out the average

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<sup>21</sup> B.P.J. has not argued that the sex-based prepubertal differences reported lacked *statistical* significance. Neither Tønnessen nor Handelsman reported specific p-values by age group for each athletic test. But many of the articles Dr. Brown cited specifically reported p-values or effect sizes to demonstrate the statistical power of their results. *See, e.g.*, Daubert Resp. App. 730 (Tambalis), Daubert Resp. App. 639 (Ramirez-Velez), Daubert Resp. App. 129 (Catley & Tompkins).

<sup>22</sup> The differences are not “too small.” A few seconds in a race, a few millimeters in jump height, or a slight advantage in throwing can be the difference between winning and losing—or between making the team and getting cut. App. 155 (Brown Rep. ¶¶ 105–106). Thus, the existence of a consistently measured, durable sex-based advantage,

performance differentials between prepubertal boys and girls across numerous events, measured in numerous data sets, published in peer-reviewed journals by numerous researchers. His results bear the “hallmarks of reliability” of testing and peer-review and are therefore admissible. *Sardis v. Overhead Door Corp.*, 10 F.4th 268, 295 (4th Cir. 2021).

**C. Dr. Brown is well-qualified to present independent analysis of athletic performance data.**

B.P.J. next criticizes Dr. Brown for analyzing performance data. But data are the foundation of science. Without it, an expert’s opinion is mere speculation. As Dr. Brown’s academic achievements and publication record demonstrate, he is well-qualified to analyze exercise data. Further he used a method of analysis common in the peer-reviewed literature. App. 147 (Brown Rep. ¶ 78).

Where an expert performs his own data analysis, that analysis is admissible as long as it utilizes “valid reasoning and a reliable methodology.” *East West LLC v. Rahman*, No. 1:11cv1380 JCC/TCB, 2012 WL 4105128, at \*5 (E.D. Va. Sept. 17, 2012) (cleaned up). “[T]he admissibility test does not turn on whether the opinion has the best foundation or whether it is supported by the very best methodology, or unassailable research.” *Id.*

Here, Dr. Brown analyzed five sets of data: (1) data from the Presidential Physical Fitness Test widely administered for more than 60 years, (2) American youth outdoor track records, (3) 2018 Regional Junior Olympic

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whether it’s 15%, 10%, or even 2%, is more than sufficient to show that sex-separated sports substantially advance West Virginia’s interest in providing equal athletic opportunities for biological females. But this argument goes to the merits of the case, not to the admissibility of Dr. Brown’s opinion.



Championship results, (4) 2021 national cross-country and track and field results, and (5) 2021 West Virginia track and field results. All of them are reliable.

*Presidential Physical Fitness Test.* B.P.J.’s only criticism of the PFT data is that they are “not studies of people who have chosen to participate in competitive athletics.” Pl.’s Mot. at 14. But that doesn’t make the analysis unreliable. Indeed, exercise scientists publish peer-reviewed studies using physical fitness data all the time.<sup>23</sup> And the PFT data is particularly useful because it is broken down by percentile, allowing comparison of the fittest boys to the fittest girls. Nothing justifies excluding Dr. Brown’s analysis because he used a type of dataset that is common in his field. *See, e.g., Hartle v. FirstEnergy Generation Corp.*, 7 F. Supp. 3d 510, 522–23 (W.D. Pa. 2014) (“*Daubert* does not require the ‘best’ methodology or data.”).

*Youth Outdoor Track Records and 2018 Regional Junior Olympic Championship.* B.P.J. does not appear to criticize these analyses.

*2021 National Cross-Country / Track and Field Data.* B.P.J.’s only criticism here is that this analysis “relies on a single year’s worth of data” from Athletic.Net that has not been peer-reviewed. Pl.’s Mot. at 15. But that is not a requirement for reliability. *Cf. Smith v. Ford Motor Co.*, 215 F.3d 713, 720–21 (7th Cir. 2000) (nothing that application of common analytical techniques would not often be subject to publication and does not suggest a lack of reliability). And B.P.J. cites nothing for the proposition that a year’s worth of the most recently available data

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<sup>23</sup> Examples include the Tambalis, Lesinski, Catley, Tompkins, De Miguel-Etayo, Eiberg, Malina, and Ramirez-Valdez studies cited in Dr. Brown’s report.

from thousands of cross-country and track events across the country is inherently unreliable.<sup>24</sup> Nor are there any “anomalies” in the data, as B.P.J. claims.<sup>25</sup> The data show persistent, though not uniform, sex-based differences exist across a wide range of events and ages.

*2021 West Virginia Cross-Country / Track and Field Data.* B.P.J. does not criticize or cite this data, which Dr. Brown offered as evidence that there is nothing unusual about West Virginia that would distinguish it from the broader data showing persistent sex-based differences in athletic performance among prepubertal children.

In sum, Dr. Brown is well-qualified to analyze raw data on athletic performance, and none of B.P.J.’s criticisms of Dr. Brown’s data analysis come close to warranting exclusion of that analysis.

#### **D. Dr. Brown did not change is his opinion.**

With little to undermine Dr. Brown’s opinions, B.P.J. suggests that Dr. Brown changed his opinion—from denying any differences in athletic performance before puberty in a prior opinion to asserting the opposite now. Not so. Dr. Brown’s prior declaration was not designed to

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<sup>24</sup> The use of web-based athletic data is common in the scholarly literature. Handelsman, for example, used an internet compilation of records in his 2017 study. Daubert Resp. App. 314 (Handelsman). Millard-Stafford and Hilton also used web-based data sources. Daubert App. 558 (Hilton), Daubert Resp. App. 906 (Millard-Stafford). And Coleman and Higerd both used Athletic.Net data in their analyses. Daubert Resp. App. 142 (Coleman), Daubert Resp. App. 319 (Higerd).

<sup>25</sup> B.P.J. presents no statistical analysis of the data to show any purported “anomalies.” B.P.J. could have retained an expert to present a contrary analysis of this or other data but did not. A flip comment by counsel, unsupported by any scientific analysis, does not render the data or Dr. Brown’s analysis unreliable.

address the issue. Its purpose was to discuss the physiological and performance advantages that develop during male puberty and persist thereafter. Even so, it noted there was evidence showing performance differences before puberty. App. 128 (Brown Rep. ¶ 11).

Once Dr. Brown studied prepubertal performance differences in detail, he found they were persistent across numerous athletic events, and he reported those findings in the expert report at issue here as well as in academic fora.

The alleged contradictions between Dr. Brown's prior declaration and the expert report at issue fall into two categories: (1) citations to the Handelsman and Tønnessen studies previously discussed and (2) areas where Dr. Brown largely agrees with the lack of any meaningful physiologic differences. Neither category undercuts the reliability of the peer-reviewed evidence or Dr. Brown's independent analysis about prepubertal performance differentials.

*Handelsman and Tønnesen.* Dr. Brown cited Handelsman throughout his prior declaration and current report. In his prior declaration, he quoted some of Handelsman's *characterizations of data* that males do not exhibit a performance advantage until puberty. But Dr. Brown went on to provide Handelsman's *data and charts* illustrating the existence of a prepubertal performance differential. *Compare* App. 134, 157–59 (Brown Rep. ¶¶ 25, 114, 119 *with* ¶¶ 26–28, 115). Likewise, while Tønnessen characterized the prepubertal differences in four Norwegian track and field events as “negligible,” the study itself reported *data* showing persistent differences in all four events, as discussed in more detail above. Because the existence (or not) of any prepubertal performance advantage was not material to the opinions

Dr. Brown was offering, he did not focus on analyzing any such advantages.

*Physiological Differences.* The other allegedly contradictory statements derive from papers by Handelsman and Gooren stating that prepubertal boys and girls lack significant differences in height, muscle, and bone mass. App. 150–51, 157 (Brown Rep. ¶¶ 90, 95, 113). But there is no contradiction, as Dr. Brown has not claimed any pre-pubertal differences in height or bone mass. In writing his current report, he examined the statements about muscle more closely, which were not material to his prior declaration. And he found that the peer-reviewed studies that actually measured muscle mass found sex-based differences even in infants.<sup>26</sup> Daubert Resp. App. 596 (McManus), Daubert Resp. App. 217 (Davis), Daubert Resp. App. 752 (Taylor 2010). Adjusting his report to reflect the best scientific evidence on prepubertal physiologic differences is exactly what a reliable expert witness should do. *See Crowley v. Chait*, 322 F. Supp. 2d 530, 540 (D.N.J. 2004) (noting that an expert’s evidence-based adjustments to his opinion “strengthen[] the quality of the expert report” and are not grounds for exclusion). Accordingly, these adjustments provide no basis for exclusion.

Even if Dr. Brown had materially changed his opinion (and he did not), that alone would not warrant exclusion. *Colony Ins. Co. v. Coca-Cola Co.*, 239 F.R.D. 666, 675–76 (N.D. Ga. 2007) (expert’s opinion admissible even though he changed it shortly before his deposition). The question

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<sup>26</sup> The Gooren study cited to study by Jones (1998) that itself measured a statistically significant prepubertal sex-based difference in lean body mass. Daubert Resp. App. 935 (Jones & Dwyer (1998)). Handelsman did not appear to cite anything measuring prepubertal muscle mass.

would still be whether the opinion presented in this case is reliable, and, for the reasons set forth above, it clearly is. *Id.*

Further demonstrating these adjustments reflect Dr. Brown’s updated review of the science, he has published them twice in academic fora. In 2021, he published in a presentation to the American Physiological Society Sex and Gender conference much of the same fitness and performance data for prepubertal children that B.P.J. criticizes. Daubert Resp. App. 0934 (Brown Presentation). And just last week, he published a peer-reviewed online piece for physiology educators discussing sex-based prepubertal performance differences and utilizing the same sources and analysis contained in his expert report. Supp. App. 392 (Brown Dep. 162:4–164:7) (describing review process), Daubert Resp. App. 69 (Brown). These updates are deemed reliable by the scientific community, which makes them more than enough to satisfy *Daubert*. *Sardis*, 10 F.4th at 295 (calling peer review a “hallmark” of reliability).

**V. Dr. Brown’s opinion that there is a biological component to the pre-pubertal performance advantage is reliable.**

Dr. Brown opined that the observed sex-based prepubertal physiologic and performance differences are attributable, at least in part, to biology and not entirely to social factors like boys receiving more encouragement to be physically active. App. 155–56 (Brown Rep. ¶¶ 107–108). He based this opinion on several pieces of evidence.

*First*, he cited evidence that prepubertal boys have physiological differences— primarily more lean body mass, less body fat, and higher aerobic output—that are known to contribute to athletic advantage. App. 145–46

(Brown Rep. ¶¶ 71–74). The fact that the contributions of these precise differences to athletic performance have not been quantified does not change the basic tenant of exercise science that more muscle, less fat, and more aerobic output leads to better athletic performance.<sup>27</sup>

*Second*, he cited a peer-reviewed study from Denmark showing that (1) when six and seven-year-old girls with the same accelerometer-measured physical activity level were compared, the boys were fitter and (2) despite controlling for body mass and muscle mass, boys still exhibited a higher VO2max (i.e., ability to metabolize and release energy). Daubert Resp. App. 237 (Eiberg). This strongly suggests that something more than social pressure to be active is driving prepubertal male athletic advantage. *Id.* Indeed, the study authors concluded that differences in body composition are part of the equation. *Id.*

*Third*, he cited a peer-reviewed study demonstrating that girls as young as four years old exhibit slower reaction times than boys. Daubert Resp. App. 526 (Latorre-Roman). Reaction time, as he noted, is a well-accepted component of athletic performance. App. 137 (Brown Rep. ¶¶ 38–41).

The earlier sex-based differences emerge and the more persistent they are across cultures (even egalitarian Scandinavian cultures) and athletic events, the more likely

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<sup>27</sup> The contribution of these factors to athletic performance is discussed in Dr. Brown's report at ¶¶ 53–67 and in peer-reviewed studies cited throughout his report. *See, e.g.*, Daubert App. 492, 496 (Handelsman); Daubert Resp. App. 827 (Tønnessen at 7); Daubert Resp. App. 927 (Knox at 397).

it is that biology plays a role. App. 155–56 (Brown Rep. ¶ 107). And the prepubertal physiological differences in muscle, fat, and aerobic output, all factors that relate to athletic performance, make a biological component all the more likely. While the precise contribution of social and biological factors may not have been measured, an “expert witnesses may draw reasonable inferences from the available evidence.” *In re Flint Water Cases*, No. 17-10164, 2021 WL 5925190, at \*4 (E.D. Mich. Dec. 15, 2021). Here, the evidence amply supports an opinion that there is a biological component to sex-based performance differences in prepubertal children.<sup>28</sup>

**VI. Dr. Brown’s opinion that no published evidence proves puberty blockers eliminate male prepubertal advantage is reliable.**

Dr. Brown opined “there is no published scientific evidence that the administration of puberty blockers to males before puberty eliminates the preexisting athletic advantage that prepubertal males have over prepubertal females in almost all athletic events.” App. 124 (Brown Rep. Overview). B.P.J. has not cited any research to the contrary. And research on the effects of puberty blockers is minimal. App. 157 (Brown Rep. ¶ 113).

B.P.J. does not appear to disagree with the dearth of published research. Instead, B.P.J. contends that (1) it is

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<sup>28</sup> And B.P.J. cites no studies showing the differences are caused by social factors. Further, while this opinion is reliable and helpful to the factfinder, it is not necessary for upholding the Sports Act. Whether the observable sex-based differences in prepubertal sports performance are social, biological, or some of both, their existence and persistence demonstrate that sex separation in sports promotes equal athletic opportunities for biological females.

improper to assume that biological boys who identify as girls have a pre-existing athletic advantage, (2) Dr. Brown did not discuss every finding from a study on how puberty blockers affect body composition, and (3) Dr. Brown does not account for the effects of a later application of cross-sex hormones on physiology. None of these criticisms helps B.P.J.

*Athletic Advantage.* As B.P.J.’s expert concedes, science has not identified a biological basis for gender identity. App. 669 (Safer Dep. 220:23–221:1). And B.P.J. has identified no population-level studies establishing any baseline physiological differences between biological males who identify as transgender and other biological males. So B.P.J. only speculates that prepubertal biological males with a transgender identity have innate differences from other prepubertal biological males.<sup>29</sup>

A few studies have noted small physiological differences in bone density, body fat, and strength between their samples of biological males who identified as transgender and their samples of biological males who did not. But none came close to showing parity between age-matched biological males who identify as transgender *and biological females*.<sup>30</sup> Moreover these were not

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<sup>29</sup> Dr. Safer admitted he could not “offer[] an opinion between those two groups [biological males who do and do not identify as transgender],” he could simply “rais[e] the possibility” of some unknown and unmeasured difference. App. 640–41 (104:10– 106:12, 107:7–21).

<sup>30</sup> In one study, the biological males who identified as transgender had greater handgrip strength than 90 to 95 percent of biological females. Supp. App. 416 (Brown Dep. 258:5–10). Daubert Resp. App. 662 (Scharff). In addition, the statement in Hilton concerning differences in the transgender population was cited to one study by Van Caenegem, which did not compare the study subjects to biological females. Daubert Resp. App. 835 (VanCaenegem). And the males who



population-level studies designed to establish baseline comparisons, and the differences were very small. Supp. App. 416 (Brown Dep. 259:19–260:12).

No one disputes that further research on the physical attributes of people who identify as transgender is appropriate. And no one doubts research will provide more information about athletic advantage in the future. But, again, “*Daubert* and *Kumho Tire* do not make the perfect the enemy of the reliable.” *BorgWarner, Inc.*, 750 F. Supp. 2d at 615. Dr. Brown has compiled copious evidence of sex-based differences in prepubertal physiology and athletic performance, and the current science supports applying this evidence to biological males regardless of gender identity.

*The Klaver Study.* Only one peer-reviewed study has analyzed the effects of puberty blockers on physiology related to determinants of athletic performance, a 2018 study by Klaver. As Dr. Brown reported, in this study, biological males who took puberty blockers reduced but did not erase the advantage in lean body mass they had over biological females. App. 157 (Brown Rep. ¶ 112). B.P.J. does not dispute this report but faults Dr. Brown for not also reporting that the biological males on puberty blockers exhibited total body fat similar to that of biological females. This criticism misapprehends the question Dr. Brown was answering: “Is there evidence that puberty suppression erases pre-existing male performance advantages?” Because of the retained advantage in lean body mass, the Klaver study does not change the answer to that question from “no” to “yes.”

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identified as female in the Klaver study exhibited a percentage of body fat nearly one standard deviation below that of the control group of biological females. *Daubert Resp. App. 503* (Klaver).

The Klaver study presents a group of puberty suppressed biological males with comparable fat levels and more muscle than biological females, which does not demonstrate an erasure of pre-existing athletic advantage.

No one disputes the Klaver study has limitations. That's why Dr. Brown cited it for a negative proposition—it does *not* provide evidence that puberty suppression erases pre-existing performance advantages. Dr. Brown never claimed it “proves” retained athletic advantages follow puberty suppression or anything of the sort. Dr. Brown's careful use of the Klaver study underscore the reliability of his opinion.

*Future Use of Cross-Sex Hormones.* B.P.J. claims that Dr. Brown “wrongly assumes that puberty-delaying medication *followed by gender-affirming hormones* will freeze in place any alleged advantages that exist before puberty.” Pl.'s Mot. at 17 (emphasis added). But Dr. Brown assumes nothing. He simply notes there is no evidence puberty blockers, whether followed by cross-sex hormones or not, eliminate the prepubertal physiological and performance advantages.<sup>31</sup> Since B.P.J.'s criticism fails to address Dr. Brown's actual opinion, it is unavailing.

## CONCLUSION

Dr. Brown presented a well-researched and copiously cited report discussing the science of male performance advantage. Each of his opinions is grounded in the peer-reviewed literature and solid data and easily satisfies the threshold for reliability. For the foregoing reasons,

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<sup>31</sup> In the Klaver study, the subjects used puberty blockers followed by cross-sex hormones for an average of eight years of combined treatment, and their lean body mass remained 1.3 standard deviations higher than that of biological females.

B.P.J.'s motion to exclude portions of Dr. Brown's expert report should be denied.

Respectfully submitted this 26th day of May, 2022.

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

B. P. J., et al.,

Plaintiffs,

v.

CIVIL ACTION NO. 2:21-cv-00316  
Hon. Joseph R. Goodwin

WEST VIRGINIA STATE BOARD OF EDUCATION,  
et al.,

Defendants,

and

LAINIEY ARMISTEAD,

Defendant-Intervenor.

**PLAINTIFF'S REPLY IN SUPPORT OF  
STATEMENT OF UNDISPUTED MATERIAL  
FACTS**

At the outset, Plaintiff briefly replies to the State's asserted general objections to Plaintiff's Statement of Undisputed Material Facts ("SUF"). These objections are unsupported by either case law or evidentiary support.

In response to the State's general objections 1 and 4, Plaintiff notes that the Federal Rules of Civil Procedure

require that the party moving for summary judgment “show[] that there is no genuine dispute as to any material fact.” Fed. R. Civ. P. 56(a). Rule 56 provides no restrictions (implicit or otherwise) on the format the moving party may use to meet its burden. Indeed, many courts, including sister courts in this Circuit, expressly require litigants to provide a separate filing clearly delineating the moving party’s undisputed material facts, as Plaintiff has done here. *See, e.g.*, Eastern District of North Carolina Local Civ. R. 56.1(a)(1). In addition, the SUF is not an additional source of argument or fact. The SUF provides an organized format by which the Court may view the factual assertions that are made in Plaintiff’s Motion for Summary Judgment as well as the underlying evidentiary support for those assertions.

In response to the State’s objections 5, 8, and 10, Plaintiff notes that the State’s objections to “Plaintiff’s use of certain terminology” fail to raise any actual dispute, let alone any “genuine, material” dispute. *See Cauthorne v. Am. Home Mortg. Corp.*, No. CIV. 3:08CV84, 2008 WL 4316123, at \*1 (E.D. Va. Sept. 15, 2008) (“The mere existence of some alleged factual dispute between the parties will not defeat an otherwise properly supported motion for summary judgment; the requirement is that there be no *genuine* issue of *material* fact.”) (quoting *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 247–48 (1986)) (emphasis in original). The State’s blanket objections to the testimony of Plaintiff’s experts also fail to raise any genuine dispute, because Plaintiff does not rely solely on the testimony of her experts in support of her facts.

Plaintiff addresses each of the State's "specific" objections to the SUF below.<sup>1</sup>

**I. B.P.J. Is A Girl Who Is Transgender.**

1. B.P.J. is an eleven-year-old girl who is also transgender. (Ex. 2<sup>2</sup> (Declaration of B.P.J.) ¶ 2; Ex. 12 (Deposition Transcript of B.P.J.) at 25:3-5, 25:11-14, 25:23-26:3; Ex. 13 (Deposition Transcript of Heather Jackson, Jan. 19) at 59:5-6; Ex. 15 (Deposition Transcript of Wesley Scott Pepper) at 46:16-20; Dkt. No. 252 (Stipulation of Uncontested Facts Agreed to by Harrison County Board of Education, County Superintendent Dora Stutler, and Plaintiff) ("County Stip.") ¶ 1; Dkt. No. 270 (Stipulation of Uncontested Facts Agreed to by West Virginia State Board of Education, State Superintendent W. Clayton Burch, and Plaintiff) (WVBOE Stip.) ¶ 1; Dkt. No. 158 (WVSSAC's Answer to Plaintiff's First Amended Complaint ("WVSSAC Ans.") ¶¶ 1, 6, 30.) B.P.J. was designated male at birth and has a female gender identity. (Ex. 1-A (Declaration of Heather Jackson) at 1; Ex. 1-B at 2.)

a. *State's Response: ¶ 1- Contested. B.P.J. is a biological boy (Heather Jackson Dep. at 98:14-99:3, ECF No. 285-2) with XY chromosomes and reproductive anatomy typical of the male sex who identifies as a girl. Intervenor's Appx at 1440-41 (B.P.J Responses to Intervenor's RFA 1, 3, 4), ECF No. 286-1.*

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<sup>1</sup> For the Court's convenience, Plaintiff has consolidated the SUF, the State's response to the SUF, and Plaintiff's reply in support of the SUF into a single document.

<sup>2</sup> "Ex." refers to an exhibit attached to the April 21, 2022, declaration of Loree Stark submitted in support of Plaintiff B.P.J.'s motion for summary judgment. (Dkt. No. 289.)

b. Plaintiff's Reply: The State is merely disputing Plaintiff's terminology, and as such it fails to show a genuine, material dispute. *See Cauthorne v. Am. Home Mortg. Corp.*, No. CIV. 3:08CV84, 2008 WL 4316123, at \*1 (E.D. Va. Sept. 15, 2008) ("The mere existence of some alleged factual dispute between the parties will not defeat an otherwise properly supported motion for summary judgment; the requirement is that there be no *genuine* issue of *material* fact.") (quoting *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 247–48 (1986)) (emphasis in original). Plaintiff's terminology is consistent with the terminology used in *Grimm v. Gloucester Cnty. Sch. Bd.*, 972 F.3d 586 (4th Cir. 2020), *cert. denied*, 141 S. Ct. 2878 (2021).

**2. B.P.J. is fiercely protected by her mother, Heather Jackson; unconditionally loved by her father, Wesley Pepper; and has the support of her older brothers and grandparents. (Ex. 1 ¶¶ 4, 22–23; Ex. 2 ¶ 5; Ex. 15 at 165:21–166:1, 185:5–16.)**

a. *State's Response*: ¶ 2 – *Contested. This is irrelevant and not material.*

b. Plaintiff's Reply: The information in ¶ 2 is relevant to show that B.P.J. is recognized as a girl in daily life and, therefore, similarly situated to other girls—not to cisgender boys.

**3. When B.P.J. was in third grade, she socially transitioned at school to living and presenting in accordance with her identity as a girl. (Ex. 1 ¶ 11; Ex. 12 at 39:6–39:24.) "Social transition" means allowing a transgender child to live and be socially recognized in accordance with their gender identity. (Ex. 22 (Declaration and Expert Report of Deanna Adkins, M.D.) ¶ 27.)**

a. *State's Response: ¶ 3 – Contested. Social transition is not a passive measure by which a child is “allowed” to live and be recognized in accordance with a gender identity different from the child’s natal sex. Rather, social transition is “the active affirmation of transgender identity” which is “a powerful psychotherapeutic intervention.” See Levine Decl. at pp. 6-7, attached as Ex. D to the State’s Memorandum in Opposition to the Pl. Brief (“State’s Memo. in Op.”), filed concurrently herewith. The World Professional Association for Transgender Health (WPATH) does not take a position on whether social transition is appropriate for pre-pubescent children and calls it a “controversial” measure. Id. at p. 24).*

b. Plaintiff’s Reply: The State fails to raise a genuine, material dispute of fact. Even if the Court accepts the State’s assertions regarding the characteristics of “social transition” as true (assertions which Plaintiff disputes), the State’s assertions do not undermine ¶ 3 that B.P.J. has socially transitioned and is recognized as a girl in daily life.

**4. B.P.J.’s elementary school and middle school have both acknowledged and respect that B.P.J.’s gender identity is female. (Dkt. No. 252 (County Stip.) ¶ 1.)**

**5. When B.P.J. was in elementary school, her school created a gender support plan designed to help “account[.]” for and “support[.]” B.P.J.’s “authentic gender” at school. (Ex. 1-A at 1; Ex. 2 ¶ 6; Dkt. No. 252 (County Stip.) ¶ 1.)**

**6. Under this 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. (Ex. 1-A at 2–3.)**



7. Under the gender support plan, school staff were also informed on how to support B.P.J. if she faced problems from others at school because of her gender. (Ex. 1-A at 2–3.)

8. B.P.J.’s middle school created a similar plan. (Ex. 1-B.)

9. Like the elementary school plan, B.P.J.’s middle school gender support plan confirmed that B.P.J.’s parents are aware of and supportive of her gender identity and that B.P.J. “is comfortable with others knowing her gender identity and transition,” and provided that “all teachers,” students, and multiple administrators and county staff would be made aware of her gender identity. (Ex. 1-B at 2.)

10. Under the elementary and middle school gender support plans, if anyone has questions about B.P.J.’s identity, teachers and staff should “[b]e open and honest” and respond, “[s]he is [B.P.J.]; and that makes her happy.” (Ex. 1-A at 2; Ex. 1-B at 3.)

11. B.P.J. feels supported by her school given its commitment to treating her as the girl she is. (Ex. 2 ¶ 6; Ex. 12 at 130:3-132:13.)

12. In 2019, B.P.J. was diagnosed with gender dysphoria by Dr. Gerald Montano, a pediatrician at the University of Pittsburgh Medical Center Children’s Hospital of Pittsburgh’s Gender and Sexuality Development Program. (Ex. 1 ¶ 13; Ex. 2 ¶ 7; Ex. 20 (Deposition Transcript of Gerald Montano, D.O.) at 93:17-19; Ex. 5 (State of West Virginia’s Response to Plaintiff’s Second Set of Requests for Admission) No. 5; Ex. 6 (Superintendent Dora Stutler’s Responses and Objections to Plaintiff’s Second Set of Requests for Admission) No. 5; Ex. 7 (Harrison County Board of

**Education’s Responses and Objections to Plaintiff’s Second Set of Requests for Admission) No. 5.)**

**13. On June 15, 2020, at the first signs of puberty—known as the “Tanner 2” stage of pubertal development—B.P.J. began receiving puberty delaying (or “blocking”) treatment, in accordance with the Endocrine Society’s clinical guidelines for treating gender dysphoria. (Ex. 1 ¶ 14.)**

*a. State’s Response: ¶ 13 – Contested. Heather Jackson has no qualifications to opine as to the Endocrine Society’s clinical guidelines. The State does not concede that the administration of puberty blockers at Tanner Stage 2 is appropriate. Expert opinion to the contrary has been presented here (e.g., Levine Decl. at ¶¶ 78-89, Ex. D to State’s Memo. in Opp.), and the issues with Plaintiff’s experts’ opinions concerning the administration of puberty blockers are addressed in the State’s Daubert motions.*

*b. Plaintiff’s Reply: The State fails to raise a genuine, material dispute of fact. Even if the Court accepts the State’s assertions regarding the “appropriate[ness]” of providing puberty blockers at Tanner Stage 2 (assertions which the Plaintiff disputes), these assertions do not undermine the fact that B.P.J. was prescribed puberty blockers at Tanner Stage 2. The protocols of the Endocrine Society’s clinical guidelines are also independently discussed at Dkt. No. 289-23 (Adkins Rep.) and Dkt. No. 289-25 (Safer Rep.).*

*c. State’s Response: ¶¶ 13 through 18 – Contested. The specifics of Plaintiff’s puberty suppressing treatment or potential future treatment are not material. As set forth in the State’s Memo. in Op., the permissibility of the Save Women’s Sports Act does not turn on Plaintiff’s*

*individual characteristics, as that is not how intermediate scrutiny works. Thus, the facts surrounding Plaintiff's use of puberty suppressing medication are not relevant or material to the pending dispositive motions. Further, uncontested studies show significant differences in prepubescent boys and girls, both in athletic performance and pre-pubertal testosterone. Actual data show that pre-pubertal biological boys consistently outperform girls in jumping, running, and upper body strength events. Brown Decl. at ¶¶ 71-109, ECF No. 285-7. At 0-5 months males' testosterone levels exceed female levels by as much as 500 percent. Id. at ¶ 68 (citing Mayo Clinic Laboratories).*

d. Plaintiff's Reply: The State fails to raise a genuine, material dispute, because nothing the State asserts here undermines ¶ 14, which states that B.P.J. has been on puberty blockers for two years.

As discussed in Plaintiff's briefing, the State's blanket assertion that Plaintiff's characteristics in her as-applied challenge are "not material" is incorrect, because it is based on an incorrect understanding of heightened scrutiny under the Equal Protection Clause. (Dkt. No. 331 (Pl. MSJ Opp.) at 35.) B.P.J.'s characteristics are relevant to this case, because she is bringing an as-applied challenge to a law that categorically bans all girls who are transgender from playing on girls' teams irrespective of individual circumstances, and part of B.P.J.'s argument is that there is no justification for categorically barring someone in her position from girls' sports teams.

Furthermore, the State's factual additional assertions regarding prepubertal children are neither material nor supported by admissible evidence. The State's assertions are immaterial because it is undisputed that higher levels of circulating testosterone beginning with puberty are the

largest driver of average differences in athletic performance between cisgender men and cisgender women, and that athletic differences before puberty are “modest” by comparison. (Dkt. No. 289-30 (Brown Rep.) ¶ 119.) The State’s assertions are also inadmissible because they rely on the expert testimony of Dr. Brown and Dr. Carlson, who are both subject to pending *Daubert* challenges. (See Dkt. Nos. 316, 328.) Moreover, the State’s assertion that five months of elevated testosterone in infant cisgender baby boys provides a lifelong athletic advantage is not even supported by Defendant’s own expert reports.

**14. B.P.J. has been on puberty delaying treatment for nearly two years. (Ex. 1 ¶ 14; Ex. 2 ¶ 8; Ex. 20 at 115:22-116:4; Ex. 19 (Deposition Transcript of Kacie Kidd, M.D.) at 89:22-90:18.)**

a. *State’s Response: ¶¶ 13 through 18 – Contested. The specifics of Plaintiff’s puberty suppressing treatment or potential future treatment are not material. As set forth in the State’s Memo. in Op., the permissibility of the Save Women’s Sports Act does not turn on Plaintiff’s individual characteristics, as that is not how intermediate scrutiny works. Thus, the facts surrounding Plaintiff’s use of puberty suppressing medication are not relevant or material to the pending dispositive motions. Further, uncontested studies show significant differences in prepubescent boys and girls, both in athletic performance and pre-pubertal testosterone. Actual data show that pre-pubertal biological boys consistently outperform girls in jumping, running, and upper body strength events. Brown Decl. at ¶¶ 71-109, ECF No. 285-7. At 0-5 months males’ testosterone levels exceed female levels by as much as 500 percent. Id. at ¶ 68 (citing Mayo Clinic Laboratories).*

Plaintiff's Reply: Same as immediately above in ¶ 13. Furthermore, the State fails to raise a genuine, material dispute, because nothing the State asserts here undermines ¶ 14, which states that B.P.J. has been on puberty blockers for two years.

**15. “Puberty blocking treatment works by pausing endogenous puberty at whatever stage it is at when the treatment begins.” (Ex. 22 ¶ 30.)**

a. *State's Response: ¶¶ 13 through 18 – Contested. The specifics of Plaintiff's puberty suppressing treatment or potential future treatment are not material. As set forth in the State's Memo. in Op., the permissibility of the Save Women's Sports Act does not turn on Plaintiff's individual characteristics, as that is not how intermediate scrutiny works. Thus, the facts surrounding Plaintiff's use of puberty suppressing medication are not relevant or material to the pending dispositive motions. Further, uncontested studies show significant differences in prepubescent boys and girls, both in athletic performance and pre-pubertal testosterone. Actual data show that pre-pubertal biological boys consistently outperform girls in jumping, running, and upper body strength events. Brown Decl. at ¶¶ 71-109, ECF No. 285-7. At 0-5 months males' testosterone levels exceed female levels by as much as 500 percent. Id. at ¶ 68 (citing Mayo Clinic Laboratories).*

b. Plaintiff's Reply: Same as ¶ 13. Furthermore, nothing the State asserts here disputes

¶ 15 that puberty blocking treatment pauses endogenous puberty at whatever stage it is at when the treatment begins.

**16. When administered to transgender girls at the beginning of the “Tanner 2” stage of**

sexual maturity, puberty-blocking medication prevents transgender girls from experiencing levels of circulating testosterone above what is typical for non-transgender girls and women. (Ex. 24 (Expert Report and Declaration of Joshua D. Safer, M.D., F.A.C.P., F.A.C.E.) ¶ 50; Ex. 25 (Rebuttal Expert Report and Declaration of Joshua D. Safer, M.D., F.A.C.P., F.A.C.E.) ¶ 17; Ex. 22 ¶ 31.)

a. *State's Response: ¶¶ 13 through 18 – Contested. The specifics of Plaintiff's puberty suppressing treatment or potential future treatment are not material. As set forth in the State's Memo. in Op., the permissibility of the Save Women's Sports Act does not turn on Plaintiff's individual characteristics, as that is not how intermediate scrutiny works. Thus, the facts surrounding Plaintiff's use of puberty suppressing medication are not relevant or material to the pending dispositive motions. Further, uncontested studies show significant differences in prepubescent boys and girls, both in athletic performance and pre-pubertal testosterone. Actual data show that pre-pubertal biological boys consistently outperform girls in jumping, running, and upper body strength events. Brown Decl. at ¶¶ 71-109, ECF No. 285-7. At 0-5 months males' testosterone levels exceed female levels by as much as 500 percent. Id. at ¶ 68 (citing Mayo Clinic Laboratories).*

b. Plaintiff's Reply: Same as ¶ 13. Furthermore, nothing the State asserts here disputes

¶ 16 regarding the effects of puberty blocking treatment when it is provided to transgender girls at the beginning of Tanner Stage 2.

**17. As a result of receiving puberty-delaying medication at the beginning of the “Tanner**

2” stage of pubertal development, B.P.J. has not gone through her endogenous puberty and has not experienced the effects of testosterone that would be typical if she underwent her full endogenous puberty. (Ex. 22 ¶¶ 30–31; Ex. 19 at 119:22120:15.) Specifically, she has never experienced levels of circulating testosterone above what is typical for non-transgender girls and women. (Ex. 24 ¶ 50; Ex. 25 ¶ 17; Ex. 22 ¶ 31.)

a. *State’s Response: ¶¶ 13 through 18 – Contested.* The specifics of Plaintiff’s puberty suppressing treatment or potential future treatment are not material. As set forth in the State’s Memo. in Op., the permissibility of the Save Women’s Sports Act does not turn on Plaintiff’s individual characteristics, as that is not how intermediate scrutiny works. Thus, the facts surrounding Plaintiff’s use of puberty suppressing medication are not relevant or material to the pending dispositive motions. Further, uncontested studies show significant differences in prepubescent boys and girls, both in athletic performance and pre-pubertal testosterone. Actual data show that pre-pubertal biological boys consistently outperform girls in jumping, running, and upper body strength events. Brown Decl. at ¶¶ 71-109, ECF No. 285-7. At 0-5 months males’ testosterone levels exceed female levels by as much as 500 percent. Id. at ¶ 68 (citing Mayo Clinic Laboratories).

b. Plaintiff’s Reply: Same as ¶ 13. Furthermore, nothing the State asserts here disputes ¶ 17 regarding the effects of puberty blocking treatment on B.P.J.

18. If B.P.J. goes on to receive gender-affirming hormone therapy, she will receive the same amount of estrogen during puberty that non-transgender girls generate endogenously and will develop the same changes to bone size, skeletal structure, pelvis shape,

**fat distribution, and secondary sex characteristics that are typically experienced by non-transgender girls who go through a typically female puberty. (Ex. 25 ¶ 17; Ex. 22 ¶ 43.)**

a. *State's Response: ¶¶ 13 through 18 – Contested. The specifics of Plaintiff's puberty suppressing treatment or potential future treatment are not material. As set forth in the State's Memo. in Op., the permissibility of the Save Women's Sports Act does not turn on Plaintiff's individual characteristics, as that is not how intermediate scrutiny works. Thus, the facts surrounding Plaintiff's use of puberty suppressing medication are not relevant or material to the pending dispositive motions. Further, uncontested studies show significant differences in prepubescent boys and girls, both in athletic performance and pre-pubertal testosterone. Actual data show that pre-pubertal biological boys consistently outperform girls in jumping, running, and upper body strength events. Brown Decl. at ¶¶ 71-109, ECF No. 285-7. At 0-5 months males' testosterone levels exceed female levels by as much as 500 percent. Id. at ¶ 68 (citing Mayo Clinic Laboratories).*

b. Plaintiff's Reply: Same as ¶ 13. Furthermore, nothing the State asserts here disputes ¶ 18 regarding the effects of gender-affirming treatment on B.P.J.

## **II. B.P.J.'s Wishes To Participate In And Experience The Benefits Of School Sports.**

**19. B.P.J. has always liked running and loves playing team sports. (Ex. 2 ¶¶ 3, 13; Ex. 12 at 65:2-4, 145:15-18, 67:21-68:6.)**

a. *State's Response: ¶¶ 19 through 22 – Contested. These statements concerning Plaintiff's individual*



*characteristics and circumstances are not relevant to the issues in this case and therefore are not “material.”*

b. Plaintiff’s Reply: The State’s blanket assertion that Plaintiff’s characteristics in her as-applied challenge are “not material” is incorrect, because it is based on an incorrect understanding of heightened scrutiny under the Equal Protection Clause. (Dkt. No. 331 (Pl. MSJ Opp.) at 35.) In any event, this fact is relevant to the irreparable harm factor required to receive a permanent injunction. Furthermore, the State does not actually dispute any of the facts here.

**20. While in elementary school, she enjoyed participating in a recreational cheerleading team with other girls. (Ex. 1 ¶¶ 16–18; Ex. 2 ¶¶ 9–11; Ex. 12 at 72:21–72:22.)**

a. *State’s Response: ¶¶ 19 through 22 – Contested. These statements concerning Plaintiff’s individual characteristics and circumstances are not relevant to the issues in this case and therefore are not “material.”*

b. Same as immediately above in ¶ 19. This fact is also relevant to B.P.J.’s having been recognized as a girl in daily life for many years.

**21. As someone who comes from a family of runners, B.P.J. also grew up running and watching her older brothers and mother run competitively and as part of a team. (Ex. 1 ¶ 20; Ex. 2 ¶ 13.)**

a. *¶¶ 19 through 22 – Contested. These statements concerning Plaintiff’s individual characteristics and circumstances are not relevant to the issues in this case and therefore are not “material.”*

b. Plaintiff’s Reply: Same as ¶ 19.

22. School-sponsored athletics offer a range of educational and social benefits for children and young adults, including camaraderie, cooperation, leadership, teamwork, watching out for fellow players, trust, physical fitness, perseverance, sportsmanship, and discipline. (Dkt. No. 78 (State of West Virginia's Answer to Plaintiff's First Amendment Complaint) ("State Ans.") ¶ 38; Dkt. No. 131 (Lainey Armistead's Answer to Plaintiff's First Amended Complaint) ("Armistead Ans.") ¶ 38; Dkt. No. 156 (West Virginia State Board of Education's Answer to Plaintiff's First Amendment Complaint) ("WVBOE Ans.") ¶ 38; Dkt. No. 157 (Harrison County Board of Education's Answer to Plaintiff's First Amendment Complaint) ("County Ans.") ¶ 38; Dkt. No. 158 (WVSSAC Ans.) ¶ 38; Ex. 27 (Expert Report and Declaration of Mary D. Fry, Ph.D.) ¶¶ 18, 37; Ex. 16 (Deposition Transcript of Harrison County Board of Education 30(b)(6) Designees) at 106:22-106:24, 222:9-17; Ex. 8 (West Virginia State Board of Education's Responses to Plaintiff's Second Set of Requests for Admission) Nos. 45-47; Ex. 17 (Deposition Transcript of WVSSAC 30(b)(6) Designee) at 113:8-11; Ex. 21 (Deposition of Lainey Armistead) at 156:17-25; Dkt. No. 95-1 (Declaration of Lainey Armistead) ¶ 27; Ex. 11 (Lainey Armistead's Responses and Objections to Plaintiff's Second Set of Requests for Admission) Nos. 44-45.)

a. *State's Response: ¶¶ 19 through 22 – Contested. These statements concerning Plaintiff's individual characteristics and circumstances are not relevant to the issues in this case and therefore are not "material."*

b. Plaintiff's Reply: Same as ¶ 19.

c. *State's Response: ¶¶ 22 through 28 – Contested.* These paragraphs refer to and rely on the proffered expert testimony of Professor Mary Fry, who is subject to a Daubert motion being filed contemporaneously herewith. They are also immaterial and unreliable for the reasons set forth in the State's Daubert motion.

d. Plaintiff's Reply: The State fails to raise a genuine, material dispute. Even if the Court accepts the State's assertions regarding Dr. Fry's testimony (which Plaintiff disputes), the fact provided here clearly relies on evidence in the record beyond the testimony of Dr. Fry. The State does not dispute any of these other cited sources, which support the fact stated in ¶ 22.

**23. The benefits from school athletics can contribute to greater success in college and throughout life. (Ex. 27 ¶¶ 18, 37.)**

a. *State's Response: ¶¶ 22 through 28 – Contested.* These paragraphs refer to and rely on the proffered expert testimony of Professor Mary Fry, who is subject to a Daubert motion being filed contemporaneously herewith. They are also immaterial and unreliable for the reasons set forth in the State's Daubert motion.

b. Plaintiff's Reply: The State fails to raise a genuine, material dispute. Even if the Court accepts the State's assertions regarding Dr. Fry's testimony (which Plaintiff disputes), Defendants do not actually dispute the fact provided here. (See Dkt. Nos. 289-6–289-12 (Defs. Resp. to Pls. RFAs) Nos. 44-45.) Furthermore, this fact is relevant to the irreparable harm factor required for a permanent injunction.

**24. These benefits exist regardless of whether a student wins or loses. (Ex. 5 No. 47; Ex. 6 No. 47; Ex. 8 No. 47; Ex. 9 (State Superintendent W. Clayton Burch's**

**Responses to Plaintiff's Second Set of Requests for Admission) No. 47; Ex. 10 (WVSSAC's Responses to Plaintiff's Second Set of Requests for Admission) No. 47; Ex. 11 No. 47; Ex. 27 ¶ 35).**

a. *State's Response: ¶¶ 22 through 28 – Contested. These paragraphs refer to and rely on the proffered expert testimony of Professor Mary Fry, who is subject to a Daubert motion being filed contemporaneously herewith. They are also immaterial and unreliable for the reasons set forth in the State's Daubert motion.*

b. Plaintiff's Reply: The State fails to raise a genuine, material dispute. Even if the Court accepts the State's assertions regarding Dr. Fry's testimony (which Plaintiff disputes), the fact provided here clearly relies on evidence in the record beyond the testimony of Dr. Fry. The State does not dispute any of these other cited sources, which support the fact stated in ¶ 24.

**25. These benefits are advanced when all athletes have the opportunity to play the sport they love. (Ex. 27 ¶ 18.)**

a. *State's Response: ¶¶ 22 through 28 – Contested. These paragraphs refer to and rely on the proffered expert testimony of Professor Mary Fry, who is subject to a Daubert motion being filed contemporaneously herewith. They are also immaterial and unreliable for the reasons set forth in the State's Daubert motion.*

b. Plaintiff's Reply: Same as ¶ 23.

**26. Encouraging student-athletes to focus on improving their own performance and cooperation with teammates maximizes the benefits of athletics for all participants. (Ex. 27 ¶¶ 28–30, 35.)**

a. *State's Response: ¶¶ 22 through 28 – Contested. These paragraphs refer to and rely on the proffered expert testimony of Professor Mary Fry, who is subject to a Daubert motion being filed contemporaneously herewith. They are also immaterial and unreliable for the reasons set forth in the State's Daubert motion.*

b. Plaintiff's Reply: Same as ¶ 23.

**27. Where coaches create an environment in which student-athletes feel safe, valued, and respected, performance is improved and the benefits of sport are maximized. (Ex. 27 ¶¶ 26, 34.)**

a. *State's Response: ¶¶ 22 through 28 – Contested. These paragraphs refer to and rely on the proffered expert testimony of Professor Mary Fry, who is subject to a Daubert motion being filed contemporaneously herewith. They are also immaterial and unreliable for the reasons set forth in the State's Daubert motion.*

b. Plaintiff's Reply: Same as ¶ 23.

**28. Excluding students for no other reason than because they are transgender eliminates the benefits of sports for them and diminishes those benefits for all participants. (Ex. 27 ¶¶ 37–41.)**

a. *State's Response: ¶¶ 22 through 28 – Contested. These paragraphs refer to and rely on the proffered expert testimony of Professor Mary Fry, who is subject to a Daubert motion being filed contemporaneously herewith. They are also immaterial and unreliable for the reasons set forth in the State's Daubert motion.*

b. Plaintiff's Reply: Same as ¶ 23.

**29. B.P.J. has experienced benefits from participating in cheerleading in the past and from**

**participating in cross-country in the 2021-22 school year. (Ex. 1 ¶¶ 17–18, 28; Ex. 2 ¶¶ 10–11, 16–18.)**

a. *State’s Response: ¶¶ 29 and 30 – Contested. Plaintiff’s individual characteristics are not material as set forth in the State’s Summary Judgment briefing.*

b. Plaintiff’s Reply: The State’s blanket assertion that Plaintiff’s characteristics in her as-applied challenge are “not material” is incorrect, because it is based on an incorrect understanding of heightened scrutiny under the Equal Protection Clause. (Dkt. No. 331 (Pl. MSJ Opp.) at 35.) This fact is also relevant to B.P.J.’s Title IX claim (which requires her to show harm as a result of discrimination), and to the irreparable harm factor required to receive a permanent injunction. Furthermore, the State does not actually dispute any of the facts here.

**30. B.P.J. hopes to continue to experience such benefits from playing on girls’ teams in the future. (Ex. 2 ¶ 21.)**

a. *State’s Response: ¶¶ 29 and 30 – Contested. Plaintiff’s individual characteristics are not material as set forth in the State’s Summary Judgment briefing.*

b. Plaintiff’s Reply: Same as immediately above in ¶ 29. Furthermore, B.P.J.’s continued desire to play sports is relevant to B.P.J.’s standing.

### **III. Prior To H.B. 3293, West Virginia Had A Longstanding Policy Of Sex Separation In School Sport And Did Not Categorically Bar Transgender Students From Participating.**

**31. Before it passed H.B. 3293, West Virginia had a general, longstanding, and unchallenged policy establishing separate school sports teams for boys and girls. See W. Va. Code R. § 127.**

32. Almost all sports in West Virginia at the public secondary school level are separated into boys' and girls' teams. (Ex. 17 109:24-110:4.) The exceptions are cheerleading, football, baseball, wrestling, and golf. (Ex. 10 Nos. 29–30; Ex. 17 at 109:24-110:4.)

33. Cheer teams are always designated as “coed” or “mixed,” whereas football, baseball, wrestling, and golf teams are boys' teams that permit girls to play if they so desire because no separate girls' teams exist, and so are considered “mixed . . . to respond to demand.” (Ex. 17 at 104:2-105:6.)

34. In practice, cheer “almost always has boy [and girl] members,” but baseball and football are “very seldom” actually mixed. (Ex. 17 at 104:17-20.)

35. There are no co-ed teams for cross-country or track at Bridgeport Middle School or at any other public secondary school in West Virginia. (Ex. 10 Nos. 30–31.)

36. Under rules established by the West Virginia Secondary School Activities Commission (“WVSSAC”)—which were already in existence when H.B. 3293 was enacted—cisgender boys are prohibited from playing on girls' teams at the public secondary school level. (Ex. 17 at 105:4-105:16; Ex. 39 (WVSSAC000148) at § 127-23.8; Ex. 7 Nos. 38–39; Ex. 8 Nos. 38–39; Ex. 10 Nos. 38–39; Ex. 11 Nos. 38–39.)

a. *State's Response: ¶ 36 – Contested. None of the policies or rules cited by Plaintiff reference “cisgender” boys. They merely reflect that members of the male sex have long been prohibited from playing on women's sports teams in West Virginia.*

b. Plaintiff's Reply: The State fails to raise a genuine, material dispute. The State does not actually dispute that cisgender boys are prohibited from playing on girls' teams at the public secondary school level. Furthermore, and as noted in ¶ 36, Defendants WVSSAC, County Board, State Board, and Defendant-Intervenor all admit this fact.

**37. By contrast, girls may choose to play on a boys' team if they wish to do so and no girls' team exists, as is the case with football, baseball, wrestling, and golf. (Ex. 17 104:2-105:6.)**

**38. West Virginia did not have a law or policy prohibiting girls who are transgender from playing on girls' teams before it passed H.B. 3293.**

a. *State's Response*: ¶ 38 – *Contested. This is contradicted by ¶¶ 31 and 36. The policy referenced in ¶ 31 anticipated the separation of boys and girls into their own sex-segregated teams, as stated in ¶ 36. See also Gregor v. W.V. Secondary Sch. Activities Comm'n*, No 2:20-cv-00654, 2020 WL 5997057, at \*3 (S.D.W. Va. Oct. 9, 2020).

b. Plaintiff's Reply: The State's response is based on the erroneous and unsupported contention that girls and women who are transgender are the same as "boys." This contention has already been rejected by the Fourth Circuit. *Grimm v. Gloucester Cnty. Sch. Bd.*, 972 F.3d 586, 609 (4th Cir. 2020). Furthermore, the policies and rules cited in ¶¶ 31 and 36 did not expressly address transgender participation (in comparison to the policy addressed in ¶ 39), and the policies and rules discussed in ¶¶ 31 and 36 did not rely on H.B. 3293's narrow definition of "biological sex."

**39. Before H.B. 3293, the WVSSAC Board of Directors had an internal policy that allowed students**



who are transgender to participate on teams consistent with their gender identity if the transgender student's school allowed them to participate, based on its considerations of whether that specific student's participation would impact "fair competition among high school teams." (Ex. 37 (WVSSAC000008).) Under the internal policy, if another school contested the transgender student's eligibility to play, then the Board of Directors would determine whether the student's participation threatened "competitive equity or the safety of teammates and opposing players." (*Id.*)

a. *State's Response*: ¶ 39 – *Contested*. The referenced "policy" was not formalized and was not adopted by the SSAC. *Dolan Dep. at 124:12-25, ECF No. 285-1*. Rather, when officials learned that males who identified as female competing in women's sports was becoming "an issue," *Id. at 118:18-20*, they proposed a "temporary stopgap measure" to ensure safety and fairness for students, but that proposal never became an official rule, nor was it ever used or enforced. *Id. at 117:12-14; 118:8-9; 119:10-11; 124:12-18; 233:14-15*.

b. Plaintiff's Reply: The State fails to raise a material, genuine dispute. ¶ 39 expressly acknowledges that the policy was "internal" and was used by the WVSSAC Board of Directors. The State also does not assert a dispute with any of the quoted language from the transgender policy. In other words, nothing that the State asserts here undermines or creates a dispute with what is stated in ¶ 39.

40. The WVSSAC received no complaints about this internal policy, and the WVSSAC is not aware of any instances of a transgender student attempting to participate under this policy. (Ex. 17 at 118:23-119:16.)

a. *State's Response: ¶ 40 – Contested. There is evidence in the record of male students in West Virginia seeking to participate on girls' teams. See Id. at 120-21.*

b. Plaintiff's Reply: The State fails to raise a material, genuine dispute. Even if the Courts accepts this assertion as true, this does not challenge the statements in ¶ 40 that there were zero complaints about the WVSSAC's internal policy, and that there were no instances of a *transgender* student attempting to participate under this policy. Furthermore, the two students that the State refers to did not make any actual effort to participate on girls' teams, and certainly were not evaluated under WVSSAC's transgender policy. (*See* Dkt. No. 331 (Pl. MSJ Opp.) at 5.) The State's response is also based on the erroneous and unsupported contention that girls and women who are transgender are the same as "male[s]."

**41. Since 2011, the National College Athletics Association ("NCAA") has allowed women who are transgender to participate on women's teams after completing one year of testosterone suppression. (Ex. 24 ¶ 38.)**

a. *State's Response: ¶ 41 – Contested. As the 2011 NCAA policy is no longer current, and it is not the case that the NCAA has a blanket policy allowing males who identify as transgender to participate in women's sports after one year of testosterone suppression. Brown Decl. at ¶ 176, ECF No. 285-7.*

b. Plaintiff's Reply: The State fails to raise a material, genuine dispute. Indeed, there is no dispute that the NCAA policy changed, and the subsequent paragraph (¶ 42) acknowledges the new NCAA policy, which the State does not dispute.

42. In 2022, the NCAA announced that it had revised its policy to adopt a “sport-by-sport approach” that “calls for transgender participation for each sport to be determined by the policy for the national governing body of that sport, subject to ongoing review and recommendation by the NCAA Committee on Competitive Safeguards and Medical Aspects of Sports to the Board of Governors.” (Ex. 24 ¶ 39.)

**IV. H.B. 3293 Categorically Bans Transgender Girls And Women From Participating On Girls’ And Women’s Sports Teams.**

43. On April 9, 2021, West Virginia passed H.B. 3293. W. Va. Code § 18-2-25d. H.B. 3293 went into effect 90 days later. *Id.*

44. H.B. 3293 categorically bans all girls who are transgender from participating in school sports from middle school through college. W. Va. Code § 18-2-25d.

a. ¶ 44 – *Contested. H.B. 3293 is not a ban and it does not contain the word “transgender”; it provides: “Athletic 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.” WV Code §18-2-25d. It allows biological males, regardless of gender identity, to participate on any male or co-ed teams, and it does not prohibit their participation on female teams unless “selection for such teams is based upon competitive skill or the activity involved is a contact sport.” Id.*

b. Plaintiff’s Reply: The State fails to raise a genuine, material dispute. The State does not actually dispute that under H.B. 3293, girls who are transgender are unable to participate on girls’ teams. The State also cites nothing in

support of its assertion that H.B. 3293 is “not a ban.” *See Miller-Hall v. C. R. Bard, Inc.*, No. 2:13-CV-07734, 2016 WL 7155763, at \*1–2 (S.D.W. Va. Dec. 7, 2016) (“Conclusory allegations . . . , without more, are insufficient to preclude the granting of a summary judgment.”). The State’s response is also based on the erroneous and unsupported contention that girls and women who are transgender are the same as “boys.”

**45. 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.” W. Va. Code §§ 18-2-25d(b), (c).**

**46. H.B. 3293 defines “[b]iological sex” as “an individual’s physical form as a male or female based solely on the individual’s reproductive biology and genetics at birth.” W. Va. Code § 18-2-25d(b)(1).**

**47. H.B. 3293 further 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.” W. Va. Code § 18-2-25d(c)(2). There is no parallel provision for boys’ teams.**

**48. The legislative findings for H.B. 3293 reject the notion of allowing students to play on sports teams consistent with their “gender identity,” asserting that “gender identity is separate and distinct from biological sex” and that “[c]lassifications based on gender identity serve no legitimate relationship to the State of West Virginia’s interest in promoting equal athletic opportunities for the female sex.” W. Va. Code § 18-2-25d(a)(4).**

49. H.B. 3293’s definition of “biological sex” categorically excludes B.P.J. and any other transgender girl from playing sports at the middle school, high school, and collegiate levels. (Ex. 5 Nos. 24 (admitting “that H.B. 3293 prohibits Plaintiff B.P.J. from participating on girls’ athletic teams at all public secondary schools located in West Virginia”), 36–37; Ex. 6 Nos. 36–37; Ex. 7 Nos. 20–22, 36–37; Ex. 8 Nos. 36–37; Ex. 9 Nos. 20–22, 36–37; Ex. 10 Nos. 36–37; Ex. 11 Nos. 36–37; Dkt. No. 252 (County Stip.) ¶ 2; Dkt. No. 270 (WVBOE Stip.) ¶ 2; Ex. 16 at 100:21-101:4; Ex. 17 at 113:16-20; Ex. 28 (Deposition Transcript of Mary D. Fry, Ph.D.) 180:18-20 (Q. [from Attorney David Tryon] Well, right now the rule is HB-3293, which says that [a] transgender girl must participate on the boys['] team.).)

a. *State’s Response: ¶ 49 – Contested.* H.B. 3293 does not categorically exclude anyone from participating in sports. Plaintiff is a biological male as defined by H.B. 3293 and can therefore play on any team designated for males or designated co-ed. Further, H.B. 3293 does not prohibit Plaintiff’s participation on female teams unless “selection for such teams is based upon competitive skill or the activity involved is a contact sport.” *Id.* Further, H.B.3293 uses categories consistent with those used by the National Institute of Health. The term “transgender girl” was used for convenience in the Fry deposition after Professor Fry could not understand the terms “biological sex,” “biological male,” or “cisgender.” Fry defined “transgender” as “someone who may have been classified at birth as one gender but identifies as another.” Fry Dep. at 32:1641:13, Ex. E to the State’s Memo. in Op.

b. Plaintiff’s Reply: The State fails to raise a genuine, material dispute. The State does not—and cannot—

dispute that B.P.J. and any other transgender girl cannot participate on girls' teams under H.B. 3293's definition of "biological sex." The State also makes the conclusory and unsupported assertion that B.P.J. can play on a team designated for males, notwithstanding the evidence that Plaintiff has provided showing that B.P.J. cannot do so. (Dkt. No. 290 (Pl. SUF) at ¶¶ 100-103.) The State also provides no support for its statement that there are sports that B.P.J. could participate in not involving "competitive skill" or "contact." This lack of evidence is insufficient to preclude summary judgment, *see Miller-Hall v. C. R. Bard, Inc.*, No. 2:13-CV-07734, 2016 WL 7155763, at \*1-2 (S.D.W. Va. Dec. 7, 2016), and, in any event, is immaterial here where B.P.J. wishes to run cross-country and track.

Furthermore, BPJ wants to run on cross-country and track, both of which involve competitive skill. (Dkt. No. 289-12 (Int. Resp. to Pl. RFA) No. 16-17; Dkt. No. 289-6 (State Resp. to Pl. RFA) No. 16-17.)

**50. H.B. 3293 does not prohibit a cisgender girl at any public secondary school in West Virginia from joining a girls' athletic team. (Ex. 5 Nos. 34-35; Ex. 6 Nos. 34-35; Ex. 7 Nos. 34-35; Ex. 8 Nos. 34-35; Ex. 9 Nos. 34-35; Ex. 10 Nos. 34-35; Ex. 11 Nos. 34- 35; Ex. 16 at 100:2-101:4; Ex. 18 (Deposition Transcript of State Board of Education 30(b)(6) Designee) at 124:11-25, 125:3-19.)**

a. ¶ 50 – *Contested. H.B.3293 does not use the word "cisgender," nor does it make any classifications based on whether a person is "cisgender." It makes classifications based on biological sex. Thus, H.B.3293 does not prohibit any biological female, regardless of gender identity, from joining a female athletic team.*

b. Plaintiff's Reply: The State does not raise a genuine, material dispute. The State does not actually dispute that cisgender girls are permitted to play on girls' athletic teams.

**51. Melissa White, counsel for the House of Delegates Education Committee, referred to H.B. 3293 as a “[t]ransgender participation in secondary schools bill” (Ex. 40 (WVSBOE 000008).)**

a. *State's Response: ¶¶ 51 and 53 – Contested. Melissa White's hearsay statements are not legislative history and not considered admissible “facts.” See State's Memo. in Opp. at 19-21.*

b. Plaintiff's Reply: The State offers no support for its conclusory assertions—it instead cites generally to portions of its memorandum that do not even discuss Melissa White's statements. The State also misconstrues the law cited in its opposition regarding legislative statements. (*See Pl. Reply at 15-16.*)

Furthermore, these statements are not hearsay. Plaintiff is not offering the statements for the truth of the matter asserted, but to reflect how the bill was represented to others by legislators and legislative staff. In addition, even if the statements were submitted for the truth of the matter asserted, they are excluded from the definition of hearsay as admissions of a party opponent. Fed. R. Civ. P. 801(d)(2).

**52. Melissa White also described the bill as a “[t]ransgender originating bill” (Ex. 40 (WVSBOE000039)) and a “bill regarding transgender participation in sports” (Ex. 40 (WVSBOE000009).)**

a. *State's Response: ¶¶ 51 and 53 – Contested. Melissa White's hearsay statements are not legislative*

*history and not considered admissible “facts.” See State’s Memo. in Opp. at 19-21.*

b. Plaintiff’s Reply: Same as immediately above in ¶ 51.

**53. During debates over the bill, when asked how H.B. 3293 would change the status quo in West Virginia, the counsel representing the bill replied that the bill “would affect those that changed their sex after birth” and further explained that H.B. 3293 “would not affect” a man who was assigned a male sex at birth. (Ex. 35 (West Virginia House of Delegates Education Committee Testimony, Mar. 18, 2021) at 9.)**

a. *State’s Response*: ¶¶ 51 and 53 – *Contested. Melissa White’s hearsay statements are not legislative history and not considered admissible “facts.” See State’s Memo. in Opp. at 19-21.*

b. Plaintiff’s Reply: Same as ¶ 51.

**54. A member of the West Virginia House of Delegates and Chairman of the Education Committee, Joe Ellington, described the “issue” that H.B. 3923 was designed to address as “two transgender girls” who “were allowed to compete in state track and field meetings in Connecticut.” (Dkt. No. 1-1 (Declaration of Loree Stark) Ex. D (West Virginia House of Delegates, Mar. 25, 2021) at 3; Dkt. No 25 (Supplemental Declaration of Katelyn Kang) Ex. C at 37–38.)**

a. *State’s Response*: ¶¶ 54 through 57 – *Contested. Statements by individual legislators are not admissible as “facts.” Id.*

b. Plaintiff’s Reply: The State misconstrues the law cited in its opposition regarding legislative statements.



(See Pl. Reply at 15-16.) Regardless of whether legislative statements constitute “legislative history” under West Virginia law, “contemporary statements by members of the decisionmaking body” are relevant under federal law to determine whether a statute is passed for a discriminatory purpose. *Vill. of Arlington Heights v. Metro. Hous. Dev. Corp.*, 429 U.S. 252, 268 (1977). Furthermore, the State’s conclusory assertion that these statements are not “facts” is unsupported, and it is unclear what the State means when it asserts that these statements are not “facts.” To the extent that the State is implying that these statements are inadmissible as hearsay, they are not. Plaintiff is not offering the statements for the truth of the matter asserted, but to reflect how the bill was represented to others by legislators and legislative staff. In addition, even if the statements were submitted for the truth of the matter asserted, they are excluded from the definition of hearsay as admissions of a party opponent. Fed. R. Civ. P. 801(d)(2).

**55. During the debate in the Senate, one senator, Michael J. Maroney, expressly noted that “the bill” is “about transgenders.” (Dkt. No. 1-1 (Declaration of Loree Stark) Ex. E (West Virginia Senate, Apr. 8, 2021) at 2; Dkt. No. 25 (Supplemental Declaration of Katelyn Kang) Ex. F at 32.)**

a. *State’s Response:* ¶¶ 54 through 57 – *Contested. Statements by individual legislators are not admissible as “facts.” Id.*

b. Plaintiff’s Reply: Same as ¶ 54.

**56. Another senator, Rollan Roberts, shared a constituent letter stating that the “trans movement is an attack upon womanhood.” (Dkt. No. 1-1**

(Declaration of Loree Stark) Ex. E (West Virginia Senate, Apr. 8, 2021) at 3; Dkt. No. 25 (Supplemental Declaration of Katelyn Kang) Ex. F at 32.)

a. *State’s Response:* ¶¶ 54 through 57 – *Contested. Statements by individual legislators are not admissible as “facts.” Id.*

b. Plaintiff’s Reply: Same as ¶ 54.

57. On March 16, 2021, Delegate Jordan Bridges announced on Facebook that he was cosponsoring H.B. 3293 and then “liked” comments on his post that advocated for physical violence against girls who are transgender, compared girls who are transgender to pigs, and called girls who are transgender by a pejorative term (“tranny”). (Ex. 42 (Jordan Bridges, “Update: The bill passed out of committee,” Facebook, [\(March 16, 2021\)\)](https://perma.cc/HA5C-VJ4N).)

a. *State’s Response:* ¶¶ 54 through 57 – *Contested. Statements by individual legislators are not admissible as “facts.” Id.*

b. Plaintiff’s Reply: Same as ¶ 54.

58. The sole justification for H.B. 3293 offered in the legislative text is “promot[ing] equal

athletic opportunities for the female sex.” W. Va. Code § 18-2-25d(a)(5). The law discusses equal athletic opportunities only in terms of the “substantial” displacement of female athletes. *Id.* § 18-2-25d(a)(3)-(4).

a. *State’s Response:* ¶ 58 – *Contested. This is not fact—it is argumentative. H.B. 3293’s preamble and the findings speak for themselves. They also reference*

*“contact sports” and use language very similar to Title IX in explaining the purpose of the law.*

b. Plaintiff’s Reply: The State fails to meet its burden of showing a genuine, material dispute. The State cites nothing in support of its assertions. Furthermore, the State does not actually identify a dispute—it does not dispute the quoted legislative text in ¶ 58.

**59. During the discovery period, the State identified additional rationalizations that it claims are advanced by H.B. 3293: (1) “[t]o [p]rotect [w]omen’s [s]ports,” (2) “[t]o follow Title IX,” and (3) “[t]o protect women’s safety in female athletic sports.” (Ex. 4 (State of West Virginia’s Responses to Plaintiff’s First Set of Interrogatories) No. 6.)**

a. *State’s Response*: ¶ 59 – *Contested. This is not fact—it is argumentative. What Plaintiff is calling “additional rationalizations” were already implicit or explicit in the bill. See State’s Memo. in Opp. at 16-18.*

b. Plaintiff’s Reply: The State does not identify a genuine, material dispute. Even if the Court accepts as true that these additional rationalizations were “implicit or explicit in the bill,” the State still fails to show a substantial relationship between these asserted interests and H.B. 3293. (Dkt. No. 291 (Pl. MSJ) at 24-33; Dkt. No. 331 (Pl. Opp MSJ) at 37-47; Pl. Reply at 23-29).

**60. During a House committee hearing of the bill, Sarah Stewart from the West Virginia Department of Education testified that her office had never received any calls or complaints about transgender students participating in athletics. (Ex. 35 at 11.)**

a. *State’s Response*: ¶¶ 60 through 62 – *Contested. Plaintiff cherry-picks statements made by the Governor*

*and during various legislative hearings, which are not material in isolation.*

b. Plaintiff's Reply: The State fails to meet its burden of showing a genuine, material dispute, as the State cites nothing in support of this assertion. The State also offers zero support as to why the statements are “cherry-pick[ed]” and are “not material in isolation.” Furthermore, Sarah Stewart’s testimony is entirely consistent with documents and testimony that the State Board has provided in this litigation. (*See, e.g.*, Dkt. No. 289-9 (State Board Resp. to Pl. RFAs) Nos. 40-43.) The State also fails to contest the actual truth of Sarah Stewart’s statements.

**61. The bill’s sponsors also acknowledged that they were not aware of a single instance of a transgender athlete having ever competed on a secondary school or higher education sports team in West Virginia, let alone any “problem” from such participation. (Dkt. No. 1-1 (Declaration of Loree Stark) Ex. B (West Virginia House of Delegates Education Committee, Mar. 18, 2021) at 1-2, Ex. C (West Virginia House of Delegates Judiciary Committee, Mar. 18, 2021) at 1, Ex. D (West Virginia House of Delegates, Mar. 25, 2021) at 1.)**

a. *State’s Response*: ¶¶ 60 through 62 – *Contested. Plaintiff cherry-picks statements made by the Governor and during various legislative hearings, which are not material in isolation.*

b. Plaintiff's Reply: The State fails to meet its burden of showing a genuine, material dispute, as the State cites nothing in support of this assertion. The State also offers no support as to why the statements are “cherry-pick[ed]” and are “not material in isolation.” Furthermore, the State

fails to contest the actual truth of the statements that there was “any problem” from transgender athletes participating in sports teams in West Virginia.

**62. When Governor Justice was asked after signing the bill whether he could give “one example of a transgender child trying to get an unfair advantage,” he responded, “No, I can’t really tell you one.” Ex. 43 (MSNBC on Twitter, <https://twitter.com/MSNBC/status/1388132937707802629> [<https://perma.cc/G8VM-QGYU>] (April 30, 2021).)** He further indicated that the issue purportedly addressed by H.B. 3293 was not a priority for him, stating, “I didn’t make it a priority. It wasn’t my bill. . . . This is not like it’s a big priority to me. . . . I think we only have 12 kids maybe in our state that are transgender-type kids. I mean, for crying out loud . . . I sign hundreds of bills, hundreds of bills. This is not a priority to me.” (*Id.*)

a. *State’s Response: ¶¶ 60 through 62 – Contested.* Plaintiff cherry-picks statements made by the Governor and during various legislative hearings, which are not material in isolation.

b. Plaintiff’s Reply: The State fails to meet its burden of showing a genuine, material dispute, as the State cites nothing in support of this assertion. The State also offers no support as to how the statements are “cherry-pick[ed]” and are “not material in isolation.”

**63. Defendants were not aware of any transgender student athletes participating on an athletic team offered by a public secondary school in West Virginia when H.B. 3293 was passed. (Defendants’ Responses to Plaintiff’s Second Set of Requests for Admission Nos. 40–41.)**

a. *State's Response:* ¶¶ 63 through 66 and 68 – *Contested. There were issues with the potential for males who identify as females to try to participate in women's sports in West Virginia. West Virginia officials were aware that this was an issue based on national trends and other information. See ECF 287 at 1-5.*

b. Plaintiff's Reply: The State fails to identify a genuine, material dispute. Even assuming the State's characterizations to be true (which Plaintiff disputes), they do not demonstrate that a transgender student athlete participated on an athletic team offered by a public secondary school in West Virginia when H.B. 3293 was passed. Furthermore, the State does not actually dispute that they were not aware of anyone who is transgender participating in sports in West Virginia.

**64. Defendants are not currently aware of a transgender student athlete other than B.P.J. participating on an athletic team offered by Bridgeport Middle School or any other public secondary school in West Virginia. (Ex. 5 Nos. 42–43; Ex. 6 Nos. 42–43; Ex. 7 Nos. 42–43; Ex. 8 Nos. 42–43; Ex. 9 Nos. 42–43; Ex. 10 Nos. 42–43; Ex. 11 Nos. 42–43; Ex. 17 at 119:13-16.)**

a. *State's Response:* ¶¶ 63 through 66 and 68 – *Contested. There were issues with the potential for males who identify as females to try to participate in women's sports in West Virginia. West Virginia officials were aware that this was an issue based on national trends and other information. See ECF 287 at 1-5.*

b. Plaintiff's Reply: The State fails to identify a genuine, material dispute. Like the above, even if the Court accepts as true the State's characterization of the evidence, it does not contradict ¶ 64 that Defendants "are

not currently aware of a transgender student athlete other than B.P.J. participating on an athletic team.”

**65. WVSSAC has not received any complaints about transgender students participating in school sports in West Virginia. (Ex. 17 at 120:9-15.)**

a. *State’s Response: ¶¶ 63 through 66 and 68 – Contested. There were issues with the potential for males who identify as females to try to participate in women’s sports in West Virginia. West Virginia officials were aware that this was an issue based on national trends and other information. See ECF 287 at 1-5.*

b. Plaintiff’s Reply: The State does not actually identify a genuine, material dispute. Even if the Court accepts as true the State’s characterizations of the evidence, it does not contradict ¶ 65 that the “WVSSAC has not received any complaints about transgender students participating in school sports in West Virginia.”

**66. The West Virginia Department of Education’s General Counsel described H.B. 3293 as “much ado about nothing.” (Ex. 40 (WVSBOE000006).)**

a. *State’s Response: ¶¶ 63 through 66 and 68 – Contested. There were issues with the potential for males who identify as females to try to participate in women’s sports in West Virginia. West Virginia officials were aware that this was an issue based on national trends and other information. See ECF 287 at 1-5.*

b. Plaintiff’s Reply: The State does not actually identify a genuine, material dispute. Even if the Court accepts as true the State’s characterization of the evidence, it does not contradict the fact that the West Virginia Department of Education’s General Counsel described H.B. 3293 as “much ado about nothing.”

**67. The West Virginia Department of Education did not support H.B. 3293 when it was passed. (Ex. 41 (WVSBOE000038).)**

a. *State's Response: ¶¶ 67 and 69 – Contested. The West Virginia Department of Education's political position on H.B. 3293 is not a "fact" which is material or relevant to whether the law is a permissible exercise of state authority.*

b. Plaintiff's Reply: The State's conclusory and unsupported assertion fails to create a genuine, material dispute. The State offers zero evidence beyond mere allegation that the West Virginia Department of Education's positions are immaterial and irrelevant to this case. *See Miller-Hall v. C. R. Bard, Inc.*, No. 2:13-CV-07734, 2016 WL 7155763, at \*1–2 (S.D.W. Va. Dec. 7, 2016) ("Conclusory allegations . . . , without more, are insufficient to preclude the granting of a summary judgment."). And in any event, the State Board's position regarding H.B. 3293 is clearly material and relevant. As the entity statutorily responsible to "supervise the schools in this state," *Jones v. W. Va. State Bd. of Educ.*, 218 W. Va. 52, 61 (W. Va. 2005), the State Board is much closer to this case's issues than the State, and the State Board's position on the bill is thus relevant to whether the law is actually substantially related to a governmental interest.

**68. The State Board's 30(b)(6) witness testified that the Board had "not had an issue" and "didn't see an issue" regarding the participation of transgender girls in school sports, and that the Department of Education, State Board, and State Superintendent have never received any complaints regarding students who are transgender participating in school sports. (Ex. 18 at 67:3-10, 101:15-17, 102:12-13, 113:19-114:16, 125:24-126:2, 135:24-136:19).**



a. *State's Response: ¶¶ 67 and 69 – Contested. The West Virginia Department of Education's political position on H.B. 3293 is not a "fact" which is material or relevant to whether the law is a permissible exercise of state authority.*

b. Plaintiff's Reply: Same as immediately above in ¶ 67.

c. *State's Response: ¶¶ 63 through 66 and 68 – Contested. There were issues with the potential for males who identify as females to try to participate in women's sports in West Virginia. West Virginia officials were aware that this was an issue based on national trends and other information. See ECF 287 at 1-5.*

d. Plaintiff's Reply: The State does not actually identify a genuine, material dispute. Even if the Court accepts as true the State's assertions, they do not contradict the fact that the State Board's 30(b)(6) witness testified that it had "not had an issue" and "didn't see an issue" regarding the participation of transgender girls in school sports, and that the Department of Education had "never received any complaints regarding students who are transgender participating in school sports."

**69. The West Virginia Department of Education and the State Superintendent still do not support H.B. 3293. (Dkt. No. 270 (WVBOE Stip.) ¶ 5.)**

a. *State's Response: ¶¶ 67 and 69 – Contested. The West Virginia Department of Education's political position on H.B. 3293 is not a "fact" which is material or relevant to whether the law is a permissible exercise of state authority.*

b. Plaintiff's Reply: The State's conclusory and unsupported assertion fails to create a genuine, material

dispute. The State offers no evidence beyond mere allegation that the West Virginia Department of Education's positions are immaterial and irrelevant to this case.

**V. H.B. 3293's Exclusive Reliance On "Biological Sex" And Categorical Bar To The Participation Of Transgender Women And Girls Is A Stark Departure From The Inclusive Policies Of Major Sporting Associations.**

70. H.B. 3293 classifies school sports teams "according to biological sex" and defines "biological sex" as "an individual's physical form as male or female based solely on the individual's reproductive biology and genetics at birth." W. Va. Code § 18-2-25d(a)(5), (b)(1).

71. Scientists recognize that a person's sex encompasses different biological components, including sex chromosomes, certain genes, gonads, exposure to sex hormone, internal and external genitalia, and other secondary sex characteristics, which are not always aligned in the same direction. (Ex. 25 ¶¶ 5–6 (and sources cited therein)); Ex. 23 (Exhibit 4 to Deposition Transcript of Deanna Adkins, M.D. (Hembree WC, et al. Endocrine Treatment of Gender Dysphoria/Gender Incongruent Persons: An Endocrine Society Clinical Practice Guideline. *J Clin Endocrinol Metab* 2017; 102:3869-3903 ("Endocrine Society Guidelines 2017") at 3875)).)

a. *State's Response: ¶ 71 – Contested. The contention that H.B. 3293's definition of "biological sex" is scientifically inappropriate is wrong for the reasons set forth in the State's Memo. in Op., the Daubert motions*

*concerning the opinions of Drs. Adkins and Safer, and the expert opinions proffered by the State.*

b. Plaintiff's Reply: The State fails to identify a genuine, material dispute. The State does not actually dispute the underlying assertions of the cited source that sex encompasses all of the factors listed in the Hembree et al. article. Indeed, the sources that it cites in its own motion for summary judgment expressly acknowledge that "sex" is composed of factors beyond solely reproductive anatomy and genetics at birth. (See Dkt. No. 331 (Pl. MSJ Opp.) at 27-28 (discussing Dkt. No. 305 (State MSJ) at 287).)

**72. Although the precise biological causes of gender identity are unknown, gender identity itself has biological underpinnings, possibly as a result of variations in prenatal exposure to sex hormones, gene sequences, epigenetics, or a combination of factors. (Ex. 25 ¶ 6 (and sources cited therein); Ex. 23 (Endocrine Society Guidelines 2017 at 3874–75).)**

a. *State's Response*: ¶ 72 – *Contested*. "[T]here is substantial evidence that the "biological basis" theory is incorrect[.]" *Levine Decl.* at ¶ 97, and generally at ¶¶ 92-105, *Ex. D. to the State's Memo. in Op.* This is further addressed in the *Daubert* motion concerning the opinions of Dr. Janssen.

b. Plaintiff's Reply: The State fails to raise a genuine, material dispute. Dr. Levine is not qualified to offer an expert opinion on this topic. (See Dkt. No. 324 (Levine *Daubert* Mot.).)

**73. H.B. 3293's requirement that teams be separated "based solely on the individual's reproductive biology and genetics at birth" is a stark departure from the**

**prior policy in West Virginia and is not the rule used by elite sporting organizations.**

a. *State's Response: ¶ 73 – Contested. This is argumentative, not a fact, and does not cite any facts. H.B. 3293 is not a “stark departure from the prior policy in West Virginia,” as West Virginia has a long history of sports separation by biological sex as set forth above and in the State's Memo. in Op. Also, the statement that separation by biological sex “is not the rule used by elite sporting organizations” is unsupported and does not define or specify any “elite sporting organizations.”*

b. Plaintiff's Reply: The State does not identify a genuine, material dispute. The State provides no evidence that West Virginia previously separated sports “based solely on the individual's reproductive biology and genetics at birth.” Furthermore, the State's assertion that Plaintiff fails to “define or specify any ‘elite sporting organizations’” is contradicted by Plaintiff's subsequent paragraph, which identifies three elite sporting organizations.

**74. The NCAA, World Athletics, and the International Olympic Committee (“IOC”) all permit transgender girls and women to compete in women's sport events after suppressing their levels of testosterone for particular periods of time or below particular thresholds. (Dkt. No. 78 (State Ans.) ¶ 42; Dkt. No. 131 (Armistead Ans.) ¶ 42; Dkt. No. 156 (WVBOE Ans.) ¶ 42; Dkt. No. 157 (County Ans.) ¶ 42; Dkt. No. 158 (WVSSAC Ans.) ¶ 42; Ex. 24 ¶¶ 27–39.)**

a. *State's Response: ¶ 74 – Contested. The NCAA recently abandoned its former policy allowing males to compete in women's sports after a year of suppressing testosterone and instead adopted a sport-by-sport*

*approach that defers to the policy of the national governing body for that sport. Brown Decl. at ¶ 176, ECF No. 285-7. It is therefore incorrect to state that they permit participation provided a certain level or duration of testosterone suppression, as not every sports-governing body grants such permission. World Rugby, for example, does not allow such participation despite testosterone suppression. Id. at ¶ 171.*

b. Plaintiff's Reply: The State fails to identify a genuine, material dispute. The subsequent paragraph expressly notes that the NCAA changed its policy in 2022. Furthermore, the State does not challenge the fact that World Athletics and the IOC all permit transgender girls and women to compete in women's sports events after suppressing their levels of testosterone.

The State also mischaracterizes Plaintiff's facts as stating that "every sports-governing body grants such permission." Plaintiff makes no such claim here.

**75. The NCAA's policy is described above. See *supra* ¶¶ 41–42. The NCAA policy aims to "preserve[] opportunity for transgender-student athletes." (Ex. 45 (NCAA, *Board of Governors updates transgender participation policy* (Jan. 19, 2022), <https://www.ncaa.org/news/2022/1/19/media-center-board-of-governors-updates-transgender-participation-policy.aspx>).)**

a. *State's Response*: ¶¶ 75 through 84 – *Contested. Sports organization's policies are not determinative of whether the Sports Act is a permissible exercise of state authority.*

b. Plaintiff's Reply: The State fails to show a genuine, material dispute. The State cites nothing in support of its conclusory statement. Furthermore, the State's assertion

contradicts its own reliance on the World Rugby policy, as can be seen in its response to ¶ 74, its motion for summary judgment, and its opposition motion. (*See* Dkt. No. 287 (State MSJ) at 17; Dkt. No. 305 (State Opp.) at 15-16, 23.)

**76. Since 2011, World Athletics, the international governing body for track-and-field athletics, has required that women with elevated levels of circulating testosterone lower their levels of testosterone below a threshold amount in order to compete in elite international women's sports competitions. (Ex. 24 ¶ 27.)**

a. ¶¶ 75 through 84 – *Contested. Sports organization's policies are not determinative of whether the Sports Act is a permissible exercise of state authority.*

b. Plaintiff's Reply: Same as immediately above in ¶ 75.

**77. In 2019, World Athletics adopted regulations allowing women who are transgender to participate in elite international women's sports competitions if their total testosterone level in serum is beneath a particular threshold—5 nmol/L—for at least one year before competition. (Ex. 24 ¶ 29.)**

a. *State's Response: ¶¶ 75 through 84 – Contested. Sports organization's policies are not determinative of whether the Sports Act is a permissible exercise of state authority.*

b. Plaintiff's Reply: Same as ¶ 75.

**78. The IOC published formal eligibility rules for the participation of transgender women in 2003. Those rules required that transgender women athletes could compete in women's events only if they had genital**

**surgery, a gonadectomy (i.e., removal of the testes), and legal documentation of female sex. (Ex. 24 ¶ 31.)**

a. *State's Response: ¶¶ 75 through 84 – Contested. Sports organization's policies are not determinative of whether the Sports Act is a permissible exercise of state authority.*

b. Plaintiff's Reply: Same as ¶ 75.

**79. In 2015, the IOC adopted new policies allowing women who are transgender to participate on women's teams if they demonstrated that their total testosterone level in serum was below 10 nmol/L for at least one year prior to competition. (Ex. 24 ¶ 33.)**

a. *State's Response: ¶¶ 75 through 84 – Contested. Sports organization's policies are not determinative of whether the Sports Act is a permissible exercise of state authority.*

b. Plaintiff's Reply: Same as ¶ 75.

**80. In 2021, the IOC adopted a new "Framework on Fairness, Inclusion, and Non-Discrimination on the Basis of Gender Identity and Sex Variations," which replaces the 2015 guidance. (Ex. 24 ¶ 34.)**

a. *State's Response: ¶¶ 75 through 84 – Contested. Sports organization's policies are not determinative of whether the Sports Act is a permissible exercise of state authority.*

b. Plaintiff's Reply: Same as ¶ 75.

**81. Unlike the IOC's 2003 and 2015 policies, the IOC's 2021 framework does not attempt to adopt a single set of eligibility standards for the participation of transgender athletes that would apply universally to every IOC sport. Instead, the 2021 framework provides**

**a set of governing principles for sporting bodies to follow when adopting eligibility rules for their particular sport. (Ex. 24 ¶ 35.)**

a. *State's Response: ¶¶ 75 through 84 – Contested. Sports organization's policies are not determinative of whether the Sports Act is a permissible exercise of state authority.*

b. Plaintiff's Reply: Same as ¶ 75.

**82. Under the 2021 framework, “[n]o athlete should be precluded from competing or excluded from competition on the exclusive ground of an unverified, alleged or perceived unfair competitive advantage due to their sex variations, physical appearance and/or transgender status.” (Ex. 24 ¶ 36.) “Until evidence . . . determines otherwise, athletes should not be deemed to have an unfair or disproportionate competitive advantage due to their sex variations, physical appearance and/or transgender status.” (Ex. 24 ¶ 36.)**

a. *State's Response: ¶¶ 75 through 84 – Contested. Sports organization's policies are not determinative of whether the Sports Act is a permissible exercise of state authority.*

b. Plaintiff's Reply: Same as ¶ 75.

**83. The 2021 framework further provides that “[a]ny restrictions arising from eligibility criteria should be based on robust and peer reviewed research that: (a) demonstrates a consistent, unfair, disproportionate competitive advantage in performance and/or an unpreventable risk to the physical safety of other athletes; (b) is largely based on data collected from a demographic group that is consistent in gender and athletic engagement with the group that the eligibility**



criteria aim to regulate; and (c) demonstrates that such disproportionate competitive advantage and/or unpreventable risk exists for the specific sport, discipline and event that the eligibility criteria aim to regulate.” (Ex. 24 ¶ 37.)

a. *State’s Response: ¶¶ 75 through 84 – Contested. Sports organization’s policies are not determinative of whether the Sports Act is a permissible exercise of state authority.*

b. Plaintiff’s Reply: Same as ¶ 75.

84. USA Swimming recently adopted a policy allowing girls and women who are transgender to apply to compete in elite events if they demonstrate that their “prior physical development . . . as mitigated by any medical intervention, does not give the athlete a competitive advantage over the athlete’s cisgender [f]emale competitors” and they “demonstrate[] that the concentration of testosterone in the athlete’s serum has been less than 5 nmol/L . . . continuously for a period of at least thirty-six (36) months before the date of the Application.” (Ex. 29 (Declaration of Gregory A. Brown, P.H.D., F.A.C.S.M.) ¶ 177.)

a. *State’s Response: ¶¶ 75 through 84 – Contested. Sports organization’s policies are not determinative of whether the Sports Act is a permissible exercise of state authority.*

b. Plaintiff’s Reply: Same as ¶ 75.

85. A person’s genetic makeup and internal and external reproductive anatomy are not useful indicators of athletic performance and have not been used in elite competition for decades. (Ex. 24 ¶ 49.)

a. *State's Response: ¶ 85 – Contested. Dr. Safer's opinions are subject to a Daubert motion, and Plaintiff's statement is contradicted by the actual data. See supra at (f). See also Brown expert report, ECF 285-7 (detailing performance differences between biological males and biological females).*

b. Plaintiff's Reply: The State's response relies on the testimony of Dr. Brown, which is inadmissible for the reasons explained in the pending *Daubert* motion. (Dkt. No. 316 (Brown *Daubert* Mot.).) In any event, the State's proffered evidence fails to identify a genuine, material dispute, as nothing in Dr. Brown's expert report identifies a link between "internal and external reproductive anatomy" and genetic makeup" and "athletic performance." Indeed, the State itself hypothesizes that alleged differences in athletic performance before puberty are a result of higher levels of circulating testosterone experienced by infant cisgender boys from age 0 to 5 months—not genetics or anatomy. (Dkt. No. 287 (State MSJ) at 14.) The State also offers no evidence to contradict ¶ 85 that these factors "have not been used in elite competition for decades."

**86. Some people with 46,XY chromosomes may have inactive testosterone receptors (a syndrome called "complete androgen insensitivity syndrome, CAIS") which means they do not respond to testosterone despite very high levels. (Ex. 24 ¶ 26(b).)**

a. *State's Response: ¶¶ 86 through 88 – Contested. The use of the word "may" is speculative and not a fact and not permissible for expert testimony. Further, as set forth more fully in the Summary Judgment briefing and the Daubert motions concerning Drs. Adkins and Safer, disorders of sexual development like CAIS are not material to this case.*

b. Plaintiff's Reply: The State's assertion that use of the word "may" is "speculative mischaracterizes the way the term is used in ¶ 86. The State does not dispute that people with CAIS exist. Information about women with CAIS is relevant and material because it demonstrates that average sex-based differences in athletic performance are not determined by chromosomes. Rather, those differences are determined by the body's response to testosterone.

**87. Usually, people with CAIS have female gender identity and have external genitalia that are typically female. They do not develop the physical characteristics associated with typical male puberty. (Ex. 24 ¶ 26(b).)**

a. *State's Response: ¶¶ 86 through 88 – Contested. The use of the word "may" is speculative and not a fact and not permissible for expert testimony. Further, as set forth more fully in the Summary Judgment briefing and the Daubert motions concerning Drs. Adkins and Safer, disorders of sexual development like CAIS are not material to this case.*

b. Plaintiff's Reply: Same as immediately above in ¶ 86.

**88. It has long been recognized that women with CAIS do not have an athletic advantage over other women simply by virtue of having XY chromosomes. (Ex. 24 ¶ 59.)**

a. *State's Response: ¶¶ 86 through 88 – Contested. The use of the word "may" is speculative and not a fact and not permissible for expert testimony. Further, as set forth more fully in the Summary Judgment briefing and the Daubert motions concerning Drs. Adkins and Safer,*

*disorders of sexual development like CAIS are not material to this case.*

b. Plaintiff's Reply: Same as ¶ 86.

**89. There is a medical consensus that the largest known biological cause of average differences in athletic performance between non-transgender men as a group and non-transgender women as a group is circulating testosterone beginning with puberty. (Ex. 24 ¶ 25; Ex. 25 ¶ 8; Ex. 29 ¶ 114 (“While boys exhibit some performance advantage even before puberty, it is both true and well known to common experience that the male advantage increases rapidly, and becomes much larger, as boys undergo puberty and become men.”).)**

a. *State's Response*: ¶ 89 – *Contested*. *Dr. Gregory Brown shows that circulating testosterone is not the only biological cause of differences in athletic performance between males and females. See Brown Expert Report, ECF 285-7.*

b. Plaintiff's Reply: The State fails to raise a genuine, material dispute, as the State's response is not inconsistent with ¶ 89. Plaintiff never states that circulating testosterone is the “only” cause of purported differences in athletic performance, but that circulating testosterone is the “largest known biological cause of average differences in athletic performance.” The State does not dispute this fact here.

**90. Before puberty, boys and girls typically have the same levels of circulating testosterone, and age-grade competitive sports records show only modest differences in athletic performance between non-transgender boys and non-transgender girls. (Ex. 24 ¶¶ 24–25; Ex. 26 (Exhibit 4 to Deposition Transcript of**

**Joshua D. Safer (Handelsman 2018 (“Age-grade competitive sports records show minimal or no female disadvantage prior to puberty[.]”)); Ex. 26 ¶ 114 (describing differences as “modest”).)**

a. *State’s Response: ¶ 90 - Contested. The Handelsman study in fact shows competitively significant male advantages over females before puberty. See Safer Dep. at 89:6-90:24; 94:18-95:3; 95:6- 11; 103:4-10, ECF No. 285-6; see also Brown Decl. at ¶¶ 68, 71-109, ECF No. 285-7 (performance data of prepubescent children shows the same male advantages over females before puberty). Further, Dr. Safer’s opinions are subject to a Daubert motion and are clearly disputed.*

b. Plaintiff’s Reply: The State’s assertions regarding the Handelsman study and its characterizations of prepubertal performance differences as “significant” are unsupported by its cited source. The Handelsman study itself states: “Age-grade competitive sports records show minimal or no female disadvantage prior to puberty.” (Second Supp. Decl. of Loree Stark, Ex. 66 (Handelsman, David, et al., *Circulating Testosterone as the Hormonal Basis of Sex Differences in Athletic Performance*, *Pediatrics*, 142(4), *Endocrine Reviews*, 39: 803–829, at 812, doi: 10.1542/peds.2018-2162) at 812.) Dr. Safer never agrees with the State’s assertion that the Handelsman study shows “significant male advantages over females before puberty.” In fact, while discussing a graph in the Handelsman study comparing ten-year-old girls and boys, Dr. Safer states that “the graph that we are looking at includes arrow bars that include the possibility that boys would have—that the girls would have a superior outcome . . . Where the data are either small or are suspect or not significant, then all of that collectively certainly is—would

be included as minimal to non-existent.” (See Dkt. No. 289-27 (Safer Dep. Tr.) at 98:14-20.)

Even if Dr. Safer’s opinions are found to be “genuinely” disputed, ¶ 90 does not rely on Dr. Safer’s opinions but on a peer-reviewed article published by different individuals, which is independently cited by Defendants’ own proffered experts. (See, e.g., Dkt. No. 289-30 (Brown Rep.) ¶ 12.)

**91. There have been no studies purporting to establish that any modest differences in athletic performance between pre-pubertal cisgender boys and pre-pubertal cisgender girls are attributable to innate physiology as opposed to social factors. (Ex. 30 (Deposition Transcript of Gregory A. Brown) at 94:19-23; Ex. 25 ¶ 9.)**

a. *State’s Response: ¶ 91 – Contested. Dr. Brown provided evidence that there is a biological component to the performance differences between pre-pubertal males and females and copious data that such differences are often decisive in head-to-head competition. See State’s Memo. in Supp. of MSJ at 14-15, ECF No. 287, and Brown Decl. at ¶¶ 68-109, ECF No. 285-7.*

b. Plaintiff’s Reply: The State mischaracterizes the record. As noted in this fact, it is Defendants’ own expert Dr. Brown who admits that he is unable to “quantify[] the effects of social causes” versus “physiological factors” on differences in athletic performance between prepubertal boys and girls. (See Dkt. No. 316 (Brown *Daubert* Mot.) at 14.)

**92. H.B. 3293 does not provide for any consideration of circulating testosterone levels. W. Va. Code § 18-2-25d.**

**VI. H.B. 3293 Harms B.P.J.**

93. 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. (Ex. 5 Nos. 20-24; Ex. 6 Nos. 20-24; Ex. 7 Nos. 20-24; Ex. 8 Nos. 20-24; Ex. 9 Nos. 20-24; Ex. 10 Nos. 20-24; Ex. 11 Nos. 20-24; Dkt. No. 252 (County Stip.) ¶ 2; Dkt. No. 270 (WVBOE Stip.) ¶ 2.)

94. In May 2021, B.P.J.'s mother, Heather Jackson, met with B.P.J.'s new Principal at Bridgeport Middle School, David Mazza, regarding a gender support plan for B.P.J., which specified the ways the school would support B.P.J. as a girl. (Ex. 1 ¶ 23; Ex. 16 at 95:25-96:6).

95. At that same meeting, Ms. Jackson informed Principal Mazza that B.P.J. wanted to participate on the girls' cross-country team. (Ex. 1 ¶ 24; Ex. 1-B at 5; Ex. 14 (Deposition Transcript of Heather Jackson (Jan. 20, 2022)) at 250:14-252:7; Ex. 16 at 220:2-16.) In response to Ms. Jackson's statement, Principal Mazza communicated to Ms. Jackson that B.P.J. would not be able to run on the girls' cross-country team because of H.B. 3293. (Ex. 1 ¶ 24; Ex. 12 at 129:21-130:2, 106:16-21, 107:3-11; Ex. 13 at 21:22-22:16; Ex. 14 at 250:8-251:12; Ex. 16 at 220:19-22; Dkt. No. 157 (County Ans.) ¶¶ 63-65.)

96. B.P.J. "just want[s] the opportunity to participate in school sports like any other girl." (Ex. 2 ¶ 21.)

a. *State's Response: ¶¶ 96 through 104 – Contested. These are arguments, not facts. Moreover, as noted above and in the State's Memo. in Op. and ECF 287, Plaintiff's individual characteristics are not relevant or material to whether H.B. 3293 is a permissible exercise of state authority.*

b. Plaintiff's Reply: The State's blanket assertion that Plaintiff's characteristics in her as-applied challenge are "not material" is incorrect, because it is based on an incorrect understanding of heightened scrutiny under the Equal Protection Clause. (Dkt. No. 331 (Pl. MSJ Opp.) at 35.) This fact is relevant to her Title IX claim, which requires her to show harm as a result of discrimination, and also to the irreparable harm factor required for a permanent injunction. Furthermore, the State offers no support for its assertion that B.P.J.'s desire to participate in school sports like any other girl is an "argument." This is a fact relevant to B.P.J.'s standing.

**97. Forcing B.P.J. to run on the boys' team would be stigmatizing, isolating, hurtful, and devastating for her. (Ex. 1 ¶¶ 30–31; Ex. 2 ¶¶ 14–16, 21.)**

a. *State's Response*: ¶¶ 96 through 104 – *Contested. These are arguments, not facts. Moreover, as noted above and in the State's Memo. in Op. and ECF 287, Plaintiff's individual characteristics are not relevant or material to whether H.B. 3293 is a permissible exercise of state authority.*

b. Plaintiff's Reply: The State's blanket assertion that Plaintiff's characteristics in her as-applied challenge are "not material" is incorrect, because it is based on an incorrect understanding of heightened scrutiny under the Equal Protection Clause. (Dkt. No. 331 (Pl. MSJ Opp.) at 35.) This fact is relevant to the irreparable harm factor required to receive a permanent injunction, and it is also relevant to the merits of B.P.J.'s Title IX and Equal Protection claims. Furthermore, the State offers no support for its assertion that this is an "argument."

**98. According to B.P.J., "[Being a girl] means—it means everything." (Ex. 12 29:24–30:5.) "I am not a boy.**



**I do not want to run with the boys when there is a girls' team and I should not have to run with the boys when there is a girls' team.” (Ex. 2 ¶ 15; *see also* Ex. 12 at 120:24-121:4.)**

a. *State’s Response: ¶¶ 96 through 104 – Contested. These are arguments, not facts. Moreover, as noted above and in the State’s Memo. in Op. and ECF 287, Plaintiff’s individual characteristics are not relevant or material to whether H.B. 3293 is a permissible exercise of state authority.*

b. Plaintiff’s Reply: The State’s blanket assertion that Plaintiff’s characteristics in her as-applied challenge are “not material” is incorrect, because it is based on an incorrect understanding of heightened scrutiny under the Equal Protection Clause. (Dkt. No. 331 (Pl. MSJ Opp.) at 35.) This fact is relevant to the irreparable harm factor required for a permanent injunction, and it is also relevant to the merits of B.P.J.’s Title IX and Equal Protection claims. Furthermore, the State offers no support for its assertion that the statements in B.P.J.’s personal declaration are “arguments.”

**99. According to B.P.J., “[r]unning with the girls means a lot to me because I am a girl, and I should be treated like a girl, just like all my friends who are girls. If I did not get to participate in cross-country or track, I would have missed out on the opportunity to spend time with my friends and grow with a new team.” (Ex. 2 ¶ 16.) “It is so upsetting and hurtful that some people want to take that chance away from me and treat me differently from everyone else just because I am transgender.” (Ex. 2 ¶ 21.)**

a. *State’s Response: ¶¶ 96 through 104 – Contested. These are arguments, not facts. Moreover, as noted above*

*and in the State's Memo. in Op. and ECF 287, Plaintiff's individual characteristics are not relevant or material to whether H.B. 3293 is a permissible exercise of state authority.*

b. Plaintiff's Reply: The State's blanket assertion that Plaintiff's characteristics in her as-applied challenge are "not material" is incorrect, because it is based on an incorrect understanding of heightened scrutiny under the Equal Protection Clause. (Dkt. No. 331 (Pl. MSJ Opp.) at 35.) This fact is relevant to the irreparable harm factor required for a permanent injunction, and it is also relevant to the merits of B.P.J.'s Title IX and Equal Protection claims. Furthermore, the State offers no support for its assertion that the statements in B.P.J.'s personal declaration are "arguments."

**100. According to B.P.J.'s mother, "[i]t is wrong and senseless to try to make [B.P.J.] participate on boys' teams when there are girls' teams available. Forcing B.P.J. to compete on the boys' cross-country or track teams when girls' teams are available would completely erase who she is, and it would devastate her because she is a girl." (Ex. 1 ¶ 30.) "Forcing her to run with the boys is a clear sign to her and others that the state refuses to see her and accept her for the girl that she is." (Ex. 1 ¶ 31.)**

a. *State's Response: ¶¶ 96 through 104 – Contested. These are arguments, not facts. Moreover, as noted above and in the State's Memo. in Op. and ECF 287, Plaintiff's individual characteristics are not relevant or material to whether H.B. 3293 is a permissible exercise of state authority.*

b. Plaintiff's Reply: The State's blanket assertion that Plaintiff's characteristics in her as-applied challenge are

“not material” is incorrect, because it is based on an incorrect understanding of heightened scrutiny under the Equal Protection Clause. (Dkt. No. 331 (Pl. MSJ Opp.) at 35.) This fact is relevant to the irreparable harm factor required for a permanent injunction, and it is also relevant to the merits of B.P.J.’s Title IX and Equal Protection claims. Furthermore, the State offers no support for its assertion that statements from B.P.J.’s mother’s declaration are “arguments.”

**101. B.P.J. does not have the option of running on a co-ed team, as there is no co-ed cross-country or track team at Bridgeport Middle School or at any other public secondary school in West Virginia. (Ex. 10 Nos. 30–31.)**

a. *State’s Response: ¶¶ 96 through 104 – Contested. These are arguments, not facts. Moreover, as noted above and in the State’s Memo. in Op. and ECF 287, Plaintiff’s individual characteristics are not relevant or material to whether H.B. 3293 is a permissible exercise of state authority.*

b. Plaintiff’s Reply: The State’s blanket assertion that Plaintiff’s characteristics in her as-applied challenge are “not material” is incorrect, because it is based on an incorrect understanding of heightened scrutiny under the Equal Protection Clause. (Dkt. No. 331 (Pl. MSJ Opp.) at 35.) This fact is relevant to the irreparable harm factor required to receive a permanent injunction, and it is also relevant to the merits of B.P.J.’s Title IX and Equal Protection claims. Furthermore, the State offers no support for its assertion that these statements are “arguments”—the existence or non-existence of a co-ed cross-country or track team at Bridgeport Middle School is clearly a “fact.”

**102. Preventing B.P.J. from playing sports with other girls will deprive B.P.J. of experiences of competition, friendship, and responsibility that come from participation in school sports. (Ex. 1 ¶¶ 28, 31; Ex. 2 ¶¶ 10–11, 14, 16–18.)**

a. *State’s Response: ¶¶ 96 through 104 – Contested. These are arguments, not facts. Moreover, as noted above and in the State’s Memo. in Op. and ECF 287, Plaintiff’s individual characteristics are not relevant or material to whether H.B. 3293 is a permissible exercise of state authority.*

b. Plaintiff’s Reply: The State’s blanket assertion that Plaintiff’s characteristics in her as-applied challenge are “not material” is incorrect, because it is based on an incorrect understanding of heightened scrutiny under the Equal Protection Clause. (Dkt. No. 331 (Pl. MSJ Opp.) at 35.) This fact is relevant to the irreparable harm factor required for a permanent injunction, and it is also relevant to the merits of B.P.J.’s Title IX and Equal Protection claims. Furthermore, the State offers no support for its assertion that statements from the personal declarations of B.P.J. and her mother are “arguments.”

**103. It is hurtful and frustrating for B.P.J. to be denied the opportunity to play on girls’ sports teams, and to be treated differently because she is transgender. (Ex. 2 ¶¶ 14, 21.)**

a. *State’s Response: ¶¶ 96 through 104 – Contested. These are arguments, not facts. Moreover, as noted above and in the State’s Memo. in Op. and ECF 287, Plaintiff’s individual characteristics are not relevant or material to whether H.B. 3293 is a permissible exercise of state authority.*

b. Plaintiff's Reply: The State's blanket assertion that Plaintiff's characteristics in her as-applied challenge are "not material" is incorrect, because it is based on an incorrect understanding of heightened scrutiny under the Equal Protection Clause. (Dkt. No. 331 (Pl. MSJ Opp.) at 35.) This fact is relevant to the irreparable harm factor required to receive a permanent injunction, and it is also relevant to the merits of B.P.J.'s Title IX and Equal Protection claims. Furthermore, the State offers no support for its assertion that B.P.J.'s statements from her personal declaration are "arguments."

**104. Allowing Defendants to enforce H.B. 3293 against B.P.J. would send a signal to B.P.J. that her state refuses to see her for the girl that she is. (Ex. 1 ¶ 31.)**

a. *State's Response*: ¶¶ 96 through 104 – *Contested. These are arguments, not facts. Moreover, as noted above and in the State's Memo. in Op. and ECF 287, Plaintiff's individual characteristics are not relevant or material to whether H.B. 3293 is a permissible exercise of state authority.*

b. Plaintiff's Reply: Same as immediately above in ¶ 103.

## **VII. B.P.J.'s Lawsuit Challenges Her Exclusion From Girls' Sports Under H.B. 3293.**

**105. B.P.J. filed this lawsuit on May 26, 2021, arguing that H.B. 3293 as applied to her violates Title IX of the Education Amendments of 1972, 20 U.S.C. § 1681, and the Equal Protection Clause of the United States Constitution. (Dkt. No. 1 (Complaint).)**

**106. B.P.J.'s Title IX claim is pleaded against the State of West Virginia, the State Board of Education,**

the County Board of Education, and the WVSSAC. (Dkt. No. 64 (First Amended Complaint) at 20.)

107. B.P.J.’s Equal Protection Clause claim is pleaded against State Superintendent W. Clayton Burch, County Superintendent Dora Stutler, and the WVSSAC. (Dkt. No. 64 (First Amended Complaint) at 22; Dkt. No. 127 (Order dismissing without prejudice B.P.J.’s equal protection claim against the Attorney General in his official capacity).)

108. The Harrison County Board of Education is the governing body of Harrison County’s public education system. W. Va. Code § 18-5-1. The County Superintendent is responsible for executing educational policies under the direction of the State Board and County Board, including interscholastic athletics. W. Va. Code § 18-4-10.

109. “[A]bsent an injunction, the County Board and County Superintendent would be compelled and required to enforce H.B. 3293 against B.P.J.” (Dkt. No. 252 (County Stip.) at ¶¶ 3–4.) The County Board and County Superintendent’s role in enforcing the law is “mandatory, not merely optional.” (Dkt. No. 73 (Harrison County Board of Education’s Memo in Support of Motion to Dismiss First Amended Complaint) at 2, 6; *see also* Ex. 16 at 44:15-45:12, 145:1-145:5.)

110. “Absent an injunction by a court,” the State Board and Superintendent Burch “would be compelled and required to follow H.B. 3293” and the State Board “would be compelled and required to promulgate rules implementing H.B. 3293.” (Dkt. No. 270 (WVBOE Stip.) ¶¶ 3–4; *see also* Ex. 18 at 118:1-3.)

111. Without an injunction, the WVSSAC “cannot adopt or enforce any policy” allowing girls who are transgender to participate on girls’ sports teams that “conflicts with state law.” (Ex. 10 No. 50.)

112. The State Board is federally funded. (Dkt. No. 156 (WVBOE Ans.) ¶ 90; *see also* Ex. 18 at 39:19-40:3.)

113. The County Board is federally funded. (Dkt. No. 157 (County Ans.) ¶ 90; *see also* (Dkt. No. 252 (County Stip.) ¶ 8); Ex. 7 No. 66).)

114. The State Board has a duty to control, supervise, regulate, and/or enforce rules related to interscholastic athletic events in West Virginia. *See* W. Va. Code § 18-2-25; (Ex. 18 at 35:22-24.)

115. The County Board has a duty to control, supervise, regulate, and/or enforce rules related to interscholastic athletic events in West Virginia. *See* W. Va. Code §§ 18-2-25, 18-5-13; (Ex. 16 at 53:24-54:10.)

116. WVSSAC was given controlling authority over federally funded secondary school athletic programs by the State and County Boards. W. Va. Code § 18-2-25; (Ex. 39 (WVSSAC000133-38) (outlining the WVSSAC’s powers over secondary schools and their athletics)).

117. WVSSAC member schools must follow WVSSAC’s rules and regulations when “conducting interscholastic athletic[s]” (Ex. 39 (WVSSAC0000134)) and when determining whether a student is eligible to play secondary school sports. (Ex. 17 at 73:4-73:8.)

118. WVSSAC’s Board of Directors has “the power to decide all cases of eligibility of students and participants in interscholastic athletic[s].” (Ex. 39 (WVSSAC000138); *see also* Ex. 17 at 61:25-62:13.)

**119. WVSSAC’s athletic handbook provides that it must comply with Title IX. (Ex. 38 (WVSSAC000017).)**

**VIII. This Court’s Preliminary Injunction Allowed B.P.J. To Participate On Her School’s Girls’ Cross-Country And Track Teams, All Without Incident.**

**120. After this Court issued its preliminary injunction on July 21, 2021, B.P.J. was permitted to participate on Bridgeport Middle School’s girls’ cross-country team. (Ex. 5 No. 6; Ex. 6 No. 6; Ex. 7 No. 6; Ex. 8 No. 6; Ex. 9 No. 6; Ex. 10 No. 6; Ex. 11 No. 6.)**

*a. State’s Response: ¶¶ 120 through 130 – Contested. Plaintiff’s individual characteristics, including the specifics of Plaintiff’s participation in girls’ sports, are not material or relevant to whether H.B. 3293 is a permissible exercise of state authority, as set forth more fully in the State’s summary judgment briefing.*

*b. Plaintiff’s Reply:* The State’s blanket assertion that Plaintiff’s characteristics in her as-applied challenge are “not material” is incorrect, because it is based on an incorrect understanding of heightened scrutiny under the Equal Protection Clause. (Dkt. No. 331 (Pl. MSJ Opp.) at 35.) Furthermore, the State does not (and it could not) contest the fact that this Court issued a preliminary injunction and that B.P.J. participated on Bridgeport Middle School’s girls’ cross-country team. (Dkt. No. 67 (PI Order); Dkt. No. 289-6 (State’s Resp. to Pls RFAs) No. 6.)

**121. B.P.J. participated in the Mountain Hollar MS Invitational meet and the Doddridge Invitational meet while she was on the cross-country team. (Ex. 1 ¶ 27.)**

*a. State’s Response: ¶¶ 120 through 130 – Contested. Plaintiff’s individual characteristics, including the*



*specifics of Plaintiff's participation in girls' sports, are not material or relevant to whether H.B. 3293 is a permissible exercise of state authority, as set forth more fully in the State's summary judgment briefing.*

b. Plaintiff's Reply: Same as immediately above in ¶ 120. Furthermore, Defendant-Intervenor and the State rely on B.P.J.'s performance results in order to argue that H.B. 3293 is "substantially related" to government interests. (Dkt. No. 288 (Int. MSJ) at 5-6; Dkt. No. 305 (State MSJ Opp.) at 27; Dkt. No. 302 (Int. MSJ Opp.) at 18-19.) The State cannot attempt to rely on B.P.J.'s characteristics in support of its own arguments while simultaneously dismissing B.P.J.'s individual characteristics as "immaterial."

**122. In the Mountain Hollar Invitational, B.P.J. placed 51 out of 66 participants. (Ex. 1 ¶ 27; Ex. 33 (Mountain Hollar Invitational Stats).)**

a. ¶¶ 120 through 130 – *Contested. Plaintiff's individual characteristics, including the specifics of Plaintiff's participation in girls' sports, are not material or relevant to whether H.B. 3293 is a permissible exercise of state authority, as set forth more fully in the State's summary judgment briefing.*

b. Plaintiff's Reply: Same as ¶ 121.

c. *State's Response*: ¶ 122 – *Contested. B.P.J. displaced 9 participants in the Mountain Hollar Invitational, some of whom were biological females.*

d. Plaintiff's Reply: The State is merely disputing Plaintiff's terminology (*i.e.*, "placing" 51 out of 66 participants versus "displacing" 9 other participants), and as such it fails to show a genuine, material dispute. In any event, what constitutes "displacement" is a legal dispute

rather than a factual one. Furthermore, the State does not actually contest the fact stated here.

**123. In the Doddridge Invitational meet, B.P.J. placed 123 out of 150 participants. (Ex. 1 ¶ 27; Ex. 34 (Doddridge Invitational Stats, HCBOE\_1167-HCBOE\_1168).)**

a. *State's Response: ¶¶ 120 through 130 – Contested. Plaintiff's individual characteristics, including the specifics of Plaintiff's participation in girls' sports, are not material or relevant to whether H.B. 3293 is a permissible exercise of state authority, as set forth more fully in the State's summary judgment briefing.*

b. Plaintiff's Reply: The State's blanket assertion that Plaintiff's characteristics in her as-applied challenge are "not material" is incorrect, because it is based on an incorrect understanding of heightened scrutiny under the Equal Protection Clause. (Dkt. No. 331 (Pl. MSJ Opp.) at 35.)

c. *State's Response: ¶ 123 – Contested. B.P.J. displaced 27 participants in the Doddridge Invitational, some of whom were biological females. B.P.J. also displaced teammates in the October 1, 2021, Ritchie County meet. Stutler Dep. at 183-184, Ex. F to the State's Memo. in Op.*

d. Plaintiff's Reply: The State is merely disputing Plaintiff's terminology (*i.e.*, "placing" 123 out of 150 participants versus "displacing" 27 other participants), and as such it fails to show a genuine, material dispute. In any event, what constitutes "displacement" is a legal dispute rather than a factual one. Furthermore, the State does not actually contest the fact stated here.

**124. According to B.P.J.: “My first cross-country season was awesome, and I felt supported by my coaches and the other girls on the team. I made so many new friends and loved competing with and supporting my teammates. We learned about teamwork, having a positive attitude, and how to have fun while being competitive.” (Ex. 2 ¶ 18.)**

a. *State’s Response: ¶¶ 120 through 130 – Contested. Plaintiff’s individual characteristics, including the specifics of Plaintiff’s participation in girls’ sports, are not material or relevant to whether H.B. 3293 is a permissible exercise of state authority, as set forth more fully in the State’s summary judgment briefing.*

b. Plaintiff’s Reply: The State’s blanket assertion that Plaintiff’s characteristics in her as-applied challenge are “not material” is incorrect, because it is based on an incorrect understanding of heightened scrutiny under the Equal Protection Clause. (Dkt. No. 331 (Pl. MSJ Opp.) at 35.) This statement is also relevant to the irreparable harm factor required for a permanent injunction. Furthermore, the State does not actually contest the fact stated here.

**125. In Spring 2022, B.P.J. tried out for, made, and began running on the girls’ track team at Bridgeport Middle School. (Ex. 3 (Plaintiff’s Second Set of Supplemental Responses and Objections to State of West Virginia’s First Set of Interrogatories and Requests for Production) No. 9.)**

a. *State’s Response: ¶¶ 120 through 130 – Contested. Plaintiff’s individual characteristics, including the specifics of Plaintiff’s participation in girls’ sports, are not material or relevant to whether H.B. 3293 is a*

*permissible exercise of state authority, as set forth more fully in the State's summary judgment briefing.*

b. Plaintiff's Reply: Same as immediately above in ¶ 124.

**126. B.P.J. was “ecstatic” to learn she qualified for the track team and “look[s] forward to many more years of running with [her] peers.” (Ex. 2 ¶¶ 20–21.)**

a. *State's Response: ¶¶ 120 through 130 – Contested. Plaintiff's individual characteristics, including the specifics of Plaintiff's participation in girls' sports, are not material or relevant to whether H.B. 3293 is a permissible exercise of state authority, as set forth more fully in the State's summary judgment briefing.*

b. Plaintiff's Reply: Same as ¶ 124.

**127. There were no complaints associated with B.P.J.'s participation on Bridgeport Middle School's girls' cross-country team. (Dkt. No. 252 (County Stip.) ¶ 5; Ex. 5 No. 9; Ex. 6 No. 9; Ex. 7 No. 9; Ex. 8 No. 9; Ex. 9 No. 9; Ex. 10 No. 9; Ex. 11 No. 9.)**

a. *State's Response: ¶¶ 120 through 130 – Contested. Plaintiff's individual characteristics, including the specifics of Plaintiff's participation in girls' sports, are not material or relevant to whether H.B. 3293 is a permissible exercise of state authority, as set forth more fully in the State's summary judgment briefing.*

b. Plaintiff's Reply: Same as ¶ 124.

**128. No student was cut from or otherwise not permitted to participate on the cross-country team as a result of B.P.J.'s participation. (Dkt. No. 252 (County Stip.) ¶ 6.)**

a. *State's Response: ¶¶ 120 through 130 – Contested. Plaintiff's individual characteristics, including the specifics of Plaintiff's participation in girls' sports, are not material or relevant to whether H.B. 3293 is a permissible exercise of state authority, as set forth more fully in the State's summary judgment briefing.*

b. Plaintiff's Reply: Same as ¶ 124.

**129. Defendant-Intervenor could not identify “any specific fairness issue” related to B.P.J.’s participation in girls’ cross-country at her middle school. (Ex. 21 at 143:1420.)**

a. *State's Response: ¶¶ 120 through 130 – Contested. Plaintiff's individual characteristics, including the specifics of Plaintiff's participation in girls' sports, are not material or relevant to whether H.B. 3293 is a permissible exercise of state authority, as set forth more fully in the State's summary judgment briefing.*

b. Plaintiff's Reply: Same as ¶ 124.

c. *State's Response: The Intervenor, as a college student, has no reason to have a developed opinion on middle schoolers.*

d. Plaintiff's Reply: The State offers nothing in support of this conclusory assertion. Defendant-Intervenor chose to become involved in a case concerning an as-applied challenge by a middle schooler to defend a law's application to that middle schooler. As a result, Defendant-Intervenor should be expected to have a “developed opinion” on the facts relevant to this case. Indeed, Defendant-Intervenor was originally proffered in this case as ostensibly offering a perspective not provided by the other Defendants. (Dkt. No. 95 (Int. Mot. to Intervene) at 17.)

However, to the extent the State insists that Defendant-Intervenor lacks “developed opinion[s]” on the issues relevant to this case, then this is only further evidence that Defendant-Intervenor should be dismissed. (See Pl. Mot. for Recon. at 4-7.)

**130. Defendant-Intervenor responded, “I don’t know,” when asked whether she “object[ed] to B.P.J. playing on the Bridgeport Middle School girls’ cross-country team.” (Ex. 21 170:13-170:22.)**

a. *State’s Response: ¶¶ 120 through 130 – Contested. Plaintiff’s individual characteristics, including the specifics of Plaintiff’s participation in girls’ sports, are not material or relevant to whether H.B. 3293 is a permissible exercise of state authority, as set forth more fully in the State’s summary judgment briefing.*

b. Plaintiff’s Reply: Same as immediately above in ¶ 129.

c. *State’s Response: ¶ 129 through 130 – Contested. The Intervenor, as a college student, has no reason to have a developed opinion on middle schoolers.*

d. Plaintiff’s Reply: Same as ¶ 129.

**131. Girls and women who are transgender have competed in a wide range of contact and collision sports in high school and college, including basketball, soccer, volleyball, softball, lacrosse, and women’s tackle football, without any reported injuries to cisgender girls. (Ex. 31 (Declaration of Dr. Chad T. Carlson, M.D., F.A.C.S.M.) at 1; Ex. 32 (Deposition Transcript of Dr. Chad T. Carlson) at 124:6-125:4, 154:12-156:16.)**

a. *State’s Response: ¶ 131 – Contested. This is a misstatement of Dr. Carlson’s testimony, as Dr. Carlson*

*noted that sports organizations do not track participation by males who identify as females so as to create reportable statistics on injury rates. See, e.g., Carlson Dep. at 124:25-125:4; 155:11-156:16, ECF No. 285-5.*

b. Plaintiff's Reply: The State fails to raise a genuine, material dispute. The State does not actually dispute that there have been no reported injuries to cisgender girls, and the State's speculation regarding the reason for that fact does not create a dispute with respect to the fact itself.

**132. There are significant variations in height, weight, and muscle mass within the population of cisgender girls, and within the population of cisgender boys, such that student athletes all the time play with or compete against students who are bigger, faster, and/or stronger than them, whether they are participating in single sex or coed teams. (Ex. 25 at 12 ¶ 27; Ex. 28 at 49:19-50:5, 51:18-22, 52:16-24, 189:13-19.)**

a. *State's Response*: ¶¶ 132-34 – *Contested. This is argumentative, not a fact, and if use of proper safety equipment addressed all safety concerns, then there would be no reason to make other types of segregations in sports, such as segregating middle schoolers from high schoolers in contact sports. Dr. Carlson's report details the categorical differences between biological males and biological females and how those differences affect the safety of biological males playing female sports. Id. at ¶¶ 42-97. And Dr. Carlson testified that those risks cannot be eliminated through rule changes without changing the essence of the sport. Id. at 134:8-16. Dr. Safer also admitted that allowing someone who has gone through male puberty to play women's contact sports created a safety concern. Safer Dep. at 168:12-170:16, ECF No. 285-6.*

b. Plaintiff's Reply: The State fails to identify a genuine, material dispute. Nothing the State offers in its response regarding "safety concerns" contradicts the fact that there are "significant variations" in "height, weight, and muscle mass" within the populations of cisgender boys and girls. The State also does not actually dispute that student athletes play with and compete against students who are bigger, faster, and/or stronger than them. The State also offers no evidence that the factual statements in ¶ 132 are argumentative.

The State's assertions regarding safety are also not supported by the cited evidence. Dr. Safer specifically did *not* admit that allowing someone who has undergone typically male puberty to participate would automatically create a safety concern. (*See* Dkt. No. 289-27 (Safer Dep. Tr.) at 170:15-16 ("I'm not aware of that in and of itself being a safety concern.")). Moreover, Dr. Carlson did not assert that there were "categorical differences" between every transgender woman and every cisgender woman. Dr. Carlson said he was discussing average differences "from a population standpoint" and "can't speak to how that would apply to any given individual." (Dkt. No. 289-33 (Carlson Dep. Tr.) at 202:18-22; Second Supp. Decl. of Loree Stark, Ex. 64 (Carlson Errata).)

**133. Any safety considerations attendant to differences in height, weight, and muscle mass are already addressed in West Virginia secondary schools through even-handed rules and the use of proper equipment. (Ex. 16 at 164:3-14, 228:14-22.)**

a. *State's Response: ¶¶ 132-34 – Contested. This is argumentative, not a fact, and if use of proper safety equipment addressed all safety concerns, then there would be no reason to make other types of segregations in sports, such as segregating*



*middle schoolers from high schoolers in contact sports. Dr. Carlson's report details the categorical differences between biological males and biological females and how those differences affect the safety of biological males playing female sports. Id. at ¶¶ 42-97. And Dr. Carlson testified that those risks cannot be eliminated through rule changes without changing the essence of the sport. Id. at 134:8-16. Dr. Safer also admitted that allowing someone who has gone through male puberty to play women's contact sports created a safety concern. Safer Dep. at 168:12-170:16, ECF No. 285-6.*

b. Plaintiff's Reply: The State fails to raise a genuine, material dispute with the facts stated here. The State offers no evidence to demonstrate that these measures have been inadequate.

The State's assertions regarding safety are also not supported by the cited evidence. Dr. Safer specifically did *not* admit that allowing someone who has undergone typically male puberty to participate would automatically create a safety concern. (*See* Dkt. No. 289-27 (Safer Dep. Tr.) at 170:15-16 ("I'm not aware of that in and of itself being a safety concern.")) Moreover, Dr. Carlson did not assert that there are "categorical differences" between every transgender woman and every cisgender woman. Dr. Carlson said he was discussing average differences "from a population standpoint" and "can't speak to how that would apply to any given individual." (Dkt. No. 289-33 (Carlson Dep. Tr.) at 202:18-22; Second Supp. Decl. of Loree Stark, Ex. 64 (Carlson Errata).)

**134. Any actual safety concerns attendant to girls who are transgender playing on girls' sports teams "can be addressed through even-handed rules instead of discriminating based on transgender status." (Ex. 25 at ¶ 4(d).)**

a. *State's Response: ¶¶ 132-34 – Contested. This is argumentative, not a fact, and if use of proper safety equipment addressed all safety concerns, then there would be no reason to make other types of segregations in sports, such as segregating middle schoolers from high schoolers in contact sports. Dr. Carlson's report details the categorical differences between biological males and biological females and how those differences affect the safety of biological males playing female sports. Id. at ¶¶ 42-97. And Dr. Carlson testified that those risks cannot be eliminated through rule changes without changing the essence of the sport. Id. at 134:8-16. Dr. Safer also admitted that allowing someone who has gone through male puberty to play women's contact sports created a safety concern. Safer Dep. at 168:12-170:16, ECF No. 285-6.*

b. Plaintiff's Reply: The State fails to raise a genuine, material dispute. The State's assertions regarding safety are also not supported by the cited evidence. Dr. Safer specifically did *not* admit that allowing someone who has undergone typically male puberty to participate would automatically create a safety concern. (See Dkt. No. 289-27 (Safer Dep. Tr.) at 170:15-16 ("I'm not aware of that in and of itself being a safety concern.").) Moreover, Dr. Carlson did not assert that there are "categorical differences" between every transgender woman and every cisgender woman. Dr. Carlson said he was discussing average differences "from a population standpoint" and "can't speak to how that would apply to any given individual." (Dkt. No. 28933 (Carlson Dep. Tr.) at 202:18-22; Second Supp. Decl. of Loree Stark, Ex. 64 (Carlson Errata).)

**135. Defendant-Intervenor could not identify any safety concern resulting from B.P.J.'s participation on**

her middle school girls' cross-country team. (Ex. 21 at 139:25-140:4, "Q: . . . What is the safety concern for middle school cross-country and B.P.J. participating on the girls' team? . . . THE WITNESS: I don't know.")

a. *State's Response: ¶ 135 – Contested. The safety concerns attendant to men who identify as women playing women's contact sports are matters to be addressed by experts, not by Lainey Armistead, a college student, and have been addressed by Respondent's expert, Dr. Chad Carlson. See, generally, Carlson Decl., ECF No. 285-5.*

b. Plaintiff's Reply: The State offers nothing in support of this conclusory assertion. Defendant-Intervenor chose to become involved in a case concerning an as-applied challenge by a middle schooler to defend a law's application to that middle schooler. As a result, Defendant-Intervenor should be expected to have a "developed opinion" on the facts relevant to this case. Indeed, Defendant-Intervenor was proffered in this case as ostensibly offering a perspective not currently provided by the parties. (Dkt. No. 95 (Int. Mot. to Intervene) at 17.)

However, to the extent the State insists that Defendant-Intervenor lacks "developed opinion[s]" on the issues relevant to this case, then this is only further evidence that Defendant-Intervenor should be dismissed. (See Pl. Mot. for Recon. at 4-7.)

**136. The State does not know of any middle school girl who was physically harmed by B.P.J.'s participation on the Bridgeport Middle School girls' cross-country team. (Ex. 5 No. 10.)**

**IX. Lainey Armistead Will Graduate West Virginia State University In May 2022.**

**137. Defendant-Intervenor Lainey Armistead will graduate from West Virginia State University in May 2022. (Ex. 22 at 67:21-25.)**

Subject: Transgender

Mon, May 6, 2019 at 5:10PM

From: Daniel Swartos <daniel.swartos@sdhssa.com

To: HI- Christopher Chun <chun@hhsaa.org>, MS - Don Hinton <dhinton@misshsaa.com>, TN- Bernard Childress [bchildress@tssaa.org](mailto:bchildress@tssaa.org), WV – Bernie Dolan [bernie.dolan@wvssac.org](mailto:bernie.dolan@wvssac.org), MT - [Mark Beckman](mailto:mbeckman@mhsa.org) <mbeckman@mhsa.org>, Jerome Singleton <jsingle@schsl.org>

Chris, Mark, Bernie, Don, Bernard, and Jerome,

Good afternoon! Say, I've got a state legislator who has been fighting us for years to get rid of our transgender policy.

Today he sent me this link: <https://www.transathlete.com/k-12> which lists states according to their policy.

He noted that Hawaii, West Virginia, Tennessee, Mississippi, South Carolina, and Montana all have no transgender policy and he wants us to follow your lead.

A few questions:

- Is this map accurate? Do you all not have transgender policies?
- If not, have you ever been challenged on not having a policy?
- Have you received any litigation for not having a policy?
- Did you remove an existing policy or have you never had a policy?

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Any information would be helpful. Transgender athletes make up around 0.008% of our athletes in the state, but we spend an inordinate amount of time fighting about it. Have a great day!

-Dan

Dr. Daniel Swartos, Executive Director  
South Dakota High School Activities Association  
804 N. Euclid Avenue, Suite 102  
Pierre, SD 57501  
Office: (605)-224-9261  
Cell: (605)-924-0361

4149

Subject: Transgender

Mon, May 6, 2019 at 6:29PM

From: [bernie.dolan@wvssac.org](mailto:bernie.dolan@wvssac.org)

[bernie.dolan@wvssac.org](mailto:bernie.dolan@wvssac.org)

To: Daniel Swartos <daniel.swartos@sdhsaa.com>

**Daniel,**

WV has a board policy that is not in our by laws.

Basically, We support whatever the local school's determination.

**However there can be an appeal on safety and competitive balance.**

**It has not *been* challenged yet**

**Bernie**

**Sent from my iPhone**

**[Quoted text hidden]**

## **Circulating Testosterone as the Hormonal Basis of Sex Differences in Athletic Performance**

David J. Handelsman,<sup>1,2</sup> Angelica L. Hirschberg,<sup>3,4</sup> and  
Stephane Bermon<sup>5,6</sup>

<sup>1</sup>ANZAC Research Institute, University of Sydney, Concord, New South Wales 2139, Australia; <sup>2</sup>Department of Andrology, Concord Hospital, Sydney, New South Wales 2139, Australia; <sup>3</sup>Department of Women's and Children's Health, Karolinska Institutet, 171 76 Stockholm, Sweden; <sup>4</sup>Department of Gynecology and Reproductive Medicine, Karolinska University Hospital, 171 76 Stockholm, Sweden; <sup>5</sup>Laboratoire Motricité Humaine, Education, Sport, Santé, Université Côte d'Azur, 06000 Nice, France; and <sup>6</sup>Health and Science Department, International Association of Athletics Federations, 98000 Monaco

**ABSTRACT** Elite athletic competitions have separate male and female events due to men's physical advantages in strength, speed, and endurance so that a protected female category with objective entry criteria is required. Prior to puberty, there is no sex difference in circulating testosterone concentrations or athletic performance, but from puberty onward a clear sex difference in athletic performance emerges as circulating testosterone concentrations rise in men because testes produce 30 times more testosterone than before puberty with circulating testosterone exceeding 15-fold that of women at any age. There is a wide sex difference in circulating testosterone concentrations and a reproducible dose-



response relationship between circulating testosterone and muscle mass and strength as well as circulating hemoglobin in both men and women. These dichotomies largely account for the sex differences in muscle mass and strength and circulating hemoglobin levels that result in at least an 8% to 12% ergogenic advantage in men. Suppression of elevated circulating testosterone of hyperandrogenic athletes results in negative effects on performance, which are reversed when suppression ceases. Based on the nonoverlapping, bimodal distribution of circulating testosterone concentration (measured by liquid chromatography–mass spectrometry)—and making an allowance for women with mild hyperandrogenism, notably women with polycystic ovary syndrome (who are overrepresented in elite athletics)—the appropriate eligibility criterion for female athletic events should be a circulating testosterone of  $<5.0$  nmol/L. This would include all women other than those with untreated hyperandrogenic disorders of sexual development and noncompliant male-to-female transgender as well as testosterone-treated female-to-male transgender or androgen dopers. (*Endocrine Reviews* 39: 803 – 829, 2018)

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. Hence, elite female competition forms a protected category with entry that must be restricted by an objective eligibility criterion related, by necessity, to the relevant sex-specific physical

advantages. The practical need to establish an eligibility criterion for elite female athletic competition led the International Association of Athletic Federations (IAAF) to establish a rule in 2011, endorsed by the International Olympic Committee (IOC) in 2012, for hyperandrogenic women. That IAAF regulation stated that for athletes to be eligible to compete in female events, the athlete must be legally recognized as a female and, unless she has complete androgen insensitivity, maintain serum testosterone  $<10$  nmol/L. That IAAF eligibility rule was challenged by an athlete to the Court for Arbitration in Sports, which ruled in 2015 that, although an eligibility criterion was justified, there was insufficient evidence of the extent of the competitive advantage enjoyed by hyperandrogenic athletes who had circulating testosterone  $>10$  nmol/L over female athletes with circulating testosterone in the normal female range. The Court for Arbitration in Sports suspended the rule pending receipt of such evidence. In that context, the present review presents the available evidence on the hormonal basis for the sex difference in athletic performance. It concludes that the evidence justifies a revised eligibility criterion of a threshold circulating testosterone concentration of 5 nmol/L (measured by a mass spectrometry method).

### **ESSENTIAL POINTS**

- It is widely accepted that elite athletic competitions should have separate male and female events
- The main justification is that men's physical advantages in strength, speed, and endurance mean that a protected female category, with objective entry criteria, is required

- Prior to puberty, there is no sex difference in circulating testosterone concentrations and athletic performance
- From male puberty onward, the sex difference in athletic performance emerges as circulating testosterone concentrations rise as the testes produce 30 times more testosterone than before puberty, resulting in men having 15- to 20-fold greater circulating testosterone than children or women at any age
- This wide, bimodal sex difference in circulating testosterone concentrations and the clear dose-response relationships between circulating testosterone and muscle mass and strength, as well as the hemoglobin level, largely account for the sex differences in athletic performance
- Based on the nonoverlapping, bimodal distribution of circulating testosterone concentration (measured by liquid chromatography–mass spectrometry) with 95% reference ranges of 7.7 to 29.4 nmol/L in healthy men and 0 to 1.7 nmol/L in healthy premenopausal women—making an allowance for women with the mild hyperandrogenism of polycystic ovary syndrome, who are overrepresented in elite athletics—the eligibility criterion for female athletic events should be a circulating testosterone concentration of 5.0 nmol/L

### **Sex, Fairness, and Segregation in Sport**

If sports are defined as the organized playing of competitive games according to rules (1), fixed rules are fundamental in representing the boundaries of fair sporting competition. Rule breaking, whether by breaching eligibility or competition rules, such as use of banned drugs, illegal equipment, or match fixing, creates

unfair competitive advantages that violate fair play. Cheating constitutes a fraud against not just competitors but also spectators, sponsors, the sport, and the public. In the absence of genuine fair competition, elite sports would lose their wide popular appeal and ability to captivate and inspire with the authentic attraction of genuine contest between highly trained athletes.

Nevertheless, fairness is an elusive, subjective concept with malleable boundaries that may change over time as social concepts of fairness evolve. For example, until the late 19th century when organized sports trainers emerged, training itself was considered a breach of fairness because competition was envisaged at that time as a contest based solely on natural endowments. Similarly, sports were once distinguished between amateurs and professionals. The concept of fairness has deep and complex philosophical roots mainly focused on notions of distributive justice. These considerations affect sports through the universal application of antidiscrimination and human rights legislation. Less attention is given to the philosophical basis of fair competition in elite sports, where the objectives are not egalitarian but aim to discover a hierarchy of achievement derived from a mixture of unequal natural talent and individual training effort. Excellent, insightful discussion of the legal and moral complexities of sex and fair competition in elite sports from a legal scholar and former elite female athlete is available (2).

The terms *sex* and *gender* are often confused and used as if interchangeable. *Sex* is an objective, specific biological state, a term with distinct, fixed facets, notably genetic, chromosomal, gonadal, hormonal, and phenotypic (including genital) sex, each of which has a characteristic defined binary form. Whereas all facets of biological sex

are almost always aligned so that assignment of sex at birth is straightforward, rare instances in which two or more facets of biological sex conflict constitute an intersex state, now referred to as disorders (or differences) of sex development (DSDs) (3). In contrast, *gender* is a subjective, malleable, self-identified social construct that defines a person's individual gender role and orientation. Prompted by biological, personal, and societal factors, volitional expression of gender can take on virtually any form limited only by the imagination, with some individuals asserting they have not just a single natal gender but two genders, none, a distinct third gender, or gender that varies (fluidly) from time to time. Hence, whereas gender is usually consistent with biological sex as assigned at birth, in a few it can differ during life. For example, if gender were the basis for eligibility for female sports, an athlete could conceivably be eligible to compete at the same Olympics in both female and male events. These features render the unassailable personal assertion of gender identity incapable of forming a fair, consistent sex classification in elite sports.

The strongest justification for sex classification in elite sports is that after puberty men produce 20 times more testosterone than women (4–7), resulting in circulating testosterone concentrations 15-fold higher than in children or women of any age. Age-grade competitive sporting records show no sex differences prior to puberty, whereas from the age of male puberty onward there is a strong and ongoing male advantage (8). The striking male postpubertal increase in circulating testosterone provides a major, ongoing, cumulative, and durable physical advantage in sporting contests by creating larger and stronger bones, greater muscle mass and strength, and higher circulating hemoglobin as well as possible psychological (behavioral) differences. In concert, these

render women, on average, unable to compete effectively against men in power-based or endurance-based sports.

Sex classification in sports therefore requires proof of eligibility to compete in the protected (female) category. This deceptively simple requirement for fairness is taken for granted by peer female competitors who regard participation by males, or athletes with physical features closely resembling males, as unfair. This makes policing of eligibility inescapable for sports, to avoid unfair male participation in female events. However, such policing inevitably intrudes into highly personal matters so that it must be achieved with respect for dignity and privacy, demanding use of the least invasive, scientifically reliable means. Unsurprisingly, this dilemma has always been highly contentious since it first entered international elite sports in the early 20th century, and it has become increasingly prominent and contentious in recent decades; nevertheless, the requirement to maintain fair play in female events will not disappear as long as separate female competitions exist. During recent decades, there has been progressively better understanding of the complex biology of genetic sex determination and the impact of pubertal sexual maturation in establishing phenotypic sexual dichotomy in physical capabilities. These sex-dichotomous physical features form the basis of, but remain quite distinct from, adult gender roles and identity. During the last century, as knowledge grew, the attempts to formalize a scientific basis for the unavoidable necessity of policing eligibility for the female category have been continually challenged. Most recently, the increasing assertion of gender self-identification as a social criterion has further challenged the hegemony of biology for determining “sports sex,” Coleman’s apt term (2). Allowing subjective gender self-identification to become the sole criterion of sports sex would allow for

gaming and perceptions of systematic unfairness to grow. The case for women's sports being defined by sex rather than gender, including the consequences of acceding to gender-based classification, has been outlined (9) in arguing the importance of proper medical management of athletes intending to compete in female events.

Separate male and female events in sports is a dominant form of classification that is superimposed on other graduated age group and weight classifications (*e.g.*, in weightlifting, power lifting, wrestling, boxing, rowing), which reflect differences in strength, power, and speed to ensure fairness in terms of opportunity to win and, additionally, safety in contact sports. Age and weight classifications rely on objective criteria (birth date, weight-in weight) for eligibility, and so should sex classification. Nevertheless, some power sports dependent on explosive strength and power (*e.g.*, throwing events, sprinting) do not segregate weight classes, whereas other sports where height is an advantage (*e.g.*, basketball, jockeys) do not have height classifications. These sports disproportionately attract athletes with greater weight and/or power-to-weight ratio or advantageous stature, respectively. If sex classification were eliminated, such open or mixed competitions would be dominated almost exclusively by men. It therefore seems highly unlikely that sex classification would ever be discarded, despite calls on philosophical or sociological grounds to end "gender" classification in sport (10).

### **Sex Difference in Circulating Testosterone Levels**

#### **Testosterone biosynthesis, secretion, and regulation in men and women**

An androgen is a hormone capable of developing and maintaining masculine characteristics in reproductive tissues (notably the genital tract, as well as in other tissues and organs associated with secondary sexual characteristics and fertility) and contributing to the anabolic status of nonreproductive body tissues (11). The two dominant bioactive androgens circulating in mature mammals, including humans—testosterone and its more potent metabolite DHT—account for the development and maintenance of all androgen-dependent characteristics, and their circulating levels in men and nonpregnant women arise from steroids synthesized *de novo* in the testes, ovary, or adrenals (12).

The sexually undifferentiated gonads in the embryo develop into either ovaries or testes according to whether a Y chromosome (or at least the *sry* gene) is present. After birth and until puberty commences, circulating testosterone concentrations are essentially the same in boys and girls, other than briefly in the neonatal period of boys when higher levels prevail. The onset of male puberty, a brain-driven process triggered by a still mysterious hypothalamic or higher cerebral mechanism (13), initiates a hormonal cascade. In males, this leads to enhanced pituitary LH secretion that stimulates the 500 million Leydig cells in the testes to secrete 3 to 10 mg (mean, 7 mg) of testosterone daily (4, 6, 7, 14, 15). This creates a very high local concentration of testosterone within the testis as well as a steep downhill concentration gradient into the bloodstream that maintains circulating testosterone levels at adult male levels, which are tightly regulated by strong negative hypothalamic feedback of circulating testosterone. In the absence of testes, these mechanisms do not function in females. In girls, serum testosterone increases during puberty (16), peaking at age 20 to 25 years before declining gradually with age (17, 18),



but it remains  $<2$  nmol/L at all ages, as determined by a reliable method (see below).

In adult women, circulating testosterone is derived from three roughly equal sources: direct secretion from the adrenal gland or the ovary and indirect extraglandular conversion (in liver, kidney, muscle, fat, skin) from testosterone precursors secreted by the adrenal and ovary. Only when circulating testosterone concentrations rise in male adolescents above the prepubertal concentrations does the virilization characteristic of men commence, progress, and endure throughout adult life, at least until old age (18). In combination, these different sources produce  $\sim 0.25$  mg of testosterone daily so that throughout life women maintain circulating testosterone levels of  $<2$  nmol/L. Circulating testosterone concentrations in women are subject to little dynamic physiological regulation. As a result, circulating testosterone concentrations in healthy premenopausal women are stable (nonfluctuating) and not subject to strong negative feedback by exogenous testosterone (as happens in men). Even the small rise (50%) at the time of the mid-cycle LH surge triggering ovulation (19) remains within the physiological range for premenopausal females.

### **Male and female reference ranges for circulating testosterone**

A reliable threshold for circulating testosterone must be set using measurement by the reference method of liquid chromatography–mass spectrometry (LC-MS) rather than using one of the various available commercial testosterone immunoassays. The necessary reliance on steroid mass spectrometry for clinical applications in

endocrinology, reproductive medicine, and sports medicine is widely recognized. It has been standard for decades in antidoping science (20), and the growing consensus is that it is required for high-quality clinical research and practice recognized by cognate professional societies (21, 22) and editorials in leading clinical endocrinology (23) and reproductive medicine (24) journals. The inherently limited specificity of testosterone immunoassays arises from antibody cross-reactivity with structurally related steroids (such as precursors and metabolites) other than the intended target. As a result, all steroid immunoassays, including for testosterone, display method-specific bias whereby, for example, the lower limit of a testosterone reference range in healthy young men varies from 7.3 to 12.6 nmol/L according to the immunoassay used, so that no consensus definition of a lower limit could be obtained independent of the commercial immunoassay method used (25). Furthermore, testosterone immunoassays are optimized for circulating levels in men but display increasing inaccuracy at the lower, by an order of magnitude, circulating testosterone concentrations in women or children. In contrast to immunoassays, LC-MS-based methods are highly specific and do not depend on proprietary antibodies. Using LC-MS-based measurements, method-specific bias can be avoided and a fixed consensus lower reference limit defined (Table 1). Hence, for the precision required in sports medicine, whether for eligibility criteria or antidoping applications, testosterone in serum must be measured by LC-MS methods.

Prior to puberty, levels of circulating testosterone as determined by LC-MS are the same in boys and girls (16). They remain lower than 2 nmol/L in women of all ages. However, from the onset of male puberty the testes secrete 20 times more testosterone resulting in circulating

testosterone levels that are 15 times greater in healthy young men than in age-similar women. Using LC-MS measurement, circulating testosterone in adults has a strikingly nonoverlapping bimodal distribution with wide and complete separation between men and women. Table 1 (25–36) summarizes data from appropriate reported studies using mass spectrometry-based methods to measure serum testosterone in healthy men and women. Based on a number-weighted pooling with conventional 95% two-sided confidence limits of the eight available studies using LC-MS measurements of serum testosterone, the reference range for healthy young men (18 to 40 years) is 7.7 nmol/L to 29.4 nmol/L. Similarly, summarizing the nine available studies for healthy menstruating women under 40 years, the 95% (two-sided) reference range is 0 to 1.7 nmol/L. These reference limits do not control for factors such as oral contraceptive use (35, 36), menstrual phase (19), SHBG (37, 38), overweight (39, 40), fasting and smoking (41), diet (40), and physical activity (42, 43) in women and men, all of which have small effects on circulating testosterone but without materially influencing the divergence between the nonoverlapping bimodal distribution of male and female reference ranges of circulating testosterone.

In creating a threshold for eligibility for female events it is also necessary to make allowance for women with polycystic ovary syndrome (PCOS) and nonclassical adrenal hyperplasia. PCOS is a relatively common disorder among women of reproductive ages with a prevalence of 6% to 10%, depending on the diagnostic criteria used (44), in which mild hyper-androgenism is a key clinical feature and has higher than expected prevalence among elite female athletes (36, 45–47). Nonclassical adrenal hyperplasia is a milder and later (adult) onset variant of classical congenital adrenal

hyperplasia (48) with a much higher but still rare population prevalence (1:1000 vs 1:16,000 for the classical variant) (49). Table 2 (50-64) summarizes clinical studies (n = 16,  $\geq 40$  women) reporting serum testosterone concentrations measured by LC-MS in samples from women with PCOS.

The pooled data reveal that the upper limit of serum testosterone in women with PCOS is 3.1 nmol/L (95% CI, one-sided) or 4.8 nmol/L (using a 99.99% CI, one-sided) (Table 3). Hence, a conservative threshold for circulating testosterone of 5 nmol/L measured by LC-MS would identify <1:10,000 women with PCOS as false positives, based on circulating testosterone measurement alone. Circulating testosterone higher than this threshold is likely to be due to testosterone-secreting adrenal or ovarian tumors, intersex/DSD, badly controlled or noncompliant male-to-female (M2F) transgender athletes, or testosterone doping.

**Table 1. Serum Testosterone Measurements by LC-MS Methods in Studies of Healthy Men and Women**

Study	Sample (Age 18–40 y)	N	Lower 95% CL (nmol/L)	Upper 95% CL (nmol/L)
Men				
Sikaris et al., 2005 (25)	Elite, eugonadal	124	10.4	30.1
Turpeinen et al., 2008 (26)	Convenience	30	10.1	31.2
Kushnir et al., 2010 (27)	Convenience	132	7.2	24.2

Salameh et al., 2010 (28)	Convenience	264	7.1	39.0
Neale et al., 2013 (29)	Convenience	67	10.6	31.9
Kelsey et al., 2014 (30)	Secondary pooled analysis	1058	7.2	25.3
Hart et al., 2015 (31)	Birth cohort	423	7.4	28.0
Travison et al., 2017 (32)	Pooled two cohorts	1656	7.9	31.1
Number-weighted mean			7.7	29.4
Women				
Turpeinen et al., 2008 (26)	Convenience	32	0.8	2.8
Kushnir et al., 2010 (27)	Convenience	104	0.3	2.0
Salameh et al., 2010 (28)	Convenience	235	0.03	1.5
Haring et al., 2012 (33)	Population-based	263	0.04	2.0
Neale et al., 2013 (29)	Convenience	90	0	1.7
Bui et al., 2013 (34)	Convenience	25	0.30	1.69

Rothman et al., 2013 (19)	Convenience	31	0.4	0.92
Bermon and Garnier, 2017 (35)	Elite athletes	1652	0	1.62
Eklund et al., 2017 (36)	Elite athletes and controls	223	0.26	1.73
Number-weighted mean			0.06	1.68

Abbreviation: CL, confidence limit.

**The physiological effects of testosterone depend on the circulating testosterone, not its source (endogenous or exogenous)**

Testosterone, whether of a natural endogenous or manufactured exogenous source, has an identical chemical structure and biological effects, aside from minor differences in isotopic composition, which are biologically insignificant. At equivalent doses and circulating levels, exogenous testosterone exerts the same biological and clinical effects on every known androgen-responsive tissue or organ as endogenous testosterone, apart from effects on spermatogenesis, which as discussed below is only a matter of degree. Consequently, exogenous testosterone is a fully effective substitute for endogenous testosterone in therapeutic use, countering the effects of testosterone deficiency due to hypogonadism (reproductive system disorders). Any purported differences between endogenous and exogenous testosterone are due to corresponding differences in the endogenous production rate or exogenous dose. Such

differences in effective exposure lead to corresponding differences in circulating testosterone levels and its effects according to the dose-response curves for testosterone.

**Table 2. Summary of Serum Testosterone (nmol/L) by LC-MS in Women With PCOS From 16 Studies**

Study	N	Mean	SD
Moran et al., 2017 (50)	92	0.24	0.08
Münzker et al., 2017 (51)	274	0.93	0.19
O'Reilly et al., 2017 (52)	114	0.55	0.19
Handelsman et al., 2017 (53)	152	0.38	0.25
Pasquali et al., 2016 (54)	156	1.17	0.47
Yang et al., 2016 (55)	1159	2.2	1.44
Tosi et al., 2016 (56)	116	1.33	0.55
Daan et al., 2015 (57)	170	1.64	0.53
Bui et al., 2015 (58)	44	0.85	0.3
Keefe et al., 2014 (59)	52	1.7	0.97
Yasmin et al., 2013 (60)	165	1.99	1.02
Janse et al., 2011 (61)	200	1.12	0.47

Jedel et al., 2011 (62)	72	0.23	0.08
Legro et al., 2010 (Mayo) (63)	596	2.12	0.89
Legro et al., 2010 (Quest) (63)	596	1.98	0.97
Stener-Victorin et al., 2010 (64)	74	1.53	0.62
Sum	4032		0.87
Number-weighted mean		1.69	

Data taken directly from paper or interpolated from other data (e.g., median, quartiles, ranges, sample size) supplied as described by Wan et al., 2014 (Estimating the sample mean and standard deviation from the sample size, median, range and/or interquartile range. BMC Med Res Methodol 14: 135) are shown in italics.

Similar to all hormones and drugs, over their effective range of biological activity the dose-response relationship for testosterone is usually a sigmoidal curve with lower and upper plateaus joined by a monotonically rising middle region, which may be linear in the natural scale but more often log-linear (linear on the log or similar transformed scale). In the middle portion of the typical sigmoidal dose-response curve for the same increase in testosterone dose (or concentration), the response would be increased in simple proportional (*i.e.*, linear) but more often on a logarithmic scale. In contrast, at the lower and



upper plateaus of dose or concentrations, changes in testosterone exposure may evoke minimal or no response on the endpoint. For example, in women of any age circulating testosterone concentrations are along the lower plateau of the dose-response curve, so that increases in circulating testosterone concentrations within that lower plateau may have minimal or no effect. In female athletes with the mild hyper-androgenism of PCOS, higher performance has been shown (47), with their muscle mass and power performance correlating with androgen levels (36).

However, beyond these effects where endogenous testosterone concentrations are in the high-normal adult female range, it is only when the increases in circulating testosterone concentrations substantially and consistently exceed those prevailing in childhood ( $<2$  nmol/L) and among women including those with PCOS ( $<5$  nmol/L) that the effects would replicate the effects of rising testosterone concentrations of boys in middle to late puberty (typically  $>8$  nmol/L), that is, the masculinizing effects of increased muscle, bone, and hemoglobin characteristics of men. As shown above, the circulating testosterone of most women never reaches consistently  $>5$  nmol/L, a level that boys must sustain for some time to exhibit the masculinizing effects of male puberty.

In addition, the effects of testosterone are modulated in a form of line tuning by the patterns of exposure, such as whether the circulating testosterone is delivered in the unphysiological steady-state format (*e.g.*, quasi-steady-state delivery by implant or trans-dermal products) or by the peak-and-trough delivery of injections, as opposed to the natural state of endogenous fluctuations in serum testosterone around the average adult male levels. However, these latter pattern effects are subtle and the

dominant effect remains that of dose and average testosterone concentrations in blood, however they arise. Furthermore, there is evidence that the androgen sensitivity of responsive tissues differs and may be optimal at different circulating testosterone concentrations (65).

Male sexual function is maintained by endogenous testosterone at adult male circulating concentrations. These effects can be replicated by exogenous testosterone if and only if it achieves comparable circulating testosterone concentrations. For example, in a well-controlled prospective study of older men with prostate cancer (66), androgen deprivation achieving castrate levels of circulating testosterone sustained during 12 months markedly suppressed sexual desire and function, whereas those effects did not occur in age-matched men having nonhormonal treatment of prostate cancer or those without prostate cancer. In healthy younger men whose endogenous testosterone was fully suppressed, sexual function completely recovered when circulating testosterone was restored to the physiological male range by administration of exogenous testosterone (67). Similar effects were also observed in healthy, middle-aged men in whom male sexual function was fully maintained (compared with placebo) during 2 years of treatment with an exogenous androgen (DHT) despite that treatment causing sustained, complete suppression of endogenous testosterone (68). This further supports the key interpretation that the biological effects of exogenous or endogenous testosterone are the same at comparable circulating levels.

Clinically, exogenous testosterone replicates fully all effects of endogenous testosterone on every reproductive and nonreproductive organ or tissue, with the sole exception of the testis. Sperm production in the testis

requires a very high concentration of testosterone (typically 100-fold greater than in the general bloodstream), which is produced in nature only by the action of the pituitary hormone LH. LH stimulates the Leydig cells in the interstitial space of the testis between seminiferous tubules to produce high intra-testicular concentrations of testosterone, which are necessary and sufficient to initiate and maintain sperm production in the adjacent seminiferous tubules. This high concentration of testosterone also provides a downhill gradient to supply the rest of the body, where circulating testosterone acts on androgen-responsive tissues to produce and maintain masculine patterns of androgenization. When exogenous testosterone (or any other androgen) is administered to men, pituitary LH is suppressed by negative feedback and the sperm production halts for as long as exogenous testosterone or androgen exposure continues, after which it recovers (69). However, even the reduction in spermatogenesis and testis size when men are treated with exogenous testosterone is only a matter of degree. It is well established in rodents (70, 71) that spermatogenesis is induced by exogenous testosterone when the testosterone concentrations in the testis are high enough to replicate what occurs naturally via LH stimulation (72). However, direct replication that high-dose testosterone also initiates and maintains spermatogenesis in humans is not feasible, as these testosterone doses are 10- to 100-fold higher than could be safely given to humans. Nevertheless, confirmatory evidence in humans is available from rare cases of men with an activating mutation of the chorionic gonadotropin/LH receptor (73, 74). This mutation causes autonomous testicular testosterone secretion leading to precocious puberty arising from the premature adult male circulating testosterone concentrations that lead to complete suppression of circulating gonadotropin (LH,

FSH) secretion. In this illustrative case the testis was exposed to non-physiologically high testosterone concentrations (but without any gonadotropin stimulation) that induced sperm production and allowed for natural paternity (73). This indicates that even for spermatogenesis, exogenous testosterone can replicate all biological effects of endogenous testosterone in accordance with the relevant dose-response characteristics.

The most realistic view is that increasing circulating testosterone from the childhood or female range to the adult male range will have the same physiological effects whether the source of the additional testosterone is endogenous or exogenous. This is strongly supported by well-established knowledge about the relationship of circulating testosterone concentrations with the timing and manifestations of male puberty. The characteristic clinical features of masculinization (*e.g.*, muscle growth, increased height, increased hemoglobin, body hair distribution, voice change) appear only if and when circulating testosterone concentrations rise into the range of males at mid-puberty, which are higher than in women at any age even after the rise in circulating testosterone in female puberty. If and only if the pubertal rise in circulating testosterone fails will the males affected be clinically considered hypogonadal. Such a failure of male puberty may occur for genetic reasons (arising from mutations that inactivate any of the cascade of proteins whose activity is critical in the hypothalamus to trigger male puberty) or as a result of acquired conditions, caused by pathological disorders of the hypothalamus or pituitary or functional defects arising from severe deficits of energy or nutrition (*e.g.*, extreme overtraining, undernutrition), with the latter being comparable with hypothalamic amenorrhea or anorexia nervosa in female athletes/ballet

dancers. If male puberty fails, testosterone replacement therapy is fully effective in replicating all of the distinctive masculine features apart from spermatogenesis.

**Table 3. Upper Confidence Limits on Serum Testosterone in Women With PCOS**

Confidence Interval	Likelihood <sup>a</sup>	SD <sup>b</sup>	One-Sided <sup>c</sup>	Two-Sided <sup>c</sup>
95%	1:20	1.96	3.13	3.39
99%	1:100	2.35	3.47	3.73
99.9%	1:1000	3.10	4.21	4.39
99.99%	1:10,000	3.72	4.77	4.95

a Likelihood that a woman with PCOS would exceed that limit by chance.

b Number of SDs for each confidence limit.

c Two-sided CIs are conventional for a result that could exceed or fall below confidence limits, but here we focus only on values exceeding the upper limit, so that one-sided confidence limits are appropriate.

### **Elevated circulating testosterone concentration caused by DSDs**

Rare genetic intersex conditions known as DSDs can lead to markedly increased circulating testosterone in women. When coupled with ambiguous genitalia at birth, they may appear as undervirilized males or virilized females. This can cause athletes who were raised and identify as women to have circulating testosterone levels comparable to those of men and greatly exceeding those of non-DSD (and nondoped) women, including those with PCOS. Key congenital disorders in this category are 46,XY DSDs, namely 5 $\alpha$  reductase deficiency (75), 17 $\beta$ -hydroxysteroid de-hydrogenase type 3 deficiency (76),

and androgen insensitivity (77, 78), as well as congenital adrenal hyperplasia (79), which is a 46,XX DSD. There is evidence that the first three conditions, components of 46,XY DSDs, are 140-fold more prevalent among elite female athletes than expected in the general population (80).

Genetic 5 $\alpha$  reductase deficiency is due to an inactivating mutation in the 5 $\alpha$  reductase type II enzyme (75). This leads to a deficit of DHT during fetal life when DHT is required for converting the sex-undifferentiated embryonic and fetal tissue to form the sex-differentiated masculine form external genitalia. Although genetic males (46,XY) with 5 $\alpha$  reductase deficiency will develop testes, they usually remain undescended and labial fusion to form a scrotum and phallic growth does not occur. Hence, at birth the external genitalia may appear feminine, leading to a female assigned natal sex. Thus, individuals with 5 $\alpha$  reductase deficiency may have male chromosomal sex (46,XY), gonadal sex (testes), and hormonal sex (adult male testosterone concentrations), but such severely undervirilized genitalia that affected individuals may be raised from birth as females rather than as undervirilized males. However, from the onset of male puberty, testicular Leydig cells start producing large amounts of testosterone, and the steep rise in circulating testosterone to adult male levels (with the permissive role of 5 $\alpha$  reductase activity) leads to masculine virilization, including male patterns of muscle and bone growth, hemoglobin levels, and other masculine body habitus features (hair growth pattern, voice change), as well as phallic growth (80). Such changes of male puberty prompt around half affected individuals who had female sex assigned at birth and developed as girls prior to puberty to adopt a male gender identity and role at puberty (81).

Sperm are formed in the testes so that, using *in vitro* fertilization, these individuals may father children (82).

17 $\beta$ -Hydroxysteroid dehydrogenase type 3 deficiency (76) has a natural history similar to that of 5 $\alpha$  reductase deficiency. This disorder is due to inactivating mutations in a steroidogenic enzyme expressed only in the testis and that is essential for testosterone formation in the fetus. In the absence of a functional enzyme, the testis makes little testosterone but instead secretes large amounts of androstenedione, the steroid immediately prior to the enzymatic block. In the circulation, the excess of androstenedione is converted to testosterone (mainly by the enzyme AKR1C3) (12). Although the circulating testosterone is then converted to circulating DHT, insufficient DHT is formed locally within the urogenital sinus to virilize genitalia at birth. This causes the same severe undervirilization of the external genitalia of genetically male individuals, leading to ambiguous genitalia at birth despite male chromosomal, gonadal, and hormonal sex. When puberty arrives, the testes start producing the adult male testosterone output. Again, this leads to marked virilization and subsequent assumption of a male gender identity by some affected individuals, conflicting with a female assigned natal sex and childhood upbringing.

Androgen insensitivity, which arises from mutation in the androgen receptor (AR), poses different but complex challenges for eligibility for female athletic events. As the AR is located on the X chromosome, genetic males (46,XY) are hemizygous, so that an inactivating mutation in the AR can be partially or fully insensitive to androgen action. Affected individuals have male internal genitalia (testes in the inguinal canal or abdomen with Wolffian ducts) and consequently adult male circulating testosterone

concentrations after puberty. These nonlethal mutations have a wide spectrum of functional effects, ranging from full resistance to all androgen action in complete androgen insensitivity syndrome (CAIS) where individuals have a full female phenotype with normal female external genitalia, to partial androgen insensitivity syndrome (PAIS) where some androgen action is still exerted, leading to various degrees of ambiguous genitalia, or to mild androgen insensitivity, which produces a very mild, undervirilized male phenotype (normal male genital and somatic development but with little body hair and no male pattern balding) (77). Testosterone (and dihydrotestosterone) have no consistent effect of inducing normal nitrogen retention (anabolic) responses in patients with CAIS (83–86), although some reduced androgen responsiveness is retained by patients with PAIS (84, 87–90). Athletes with CAIS can compete fairly as females because the circulating testosterone, although at adult male levels, has no physiological effect so that, in terms of androgen action and the ensuing physical somatic advantages of male sex, affected individuals are indistinguishable from females and gain no benefits of the sex difference arising from unimpeded testosterone action. A more complex issue arises with athletes having PAIS reflecting the degree of incomplete impairment of AR function. Residual androgen action in such AR mutations is harder to characterize quantitatively, as there is no standardized, objective *in vitro* test to quantify AR functionality. Hence, individuals with PAIS may have adult male circulating testosterone concentrations but variable androgen sensitivity. At present, determination of eligibility to compete in the female category requires a case-by-case evaluation, primarily based on the degree of virilization. The current best available clinical approach to determining the functional impact (degree of



functionality/sensitivity) of an AR mutation is based on the degree of somatic, primarily genital, virilization assessed according to the Quigley classification of grade of androgen sensitivity (91).

Congenital adrenal hyperplasia (CAH) is a relatively common defect in adrenal steroidogenesis in the enzymatic pathway, leading to synthesis of cortisol, aldosterone, and sex steroid precursors. The disease varies in severity from life-threatening (adrenal failure) to mild (hirsutism and menstrual irregularity), or even asymptomatic and undiagnosed. The most common mutations causing CAH occur in the 21-hydroxylase enzyme, accounting for 95% of cases (79). The defect leads to a bottleneck, creating a major backing up of precursor steroids that then overflow into other steroid pathways, leading to diagnostic high levels of 17-hydroxyprogesterone and, in female patients, excessive circulating testosterone or other adrenal-source androgen precursors (*e.g.*, androstenedione, dehydroepiandrosterone) that may be converted to testosterone in tissues. A common clinical problem with management of CAH is that glucocorticoid/mineralocorticoid treatment is not always fully effective partly due to variable compliance, which may leave high circulating testosterone, including well into or even above the normal male range (92). It is unlikely that mild nonclassical congenital adrenal hyperplasia is a major contributor to the mild hyperandrogenism prevalent among elite female athletes. The prevalence of PCOS (6% to 16%) is about 100-fold higher than mild nonclassical congenital adrenal hyperplasia (0.1%) (49), whereas a disproportionately high number of elite female athletes (especially in power sports) have PCOS (45). In one study of hyper-androgenic female athletes, even mild nonclassic adrenal hyperplasia was ruled out by normal 17-

hydroxyprogesterone (36) and, in another (47), reported serum androstenedione and cortisol did not differ from controls, ruling out significant congenital adrenal hyperplasia.

### **Sex Difference in Muscle, Hemoglobin, Bone, and Athletic Performance Relating to Adult Circulating Testosterone Concentrations**

Following puberty, testosterone production increases (16) but remains  $<2$  nmol/L in women, whereas in men testosterone production increases 20-fold (from 0.3 mg/d to 7 mg/d), leading to 15-fold higher circulating testosterone concentrations (15 vs 1 nmol/L). The greater magnitude of sex difference in testosterone production (20-fold) compared with circulating levels (15-fold) is due to women's higher circulating SHBG, which retards testosterone clearance, creating a slower circulating half-time of testosterone. This order-of-magnitude difference in circulating testosterone concentrations is the key factor in the sex difference in athletic performance due to androgen effects principally on muscle, bone, and hemoglobin.

## **Muscle**

### ***Biology***

It has been known since ancient times that castration influences muscle function. Modern knowledge of the molecular and cellular basis for androgen effects on skeletal muscle involves effects due to androgen (testosterone, DHT) binding to the AR that then releases chaperone proteins, dimerizes, and trans-locates into the

nucleus to bind to androgen response elements in the promoter DNA of androgen-sensitive genes. This leads to increases in (1) muscle fiber numbers and size, (2) muscle satellite cell numbers, (3) numbers of myonuclei, and (4) size of motor neurons (93). Additionally, there is experimental evidence that testosterone increases skeletal muscle myostatin expression (94), mitochondrial biogenesis (95), myo-globin expression (96), and IGF-1 content (97), which may augment energetic and power generation of skeletal muscular activity.

Customized genetic mouse models can provide unique experimental insight into mammalian physiology that is unobtainable by human experimentation. The tight evolutionary conservation of the mammalian reproductive system explains why genetic mouse models have provided consistent, high-fidelity replication of the human reproductive system (98, 99). Genetic males (46,XY) with androgen insensitivity displaying similar features occur through the spontaneous production of inactivating AR mutations in all mammalian species studied, including humans, where they are known as women with CAIS. The converse, genetic females (46,XX) resistant to all androgen action cannot occur naturally in humans or other mammals. This is because fully androgen-resistant females must have both X chromosomes carrying an inactivated AR. In turn, this requires acquiring one X chromosome from their father, and hemizygous males bearing a single X chromosome with an inactive AR produce no sperm, as a functional AR is biologically indispensable for making sperm in any mammal. However, androgen-resistant females can be bred by genetic engineering using the Cre-Lox system (100). An important finding from such studies is that androgen-resistant female mice have essentially the same muscle mass and function as wild-type androgen-sensitive

females bearing normal AR, whereas androgen-resistant male mice have smaller and weaker muscle mass and function than do wild-type males and comparable instead with wild-type females (101). This indicates that androgen action, represented by circulating testosterone, is the key determinant of the higher muscle mass and strength characteristic of males compared with females. Furthermore, endogenous circulating testosterone has minimal effects on skeletal muscle mass and strength in female mice because of its low levels. Although these experiments cannot be replicated in humans, their key insight is that the higher circulating testosterone in males is the determinant of the male's greater muscle mass and function compared with females. Nevertheless, there is also evidence that hyperandrogenic women, mostly with PCOS, have increased muscle mass and strength that correlates with mildly increased circulating testosterone in the high-normal female range (36, 47).

### ***Observational data***

There is a clear sex difference in both muscle mass and strength (102–104) even adjusting for sex differences in height and weight (104, 105). 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 (106). Young men have on average a skeletal muscle mass of .12 kg greater than age-matched women at any given body weight (104, 105). Whereas numerous genes and environmental factors (including genetics, physical activity, and diet) may contribute to muscle mass, the major cause of the sex difference in muscle mass and strength is the sex difference in circulating testosterone.

Age-grade competitive sports records show minimal or no female disadvantage prior to puberty, whereas from the age of male puberty onwards there is a strong and ongoing male advantage. Corresponding to the endogenous circulating testosterone increasing in males after puberty to 15 to 20 nmol/L (sharply diverging from the circulating levels that remain ,2 nmol/L in females), male athletic performances go from being equal on average to those of age-matched females to 10% to 12% better in running and swimming events, and 20% better in jumping events (8) (Fig. 1). Corroborative findings are provided by a Norwegian study that examined performance of adolescents in certain athletic events but without reference to contemporaneous circulating testosterone concentrations (107). The striking postpubertal increase in male circulating testosterone provides a major, ongoing, cumulative, and durable advantage in sporting contests by creating greater muscle mass and strength. These sex differences render women unable to compete effectively against men, especially (but not only) in power sports.

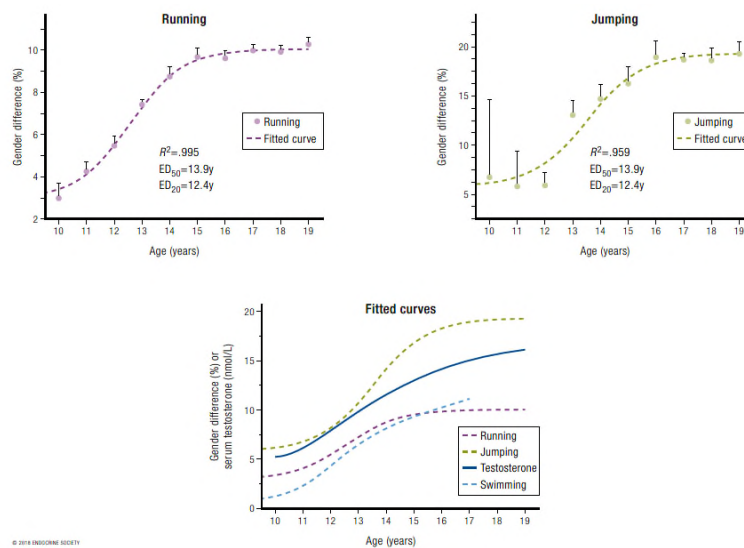
These findings are supported by studies of nonathletic women showing that muscle mass is increased in proportion to circulating testosterone in women with mildly elevated testosterone levels due to PCOS (108, 109), a condition that is more prevalent among elite female athletes who exhibit these features (36, 45, 47), often undiagnosed (46), but that may provide an ergogenic advantage (47), consistent with the graded effects of circulating testosterone on explosive performance in men and women (110).

Studies of elite female athletes further corroborate these findings. One study demonstrates dose-response effects of better performance in some (400 m running, 400

m hurdles, 800 m running, hammer throw, pole vault) but not all athletic events correlated with significantly higher endogenous testosterone in female, but not male, athletes. Even within the low circulating testosterone levels prevailing within the normal female range, in these events there was a significant advantage of 1.8% to 4.5% among those in the highest tertile compared with the lowest tertile of endogenous testosterone (35). A further study of elite female athletes corroborates and extends these observations in that endogenous androgens are associated with a more anabolic body composition as well as enhanced muscular performance (36). In this study, 106 Swedish Olympic female athletes were compared with 117 age- and weight (body mass index)-matched sedentary control women for their muscle and bone mass (by dual-energy X-ray absorptiometry), their muscular strength (squat and countermovement jumps), and testosterone and DHT, as well as androgen precursors (dehydroepiandrosterone, androstenedione) and urinary androgen glucuronide metabolites (androsterone, etiocholanolone, 3 and 17 3α-diols) measured by LC-MS (36). The athletes displayed higher muscle (and bone) mass than did the sedentary control women, with strength tests correlating strongly with muscle mass whether in total or just in the legs. In turn, muscle mass and strength were correlated with androgens and androgen precursors. Considering that such studies may be confounded by factors such as menstrual phase and dysfunction, as well as heterogeneous sports disciplines, which weaken the power of the study, these findings can be regarded as quite robust.

**Figure 1.** Sex differences in performance (in percentage) according to age (in years) in running events, including 50 m to 2 miles (upper

left panel), and in jumping events, including high jump, pole vault, triple jump, long jump, and standing long jump (upper right panel) [for details, see Ref. (8)]. The lower panel is a fitted sigmoidal curve plot of sex differences in performance (in percentage) according to age (in years) in running, jumping, and swimming events, as well as the rising serum testosterone concentrations from a large dataset of serum testosterone of males. Note that in the same dataset, female serum testosterone concentrations did not change over those ages, remaining the same as in prepubertal boys and girls. Data are shown as mean and SEM of the pooled sex differences by age. Reproduced with permission from Handelsman DJ. Sex differences in athletic performance emerge coinciding with the onset of male puberty. Clin Endocrinol (Oxf). 2017;87:68–72.



### Interventional data

Dose-response studies show that in men whose endogenous testosterone is fully suppressed, add-back administration of increasing doses of testosterone that

produce graded increases in circulating testosterone causes a dose-dependent (whether expressed according to testosterone dose or circulating levels) increase in muscle mass (measured as lean body mass) and strength (65, iii). Taken together, these studies prove that testosterone doses leading to circulating concentrations from well below to well above the normal male range have unequivocal dose-dependent effects on muscle mass and strength. These data strongly and consistently suggest that the sex difference in lean body mass (muscle) is largely, if not exclusively, due to the differences in circulating testosterone between men and women. These findings have strong implications for power-dependent sport performance and largely explain the potent efficacy of androgen doping in sports.

The key findings providing conclusive evidence that testosterone has prominent dose-response effects in men are reported in studies by Bhasin and colleagues that proved a monotonic dose response, extending from subphysiological to supraphysiological range for men for testosterone effects on muscle mass, size, and strength in healthy young men, findings that have been replicated and confirmed by an independent group (65). Both sets of studies used a common design of fully suppressing all endogenous testosterone (to castrate levels) for the full duration of the experiment by administering a GnRH analog. In the Bhasin and colleagues studies, participants were then randomized to five groups and each received weekly injections of 25 mg, 50 mg, 125 mg, 300 mg, or 600 mg of testosterone enanthate for 20 weeks. In effect, this was two subphysiological and two supraphysiological testosterone doses. In these studies, the lowest testosterone dose produced a mean serum testosterone of 253 ng/dL (8.8 nmol/L) in younger men and 176 ng/dL (6.1 nmol/L) in older men. The studies showed a consistent



dose response for muscle mass and strength that was clearly related to testosterone dose and consequential blood testosterone concentrations (Fig. 2, upper panel).

The study of Finkelstein *et al.* (65) involved the same design and involved 400 healthy men aged 20 to 50 years who had complete suppression of endogenous testosterone for the 16 weeks of the study, with testosterone added back using daily doses of 0, 1.25 g, 2.5 g, 5 g, or 10 g of a topical 1% testosterone gel. This again created a graded dose-response curve for serum testosterone and for muscle mass and strength. The inclusion of a 0 (placebo) dose allowed differentiation between the 0 and lowest testosterone dose. The placebo (0) dose produced a serum testosterone of 0.7 nmol/L (the typical mean for castrated men, childhood, and women of any age). Meanwhile, the lowest testosterone dose (1.25 g of gel per day) produced a serum testosterone of 6.9 nmol/L, which is equivalent to that of a male in early to middle puberty. A key finding for this review is that, from this study of men, the increase in serum testosterone from mean of normal female concentration (0.9 nmol/L) to supra-physiological female concentrations (6.9 nmol/L) produced significant increases of 2.3% for total body lean (muscle) mass, 3.0% for thigh muscle area, and 5.5% increase in leg press strength (digitized data pooling of both cohorts from lower panel, Fig. 2).

Studies of the ergogenic effects of supraphysiological concentrations of circulating testosterone require studies administering graded doses of exogenous testosterone for months. Owing to ethical concerns regarding risks of unwanted virilization and hormone-dependent cancers, however, few studies have administered supraphysiological testosterone doses to healthy women. One well-designed, randomized placebo-controlled study

of postmenopausal women investigated the effects of different testosterone doses on muscle mass and performance and physical function (112). Sixty-two women (mean age, 53 years) all had a standard estrogen-replacement dose administered during a 12-week run-in period (to eliminate any hypothetical confounding effects of estrogen deficiency), after which they were randomized to one of five groups receiving weekly injections of testosterone enanthate (doses: 0, 3 mg, 6.25 mg, 12.5 mg, and 25 mg, respectively) for 24 weeks. The increasing doses of testosterone produced an expected dose response in serum testosterone concentrations (by LC-MS), with the highest testosterone dose (25 mg/wk) producing a mean nadir concentration of 7.3 nmol/L. The women whose testosterone concentrations were increased to 7.3 nmol/L achieved significant increases in muscle mass and strength (Table 4), ranging from 4.4% for muscle (lean) mass to between 12% and 26% for measures of muscle strength (chest and leg press, loaded stair climb). As muscle strength measurement is effort-dependent, the placebo-controlled design of the Huang *et al.* (112) study supports the further interpretation that the highest dose of testosterone also had prominent mental motivational effects in the effort-dependent tests of muscle strength. These findings provide salient direct evidence of the ergogenic effects of hyper-androgenism in female athletes confirming that at least up to average circulating testosterone concentrations of 7.3 nmol/L, women display a dose-response relationship similar to that of men, with supraphysiological doses of testosterone leading to significant gains in muscle mass and power.

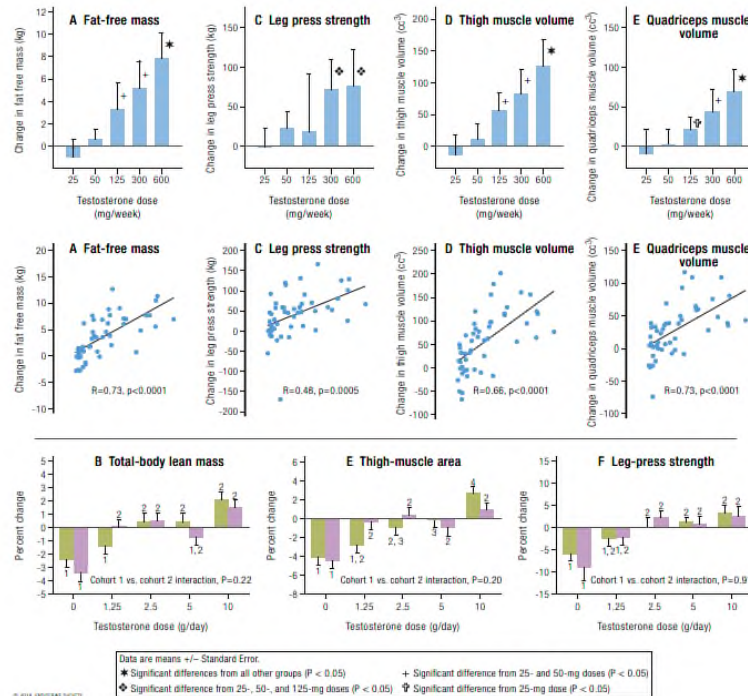
These effects of testosterone administration on circulating testosterone concentrations and muscle mass and strength in females may be compared with the effects in males from the Finkelstein *et al.* (65) and Bhasin and

colleagues studies. In men, the lowest testosterone dose (1.25 g/d) increased mean serum testosterone to 6.9 nmol/L (equivalent to levels seen in early to middle male puberty), resulting in significant increases of total body lean (muscle) mass (2.3%), thigh muscle area (3.0%), and leg press strength (5.5%) compared with the placebo dose that resulted in a serum testosterone of 0.7 nmol/L. In the Huang *et al.* (112) study (Fig. 3), muscle mass and strength in postmenopausal women displayed a flat response at the three lower doses, when circulating testosterone concentrations remain <5 nmol/L, and displayed a significant increase only when the mean circulating testosterone concentration produced by the highest testosterone dose first increased circulating testosterone concentrations >5 nmol/L. This pattern, flat at lower doses and rising at the highest dose, represents the lower plateau and the earliest rising portion, respectively, of the sigmoidal dose-response curve of testosterone for muscle.

Data corroborating the Huang *et al.* study results comes from another well-controlled study in which postmenopausal women who were administered methyl testosterone following a run-in period of estrogen replacement displayed a significant increase in lean (muscle) mass as well as upper and lower limb power during a 16-week double-blind, parallel group study (113).

Similarly, two prospective studies of the first 12 months of treatment of transmen [female-to-male (F2M) transgender] shows a consistent major increase in muscle mass and strength due to testosterone administration. In one study testosterone treatment of 17 transmen achieving adult male circulating testosterone levels (mean, 31 nmol/L) increased muscle mass by 19.2% (114). In a second study, 23 transmen administered adult male

testosterone doses also produced striking increases in total body muscle size and limb muscle size (by 6.5% to 16.6%) and grip strength (by 18%) compared with age-matched untreated control women (115). Conversely, testosterone suppression (using an estrogen-based treatment regimen) in 20 transwomen (M2F transgender) that reduced circulating testosterone levels from adult male range to adult female range led to a 9.4% reduction in muscle mass (measured as cross-sectional area).



**Table 4. Effects of Testosterone on Muscle Mass and Strength in Women**

Androgen-Sensitive Variable	Baseline	Increase	% Increase
Lean muscle mass, kg	43 ± 6	1.9 ± 0.5	4.4
Chest press, W	100 ± 26	26 ± 7	26
Leg press, N	744 ± 172	90 ± 30	12
Loaded stair-climb power, W	406 ± 77	56 ± 13	14

With data from Huang G, Basaria S, Travison TG, *et al.* Testosterone dose-response relationships in hysterectomized women with or without oophorectomy: effects on sexual function, body composition, muscle performance and physical function in a randomized trial. *Menopause* 2014;21:612–623. Data are shown as mean and SEM derived from Table 1 and digitized from Figure 4 from Huang *et al.* (112) showing the effects of testosterone (mean circulating concentration, 7.3 nmol/L) on muscle mass and strength in women treated with the highest testosterone dose (n = 11; 25 mg of testosterone enanthate per week).

### ***Effects on athletic performance***

Muscle growth, as well as the increase in strength and power it brings, has an obvious performance-enhancing effect, in particular in sports that depend on strength and (explosive) power, such as track and field events (107, 110). 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 (116). The basis for the sex difference in muscle mass and strength is

the sex difference in circulating testosterone as clearly shown (for example) by (1) the enhanced athletic performance of men compared with prepubertal boys and women (8); (2) the close correspondence of muscle growth (muscle size) with muscle strength in ascending dose studies in men by Bhasin *et al.* (111, 117-119) and Finkelstein *et al.* (65) and in postmenopausal women by Huang *et al.* (112); (3) the effect of male castration in reducing muscle size and strength, effects that are fully rectified by testosterone replacement; and (4) the striking efficacy of androgen doping on the sports performances of German Democratic Republic female athletes (120).

## **Hemoglobin**

### ***Biology***

It is well known that levels of circulating hemoglobin are androgen-dependent and consequently higher in men than in women by 12% on average; however, the physiological mechanism by which androgens such as testosterone boosts circulating hemoglobin is not fully understood (121). Testosterone increases secretion of and sensitivity to erythropoietin, the main trophic hormone for erythrocyte production and thereby hemoglobin synthesis, as well as suppressing hepcidin (122), a crucial iron regulatory protein that governs the body's iron economy. Hepcidin has to balance the need for iron absorption from foods (the only source of iron required for the body's iron-containing proteins) against the fact that the body has no mechanism to shed excess iron, which can be toxic. Adequate iron availability is essential for normal erythropoiesis and synthesis of key heme, iron-containing oxygen-transporting proteins such as hemoglobin and

myo-globin (123) as well as other iron-dependent proteins such as cytochromes and DNA synthesis and repair enzymes. Experimental evidence in mice shows that testosterone increases myoglobin content of muscle with potential for augmenting aerobic exercise performance (96), but this has not been evaluated in humans.

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. This is exploited to its greatest effect in endurance sports (1). The experiments of Ekblom *et al.* (124) in 1972 (Fig. 4) demonstrated strong linear relationships between changes in hemoglobin [due to withdrawal or retransfusion of 1, 2 or 3 U (400 mL) of blood] and aerobic capacity, established by repeated testing of maximal exercise-induced oxygen consumption before and after each procedure (124). As already noted, circulating hemoglobin levels are on average 12% higher in men than women (125). It maybe 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.

### ***Observational data***

The proposition that the sex difference in circulating hemoglobin levels is likely to be due to the sex difference in average circulating testosterone concentrations is supported by the fact that male castration (*e.g.*, for advanced prostate cancer) (126) and androgen deficiency due to reproductive system disorders (127) reduce circulating hemoglobin in men, eliminating the sex difference,

whereas testosterone replacement therapy restores circulating hemoglobin to adult male levels (121, 127, 128).

An unusually informative observational study of women with CAH provides unique insight into testosterone effects on circulating hemoglobin in otherwise healthy women (92). Women with CAH require glucocorticoid replacement therapy but exhibit widely varying levels of hormonal control(79). The degree of poor control is associated with increasing levels of circulating testosterone ranging from normal female concentrations up to 36 nmol/L, and these levels correlate closely ( $r = 0.56$ ) with levels of circulating hemoglobin (Fig. 5). Interpolating from the dose-response regression, increases in circulating testosterone measured by LC-MS from 0.9 nmol/L to 5 nmol/L, 7 nmol/L, 10 nmol/L, and 19 nmol/L were associated with increases in circulating hemoglobin of 6.5%, 7.8%, 8.9%, and 11%, respectively, establishing a strong dose-response relationship. An 11% increase in circulating hemoglobin translates to a 10% difference in maximal oxygen transfer (124), which may account for virtually all the 12% sex difference in male and female circulating hemoglobin (125). To put this into context, any drug that achieved such increases in hemoglobin would be prohibited in sports for blood doping, as this difference is sufficient to have ergogenic effects, even without taking into account any testosterone effects on muscle mass or strength (for which data were not available in that study). Conversely, among elite female athletes with circulating testosterone in the healthy premenopausal female range, circulating hemoglobin does not correlate with athletic performance (35). In women with the mild hyperandrogenism of PCOS, circulating hemoglobin and hematocrit are reported as not (129) or marginally increased (130), findings that may be influenced by the fact that PCOS is associated with



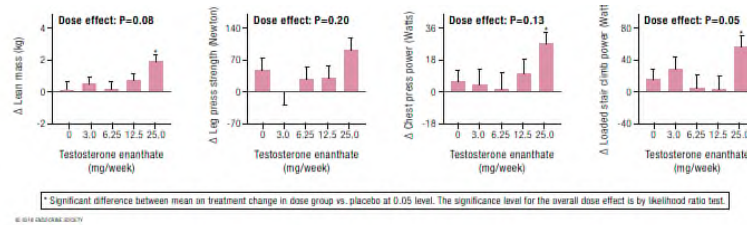
reduced or absent menstruation, thereby reducing the iron loss of regular menstruation.

### ***Interventional data***

In the Bhasin *et al.* (111) studies, in both young and older men the highest testosterone dose produced a 12% increase in blood hemoglobin compared with the lowest dose, reflecting a strong dose-response relationship (Fig. 6) (131). Analogous findings were reported for testosterone treatment effects in postmenopausal women where the highest dose (25 mg weekly) of testosterone, which increased mean serum testosterone to 7.3 nmol/L, had the largest increase (3%) in blood hemoglobin and hematocrit (112).

Corroborative findings are available from studies of transmen (F2M transgender), that is, natal females who subsequently receive testosterone treatment at replacement doses to create adult male circulating testosterone concentrations, who exhibit increases in circulating hemoglobin to male levels [reviewed in (132-134)]. Testosterone treatment in 17 (F2M) transmen that created mean circulating testosterone levels of 31 nmol/L also increased hemoglobin levels by 15% (114). Conversely, one prospective 12-month study of transgender (nonathlete) individuals reported that testosterone suppression (by an estrogen-based regimen) to normal female levels in 20 (M2F) transwomen reduced hemoglobin by 14%.

If such an increase in hemoglobin were produced by any chemical substance, it would be considered doping, according to the World Anti-Doping Code.



**Figure 3.** From Huang *et al.* (112): Dose-response effects on lean (muscle) mass and three measures of muscle strength as a result of increasing doses of weekly testosterone enanthate injections in women. Note the effects on all four parameters (three statistically significant) of the highest testosterone dose, the only one that produced circulating testosterone levels exceeding the normal female range. Reproduced with permission from Huang G, Basaria S, Travison TG, *et al.* Testosterone dose-response relationships in hysterectomized women with or without oophorectomy: effects on sexual function, body composition, muscle performance and physical function in a randomized trial. *Menopause* 2014;21:612–623.

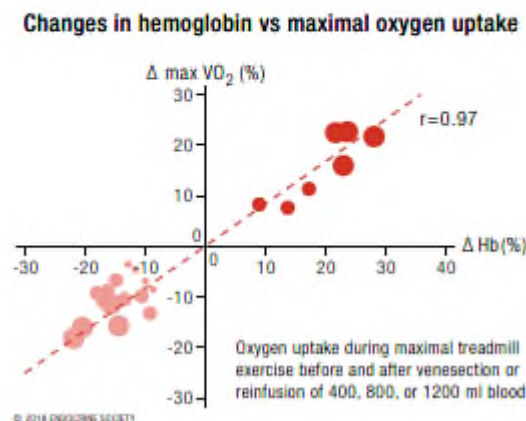
## Bone

### Biology

There is extensive experimental evidence from genetic mouse models showing that the sex differences in bone size, mass, and function are due to the sex difference in circulating testosterone. These effects have been reported from studies of global and tissue or cell-selective inactivation of ARs or estrogen receptors that show that androgen effects are mediated by both direct effects on the AR as well as indirect effects mediated via aromatization of testosterone to estradiol to act on estrogen receptors [reviewed in (135)]. Bone grows in length due to epiphyseal chondral growth plates that provide cartilage, forming the matrix for lengthening of long bone, which is terminated by an estrogen-dependent

mechanism that depends on aromatization of testosterone to estradiol. Similarly, bone width and density are increased through appositional growth from periosteal and endosteal expansion that depend on bone loading and androgen exposure together with other factors. An important difference between androgen effects on bone compared with effects on muscle or hemoglobin is that developmental bone effects of androgens are likely to be irreversible.

**Figure 4.** Redrawn results from Ekblom et al. (124). Results from the transfusion of additional blood are shown in dark red circles and those after blood withdrawal in light red circles. Adapted with permission from Ekblom B, Goldbarg AN, Gullbring B. Response to exercise after blood loss and reinfusion. *J Appl Physiol* 1972;33:175–180.



### **Observational data**

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 [reviewed in (135)]. The earlier onset of puberty and the related growth

spurt in girls as well as earlier estrogen-dependent epiphyseal fusion explains shorter stature of girls than boys. As a result, on 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 (106).

These changes create an advantage of greater bone strength and stronger fulcrum power from longer bones. Additionally, whereas passing through puberty enhances male physical performance, the widening of the female pelvis during puberty, balancing the evolutionary demands of obstetrics and locomotion (136, 137), retards the improvement in female physical performance, possibly driven by ovarian hormones rather than the absence of testosterone (138, 139).

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 (140) that diverge in a sex-specific manner from the age of puberty onwards (141, 142), the effects of which are likely to be due to sex differences in adult circulating testosterone concentrations.

Bone density (total and medullary cross-sectional area) is increased in women with CAH with variably elevated serum testosterone (including into the male range) when it is only partially suppressed by gluco-corticoid treatment (143), although more effective glucocorticoid suppression lowers bone density (144).

### ***Interventional data***

Well-designed, placebo-controlled direct interventional studies of supraphysiological androgen effects on bone in females are few, rarely feasible, and unlikely to be performed for ethical and practical reasons. Unlike muscle, which responds relatively rapidly to androgen effects so that muscle studies in humans can be completed within 3 to 4 months (65, 111, 112, 119, 145), comparable bone studies would typically take a year or more to reach plateau effects. Hence, such direct investigational studies in otherwise healthy women would risk side effects of virilization that may be only slowly and partly reversible, if at all, as well as potential promotion of hormone-dependent cancers making such studies ethically and practically not feasible.

### ***Effects on athletic performance***

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. The greater cortical bone density and thereby resistance to long bone fractures is unlikely to be relevant to the athletic performance of young athletes, in whom fractures during competition are extremely rare and not expected to be linked to sex. Alternatively, stress fractures in athletes, mostly involving the legs, are more frequent in females with the male protection attributable to their larger and thicker bones (146).

### **Other androgen-sensitive sex dichotomous effects**

***Biology and observational data***

Many if not most other aspects of physiology exhibit sex differences and may therefore enhance the impact of the male advantage in sports performance of the dominant determinants (muscle and hemoglobin). Examples include sex differences in exercise-induced cardiac (147, 148) and lung (149) function and mito-chondrial biogenesis and energetics (95). However, the limited knowledge of the magnitude and hormonal mechanisms involved, specifically the degree of androgen dependence of these mechanisms, means that it is difficult to estimate their contribution, if any, toward the sex difference in athletic performance. The sex difference in pulmonary function may be largely explained by the androgen-sensitive sex difference in height, which is a strong predictor of lung capacity and function (149). Further physiological studies of the androgen dependence of other physiological sex differences are awaited with interest.

Psychological differences between men and women on mental function (*e.g.*, rotational orientation) (150) as well as mood, motivation, and behavioral effects may involve androgen-sensitive effects during prenatal and perinatal as well as postpubertal effects (151, 152).

***Interventional data***

There is some limited direct evidence from well-designed, placebo-controlled trials that administration of testosterone or other androgens at supraphysiological doses directly affect mood and behavior, notably inducing hypomania (153). In a randomized placebo-controlled study of testosterone administration in postmenopausal women (112), in case of those receiving the highest dose (the only one causing circulating testosterone levels to exceed the normal female range), there was not only an

increase in muscle mass (4.4%) but a strikingly greater increase in muscle strength (12% to 26%), suggesting an enhanced mental motivational effect of testosterone on the effort-dependent tests of muscle strength.

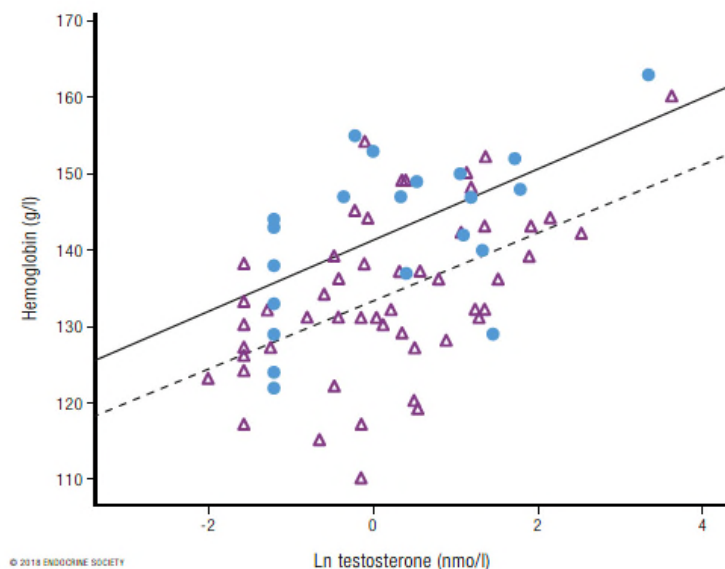
### **Alternative Mechanisms Proposed to Explain Sex Differences in Athletic Performance**

Alternative explanations for the sex difference in athletic performance, other than it being due to the sex difference in postpubertal circulating testosterone, have been proposed, including (1) sex differences in height because height is a predictor of muscle mass (116), (2) genetic sex differences due to the influence of unspecified Y chromosome genes (154), and (3) sex differences in GH secretion (116).

#### **Effects of height**

One proposal has been that, as men are taller than women, height differences may explain the sex differences in muscle mass and function, which explains some athletic success (116). Numerous factors contribute to the regulation of adult muscle mass, including genetics, race, adiposity, hormones, physical activity (exercise/training), diet, birth order, and bone size (including height) [reviewed in (155)]. Among the nonhormonal factors, genetics explains a large proportion [ $\sim 50\%$  to  $60\%$  from pooled twin studies (156)] of the variability in muscle mass and strength (157, 158) and may be explained in turn by the equally high genetic contributions to circulating testosterone (37, 38). Some factors influencing muscle mass and strength such as physical activity, adiposity, and bone size are also partly androgen-dependent. Prior to puberty there is no sex difference in skeletal features, including height (159, 160). However, with the onset of puberty, girls aged 11 and 12 years are transiently taller

than peer-aged boys due to their earlier onset of the female pubertal growth spurt, but from the age of 14 years onward the taller stature in males emerges and stabilizes (141). Hence, similar to muscle mass, sex differences in bone size (including length, density, and height) arise after male puberty establishes the marked dichotomy between men and women in adult circulating testosterone concentrations. Taller height is advantageous in some sports (basketball, some football codes, combat sports), but in others (horse racing jockeys, cycling, gymnastics, weightlifting, bodybuilding) short stature provides a greater power/ strength-to-weight ratio as well as superior rotational balance, speed, and agility. However, the male advantages in speed, strength, and endurance apply regardless of whether height is advantageous. Hence, the sex differences in height, where they exist, are largely dependent on postpubertal differences in circulating testosterone when sex differences in height are first expressed.





**Figure 5.** Plot of circulating hemoglobin against the natural logarithm of serum testosterone in women with congenital adrenal hyperplasia [from Karunasena *et al.* (92)]. The filled circles represent a cohort where serum testosterone was measured by immunoassay. The open triangles denote a second cohort, where serum testosterone was measured by LC-MS. Note the systematic overestimation of testosterone by the immunoassay used in cohort 1 vs LC-MS measurement in cohort 2. Despite that overestimation, however, the correlations were similar in both cohorts. Reproduced under a Creative Commons BY-NC-ND 4.0 license from Karunasena N, Han TS, Mallappa A, *et al.* Androgens correlate with increased erythropoiesis in women with congenital adrenal hyperplasia. Clin Endocrinol (Oxf) 2017;86:19–25.

### Genetic effects of Y chromosome

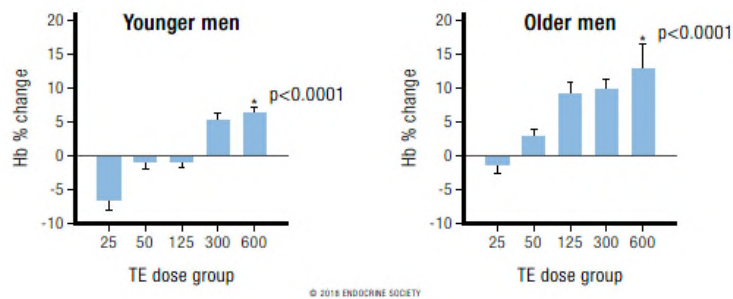
It has also been proposed that the sex difference in athletic performance may be due to genetic effects of an unspecified Y chromosome gene that may dictate taller stature (154), as height is correlated with men's greater muscle mass. The small human Y chromosome has few functional genes and none with a known effect on height other than the short stature homeobox (SHOX) gene, located in the pseudoautosomal regions of the tip of the short arms of X and Y chromosomes (161). Adult height displays an apparent dose dependency on SHOX gene copy number that is a major factor contributing to explaining both the short stature of 45,XO females (Turner syndrome), who have a single copy of the SHOX gene, as well as the tall stature of 47,XXY males (Klinefelter syndrome), who have three copies (161). However, when SHOX copy number is the same, men with additional supernumerary Y chromosomes (*e.g.*, 47,XYY) are the same height as 47,XXY men (162). Hence, there is no evidence supporting dosage-dependent Y chromosomal gene effects on height independent of SHOX gene copy number, nor does men's possession of a Y chromosome

explain the height difference between adult men and women. On the contrary, the tall stature of 47,XXY men is at least partly due to the concomitant androgen deficiency leading to pubertal delay. Pubertal delay prolongs long bone growth due to delayed epiphyseal closure, an estrogen-dependent effect that requires adequate production of testosterone as a substrate for aromatization to estradiol, resulting in tall stature. Similar eunuchoidal features and taller stature are evident in 46,XY men with congenital hypogonadotropic hypogonadism (Kallmann syndrome and its variants) with comparable congenital onset of androgen deficiency, also manifest as pubertal delay and long bone overgrowth. Hence, taller height is better explained by impaired testicular function with delayed puberty and epiphyseal closure rather than unspecified Y chromosome dosage effects. In any case, rare aneuploidies in themselves do not explain the sex difference in height in the general population of individuals with normal sex chromosomes.

### **Growth hormone**

The proposal that the sex difference in muscle mass and function might be due to sex differences in endogenous GH secretion (116) is refuted by the extensive and conclusive clinical evidence that endogenous GH secretion in young women is consistently higher (typically twice as high) as in young men of similar age (163–170). Those findings cannot explain the male advantage in muscle mass and strength unless GH retards muscle growth/function, for which there is no evidence. Furthermore, estrogens inhibit GH-dependent, hepatic IGF-1 production, the major pathway of GH action (171, 172). The weak observational association between low circulating IGF-1 and some, but not other, measures of

weak muscle strength and limited mobility among older women may reflect general age-associated debility rather than any specific hormonal effects (173). Finally, the evidence that endogenous GH plays no role in sex differences in muscle mass and function is supported by evidence from the most extensive interventional study of GH treatment to non-GH-deficient adults, daily GH administration for 8 weeks to healthy recreational athletes produced only marginally significant improvement in exercise performance of men and none in women (174). These findings are consistent with the speculation that GH (or IGF-1) may be an amplifier of testosterone effects and therefore be a consequence of the sex difference in circulating testosterone rather than its cause.



**Figure 6.** From Coviello *et al.* (131): Depicts the strong dose-response relationship between increasing testosterone dose with resulting change in blood hemoglobin in young and older men. Reproduced with permission from Coviello AD, Kaplan B, Lakshman KM, *et al.* Effects of graded doses of testosterone on erythropoiesis in healthy young and older men. *J Clin Endocrinol Metab* 2008;93:914–919.

### **The Impact of Adult Male Circulating Testosterone Concentrations on Sports Performance**

Plausible estimates of the magnitude of the ergogenic advantage of adult male circulating testosterone concentrations are feasible from the limited available observational and interventional studies.

Population data on the ontogeny of puberty show that prior to puberty boys and girls have comparable athletic performance, whereas sex differences in athletic performance emerge coinciding with the rise in circulating testosterone from the onset of male puberty. Male puberty results in circulating testosterone concentrations rising from the prepubertal and female postpubertal range ( $<2$  nmol/L) to adult male circulating testosterone concentrations (18). This is associated with a 10% to 12% better performance in running and swimming events and 20% enhancement in jumping events (8).

A minimal estimate of the impact of adult male testosterone concentrations on muscle size and strength in females is provided by the Huang *et al.* (112) study of postmenopausal women. In this study the highest testosterone dose (weekly injections of 25 mg of testosterone enanthate) increased mean circulating testosterone from 0.9 nmol/L to 7.3 nmol/L, which is equivalent to the circulating testosterone of boys in early to middle puberty. After 24 weeks of testosterone treatment, the increase in circulating testosterone concentrations led to significant increases in muscle size of 4.4% and in muscle strength of 12% to 26%. Given the limited testosterone dose (and concentration) as well as study duration, it is likely that these findings underestimate the magnitude of the impact that sex difference in circulating testosterone has on muscle mass and strength, and therefore on athletic performance.

Converse effects of reduced athletic performance in athletes who undergo suppression of circulating testosterone concentrations from those in the male into the female range have been reported. Among recreational (nonelite) athletes, an observational study showed a consistent deterioration in athletic performance of transwomen (M2F transgender) athletes corresponding closely to the suppression of circulating testosterone concentrations (175). Similarly, among elite athletes with circulating testosterone in the male range due to DSDs, comparable findings of athletic performance reduced by an average of 5.7% when circulating testosterone was suppressed from the male range to  $<10$  nmol/L (176). Subsequently, when the IAAF hyperandrogenism rule was suspended in 2015, and so these elite athletes could train and compete with unsuppressed serum testosterone levels, their athletic performances increased by a similar amount. Additionally, circulating hemoglobin levels in these untreated DSD athletes were comparable with male athletes or with female athletes doping with erythropoietin (Fig. 7). However, when circulating testosterone was suppressed to  $<10$  nmol/L the levels of circulating hemoglobin were 12% lower and again comparable with nondoped, non-DSD females, corresponding to the 12% magnitude of the sex difference in hemoglobin between men and women (125).

Congruent findings are also known for an elite female athlete whose serial athletic performance based on publicly available best annual times between 2008 and 2016 for the 800-m running event are depicted in relationship to the original 2011 IAAF hyperandrogenism regulation (Fig. 8).

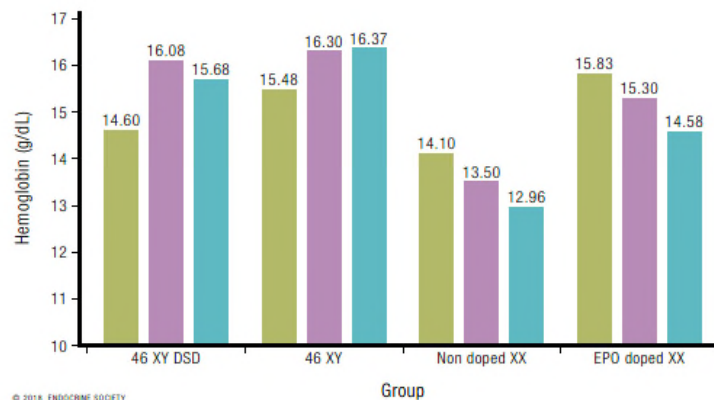
Based on the established dose-response relationships, suppression of circulating testosterone to  $<10$  nmol/L

would not eliminate all ergogenic benefits of testosterone for athletes competing in female events. For example, according to the Huang *et al.* (112) study, reducing circulating testosterone to a mean of 7.3 nmol/L would still deliver a 4.4% increase in muscle size and a 12% to 26% increase in muscle strength compared with circulating testosterone at the normal female mean value of 0.9 nmol/L. Similarly, according to the Karunasena *et al.* (92) study, reducing circulating testosterone concentration to 7 nmol/L would still deliver 7.8% more circulating hemoglobin than the normal female mean value. Hence, the magnitude of the athletic performance advantage in DSD athletes, which depends on the magnitude of elevated circulating testosterone concentrations, is considerably greater than the 5% to 9% difference observed in reducing levels to <10 nmol/L.

The physiological mechanism underlying these observations is further strengthened by prospective controlled studies of initiation of cross-sex hormone treatment in transgender individuals (114, 177). These show that during the first 12 months muscle mass (area) was decreased by 9.4% and hemoglobin levels by 14% in 20 transwomen (M2F transgender) treated with an estrogen-based regimen that reduced circulating testosterone concentrations from the male range to the female range. Conversely, in 17 transmen (F2M transgender) treated for the first time with testosterone for 12 months (which increased circulating testosterone levels to a mean of 31 nmol/L), muscle mass increased by 19.2% and hemoglobin by 15% (114). The muscle mass findings remained stable between 1 and 3 years after initiation of treatment, although fat mass continued to change between 1 and 3 years of testosterone treatment (177). These studies did not report muscle strength, but other studies of testosterone dose-response relationships

for muscle mass and strength show consistently positively correlation (65, 93, 117, 119), although with disproportionately greater effect on muscle strength than on muscle mass. Hence, the muscle mass estimates in these prospective treatment initiation studies in transgender individuals likely underestimate the muscle strength gains from elevated testosterone levels where the circulating testosterone markedly exceeds female range to be within the male range as occurs in severe hyper-androgenism of DSD females, poorly controlled transwomen (M2F transgender), or transmen (F2M transgender). These effects are also the biological basis of the ergogenic efficacy of androgen doping in women.

Finally, to put these competitive advantages into context, the winning margin (the difference in performance by which a competitor misses a gold medal, any medal, or making the final) in elite athletic or swimming events during the last three Olympics is ,1% equally for both male and female events (Table 5).



**Figure 7.** Mean hemoglobin concentrations (g/dL) of 12 elite athletes in 4 groups of 3 XY or XX middle-distance runners. The hemoglobin concentrations were collected as a part of the Athlete Biological Passport and analyzed according to the World Anti-Doping

Agency standard methods. Each bar (athlete) is the mean of a minimum of three blood samples. In the 46,XY DSD group, blood was collected in a period when the athlete was not undergoing hormonal suppressive treatment.

### **Gaps in Knowledge and Research Limitations**

The major limitations on scientific knowledge of the impact of adult male circulating testosterone concentrations on the sex difference in athletic performance is the lack of well-designed studies. Ideally, these would need to replicate adult male circulating testosterone concentrations for sufficient time in women to investigate the effects on muscle, hemoglobin, bone, and other androgen-sensitive measures that display consistent sex dichotomy in the population. However, the ethical and safety concerns preventing such studies hitherto are likely to remain formidable obstacles due to the risk of unacceptable and potentially irreversible virilization as well as of promoting hormone-dependent cancers in women.

With the exception of one interventional study administering a relatively low testosterone dose (*i.e.*, low for males) to women (112), the available evidence comprises observational studies that can only examine the effects of serum testosterone within physiological female limits or sparse and mostly uncontrolled data from intersex/DSD athletes. Although the available observational findings in healthy females are informative, the key question is the magnitude and dose response of effects at still higher circulating testosterone concentrations on the performances of women. Whereas a testosterone dose-response relationship has been established in women at relatively low (for men) testosterone dose and circulating concentrations, it remains unproven (even if clearly plausible) that the



testosterone dose-response relationships established in men for muscle, hemoglobin, and bone can be extrapolated to women when they are exposed to higher circulating testosterone concentrations (*i.e.*, comparable with male levels). It is theoretically possible there could be differences between men and women in muscle responses to testosterone, as muscle cell populations might express genetic differences in androgen sensitivity (for which there are no data), or alternatively the long-term prior pattern of testosterone exposure from conception to adulthood might lead to differences in testosterone dose responsiveness after maturity. Although the dose-response relationship in women may be similar to what is seen in men, there is also anecdotal evidence that the dose-response curves may be left shifted so that testosterone has greater potency in women than in men at comparable doses and circulating levels. The prediction is supported by the anecdotal evidence from the surreptitious East German national doping program in which the supervising doctors asserted from their experience of illicit cheating that androgens had more potent ergogenic effects in women than in men (120), a speculative opinion shared by many experienced sports medicine physicians.

There is no known means of increasing endogenous testosterone in women to anything like the requisite degree to attempt to answer these questions. In healthy men, circulating testosterone originates almost exclusively from a single source (testicular Leydig cells) and is subject to tight hypothalamic negative feedback control, so that either direct stimulation (by human chorionic gonadotropin) or indirect reflex effects (*e.g.*, from estrogen blockers operating via negative feedback) to enhance Leydig cell testosterone secretion are feasible. However, similar mechanisms do not operate in women, in whom circulating testosterone originates from three

different sources (adrenal, ovary, extraglandular conversion of androgen precursors), none of which is subject to tight testosterone negative feedback control. As a result, it is not feasible to produce a sufficient increase in circulating testosterone in women either by direct ovarian stimulation or indirect reflex effects to test this hypothesis even if doing so were deemed ethical and safe. Alternatively, carefully controlled, graded-dose studies in F2M transgender individuals might be informative but are largely lacking at this time.

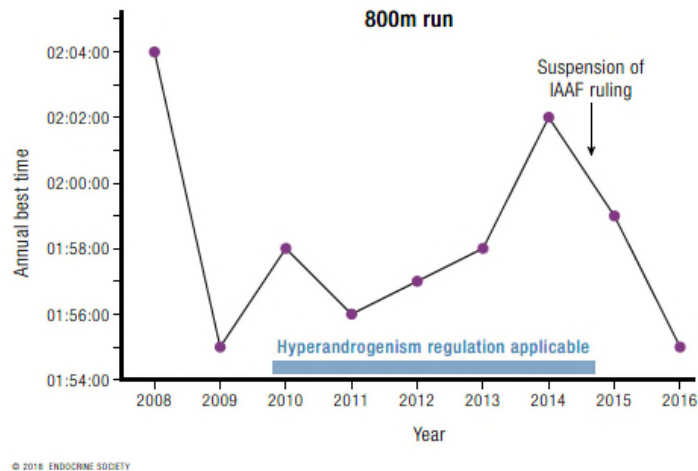
Hence, the only feasible design of such studies would be testosterone (or another androgen) administration to healthy young women. The only well-designed, placebo-controlled study of testosterone in otherwise healthy postmenopausal women was restricted to relatively low testosterone doses that, although clearly supraphysiological for women, were only 20% to 25% of male testosterone replacement doses (112). We are currently performing a double-blind, randomized, placebo-controlled study of the effects of moderately increased testosterone concentration on physical performance and behavior in young healthy women ([ClinicalTrials.gov](https://clinicaltrials.gov/ct2/show/study/NCT03210558) no. NCT03210558). However, obtaining ethical approval to administer supraphysiological testosterone doses that maintain circulating testosterone in the male range for sufficiently prolonged periods, as well as the practical difficulties in recruitment, are likely to remain obstacles to definitive resolution of this question.

In men, analogous ethical concerns over short- and long-term adverse effects delayed the definitive studies of supraphysiological testosterone doses to healthy young and older men but were eventually overcome. This was despite the fact that, uniquely among hormones, there is

no known disease state in men due to pathologically excessive testosterone secretion. In contrast, in women, supraphysiological testosterone effects are known to produce virilization side effects that may be only slowly and partially, if at all, reversible. However, maintaining clearly supra-physiological testosterone concentrations would require treatment of months (muscle) or years (bone) and would replicate not only a known hyperandrogenic disease state (PCOS) but also potentially increasing risk of hormone-dependent cancers. In these circumstances, it could only be justifiable to replicate in women the salient testosterone dose-response studies available from men if the available evidence of dose-response relationship in men was not sufficiently convincing and/or there was reason to think that these dose-response characteristics would be substantially different in women. Overall, the unequivocal dose-response evidence in men together with the available overlap evidence in women appears sufficiently persuasive, so that it is doubtful that women would respond differently from men if their circulating testosterone levels were raised to the male range. More broadly, there is no more reason to require separate studies in women vs men than there is for every different ethnic subgroup of people. An aesthetic preference for splitting categories is not a sound reason to require the virtually impossible standard of establishing fresh and comprehensive empirical evidence in women of testosterone dose-response effects ranging into male circulating testosterone concentrations.

An analogy can be drawn to the World Anti-Doping Agency's practice of accepting salient surrogate evidence for banning the plethora of existing and new drugs with potential but individually unproven ergogenic effects where it is not feasible or ethical to require direct proof of

the ergogenic effects. In that context, the firmly established ergogenic efficacy of androgens (on muscle mass and strength) and increased hemoglobin (on endurance) [evidence reviewed in (1)] mean that chemical substances or methods that increase endogenous testosterone, erythropoietin, or hemoglobin are also considered ergogenic (178). By parity of reasoning, if a condition causes a female athlete's circulating testosterone levels to be in the male range, well exceeding normal female levels, with consequential increases in muscle, hemoglobin, and bone effects (at least), an ergogenic effect may reasonably be assumed.



**Figure 8.** Best annual 800-m times of an elite female athlete between 2008 and 2016. Data provided by Dr. Richard Auchus, University of Michigan, Ann Arbor, Michigan.

**Table 5. The Winning Margin in Elite Athletic or Swimming Events During the Last Three Olympics**

Median Margin (%) <sup>a</sup>	n	Win Gold	Win Medal	Make Final
Athletics <sup>b</sup>				
Running	81	0.62	0.31	0.22
Jumping	24	0.92	0.42	0.92
Throwing	24	1.93	0.70	0.75
Swimming <sup>c</sup>				
Backstroke	12	0.56	0.28	0.16
Breaststroke	12	0.84	0.14	0.17
Butterfly	12	0.52	0.48	0.12
Freestyle	30	0.49	0.23	0.14
Relay	18	0.37	0.35	0.12

a Winning margin is defined as the difference (expressed as a percentage of the faster time) between first and second place (Win Gold), between third and fourth place (Win Medal), and between the last into the final and the first that missed out (Make Final). Years (2008, 2012, 2016) and sexes were combined as there were no significant differences in winning margin between them.

b Running includes 100 m, 200 m, 400 m, 800 m, 1500 m, 5000 m, 10,000 m, marathon, and 3000-m steeplechase, 110-m (male)/100-m (female) and 400-m hurdles, 4 X 100-m and 4 X 400-m relays, and 20-km and 50-km walk events. Jumping includes high jump, long jump, triple jump, and pole vault events. Throwing includes javelin, shot put, discus, and hammer events. Heptathlon and decathlon were not included as their final results are in points, not times.

c Events comprise 100 m and 200 m for the form strokes and 50 m, 100 m, 200 m, 400 m, 800 m (female)/1500 m (male) and marathon 10 km, with the relays being the 4 X 100-m medley and 4 X 100-m and 4 X 200-m freestyle relays.

## Conclusions

The available, albeit incomplete, evidence makes it highly likely that the sex difference in circulating testosterone of adults explains most, if not all, the sex differences in sporting performance. This is based on the dose-response effects of circulating testosterone to increase muscle mass and strength, bone size and strength (density), and circulating hemoglobin, each of which alone increases athletic capacity, as well as other possible sex dichotomous, androgen-sensitive contributors such as mental effects (mood, motivation, aggression) and muscle myoglobin content. These facts explain the clear sex difference in athletic performance in most sports, on which basis it is commonly accepted that competition has to be divided into male and female categories.

The first IAAF hyperandrogenism regulation specified a hormonal eligibility criterion of a serum testosterone of  $<10$  nmol/L for an androgen-sensitive athlete's participation in the protected category of female athletic events. This threshold was based on serum testosterone measurements by immunoassays.

However, no reliable method-independent consensus threshold could be established using commercial testosterone immunoassays, as these assays differ systematically due to method-specific bias arising unavoidably from the specificity of the different proprietary antibodies employed (25). Based on measurements using the more accurate and specific mass spectrometry methods, if the objective is to require female athletes with congenital conditions that cause them to have serum testosterone concentrations in the normal male range to bring those levels down to the same range as other female athletes, then (allowing for PCOS athletes) the threshold used should not be  $>5.0$  nmol/L.

This represents a conservative criterion that includes all healthy young (<40 years) women, including those with PCOS. Conversely, this criterion is generous to intersex/DSD females in allowing them to maintain a higher serum testosterone (2 to 5 nmol/L) than most non-PCOS competitors in female events even though increases in muscle mass and strength and hemoglobin would be expected in this range. This is so even though the range remains below the circulating testosterone levels of middle male puberty when the major biological effects of men's higher circulating testosterone begin to be fully expressed. Ongoing compliance with the eligibility criterion is also an important variable because the estrogen-based suppression of circulating testosterone, typically using daily administered estrogen products, has a rapid onset and offset. Adequate monitoring to prevent gaming of eligibility criteria would require regular random rather than announced blood sampling.

A related matter is how long such a threshold of circulating testosterone should be maintained prior to competition. In both intersex/DSD and transgender individuals, the developmental effects of adult male circulating testosterone concentrations will have established the sex difference in muscle, hemoglobin, and bone, some of which is fixed and irreversible (bone size) and some of which is maintained by the male circulating testosterone concentrations (muscle, hemoglobin). The limited available prospective evidence from initiation of transgender cross-sex hormone treatment suggests that the advantageous increases in muscle and hemoglobin due to male circulating testosterone concentrations are induced or reversed during the first 12 months and the androgenic effects may plateau after time. This time course is much faster than the somatic effects of male puberty, which evolve over years and for some variables

(*e.g.*, peak bone mass) are not complete for up to a decade after the start of puberty. However, the abrupt hormonal changes induced by medical treatment in intersex/ DSD or transgender individuals may be telescoped compared with male puberty where circulating testosterone concentrations increase irregularly and incompletely for some years. Additional data are available from the unique investigative model of men undergoing castration for prostate cancer. Just as androgen sensitivity to testosterone may differ between tissues (65), the time course of offset of androgen effects following withdrawal of male testosterone concentrations may also differ between the major androgen-responsive tissues. For example, circulating hemoglobin shows a progressive fall for 6 months reaching a nadir and plateau at 12 to 16 months in six studies involving 534 men undergoing medical castration for prostate cancer (179–184). Although these studies of older men with prostate cancer must be extrapolated with caution, age, stage of disease, race, and baseline circulating testosterone concentration did not affect the rate or extent of decline in hemoglobin (179, 181). Comparable longitudinal studies of muscle loss, strength, and performance following castration for prostate cancer are well summarized (185), showing progressive loss for 24 months (see Fig. 4). Further clinical studies to define the time course of changes, mainly offset, in testosterone-dependent effects, notably on muscle and hemoglobin, are badly needed to determine the optimal duration for cross-sex hormone effects in sports.

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**Disclosure Summary:** D.J.H. is a medical and scientific consultant for the IAAF and to the Australian Sports Anti-Doping Agency. He is a member of the World Anti-Doping Agency's Health, Medicine and Research Committee and of the IOC working group on hyperandrogenic female and transgender athletes. He has received institutional grant support from Besins Healthcare and Lawley for investigator-initiated clinical studies in testosterone pharmacology and has provided expert testimony in testosterone litigation. A.L.H. is a medical and scientific consultant for the Swedish Olympic Committee and a member of the IAAF and IOC working groups on hyperandrogenic female athletes and transgender athletes. She has received grant support from the IAAF for a study on testosterone and physical performance in women. S.B. is a medical and scientific consultant for the IAAF and a member of the IAAF and IOC working groups on hyperandrogenic female athletes and transgender athletes. The authors have no other involvement with any entity having a financial interest in the material discussed in the manuscript. Opinions expressed in this review are the personal views of the authors and do not represent those of the IAAF, IOC,

World Anti-Doping Agency, or Swedish Olympic Committee.

**Abbreviations**

AR, androgen receptor; CAH, congenital adrenal hyperplasia; CAIS, complete androgen insensitivity syndrome; DSD, disorder (or difference) of sex development; F2M, female-to-male; IAAF, International Association of Athletic Federations; IOC, International Olympic Committee; LC-MS, liquid chromatography–mass spectrometry; M2F, male-to-female; PAIS, partial androgen insensitivity syndrome; PCOS, poly-cystic ovary syndrome; SHOX, short stature homeobox

**IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF WEST  
VIRGINIA**

**CHARLESTON DIVISION**

B. P. J., et al.,

Plaintiffs,

v.

CIVIL ACTION NO. 2:21-cv-00316  
Hon. Joseph R. Goodwin

WEST VIRGINIA STATE BOARD OF EDUCATION,  
et al.,

Defendants,

and

LAINY ARMISTEAD,

Defendant-Intervenor.

**PLAINTIFF'S REPLY MEMORANDUM OF LAW  
IN SUPPORT OF MOTION TO EXCLUDE THE  
EXPERT TESTIMONY OF GREGORY A. BROWN**

Plaintiff B.P.J. respectfully submits this reply memorandum of law in support of her motion to exclude the proffered expert testimony of Gregory Brown, Ph.D., FACSM from consideration at summary judgment or trial.

### **INTRODUCTION**

In her motion to exclude the proffered expert testimony of Dr. Brown, (Dkt. No. 316 (Brown *Daubert* Mot.)), B.P.J. explained that Dr. Brown's expert report is an advocacy piece that abandons nuance and asserts sweeping and unequivocal opinions that are not grounded in reliable data and do not reflect the application of reliable principles or methods. As this Court has recognized, "[a] scientist might well pick data from many different sources to serve as circumstantial evidence for a particular hypothesis, but a reliable expert would not ignore contrary data, misstate the findings of others, make sweeping statements without support, and cite papers that do not provide the support asserted." *In re C. R. Bard, Inc., Pelvic Repair Sys. Prod. Liab. Litig.*, No. MDL 2187, 2018 WL 4220622, at \*4 (S.D. W.Va. Sept. 5, 2018) (Goodwin, J.) (quoting *Abarca v. Franklin Cnty. Water Dist.*, 761 F. Supp. 2d 1007, 1066 n.60 (E.D. Ca. 2011)).

Although styled as an opposition, Defendants' response to B.P.J.'s motion is essentially a confession of error. On point after point, Defendants withdraw Dr. Brown's hyperbolic statements and replace them with more modest claims.<sup>1</sup> But Defendants cannot rehabilitate

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<sup>1</sup> Defendants also note that Dr. Brown recently published data about the performance of prepubertal youth on the editor-reviewed blog for the Physiology Educators Community of Practice, and argue that the publication shows that Dr. Brown's opinions are "deemed reliable by the scientific community." (Dkt. No. 338 (Brown Opp.) at 21 (citing



Dr. Brown’s testimony by arguing that some hypothetical expert could have conducted a reliable review of all the available information and come to a significantly more modest conclusion. “[C]ourts must look to *the entire process* that produced an opinion to determine whether the expert’s work satisfies *Daubert*’s fundamental command.” *In re Lipitor (Atorvastatin Calcium) Mktg., Sales Pracs. & Prod. Liab. Litig. (No II) MDL 2502*, 892 F.3d 624, 637–38 (4th Cir. 2018) (emphasis added). “The reliability analysis applies to all aspects of an expert’s testimony: the methodology, the facts underlying the expert’s opinion, the link between the facts and the conclusion, et alia.” *Knight v. Kirby Inland Marine Inc.*, 482 F.3d 347, 355 (5th Cir. 2007) (quotation marks omitted). The question is whether the particular expert report presented *in this case* is “based on sufficient facts or data,” “is the product of reliable principles and methods,” and “reliably applied the principles and methods to the facts of the case.” Fed. R. Evid. 702. Dr. Brown’s testimony fails that test.

**I. Dr. Brown’s Opinions Regarding Prepubertal Children And The Alleged Athletic Advantages Of Transgender Girls Who Receive Puberty-Delaying Medication Should Be Excluded.**

Dr. Brown opined in his expert report’s summary of opinions that “male children[] have an advantage over equally aged, gifted, and trained . . . female children in almost all athletic events” and that “[b]iological male

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Dkt. No. 343-1 (Defs.’ *Daubert* Resp. App.) at 69.) Far from supporting the reliability of Dr. Brown’s expert report in this case, Dr. Brown’s published blog (which is not a peer-reviewed publication and still contains major flaws) only highlights the ways that Dr. Brown’s expert report falls far below professional standards, as discussed further below.

physiology is the basis for the performance advantage that . . . male children have over . . . female children in almost all athletic events.” (Dkt. No. 289-30 (Brown Rep.) at 4, 56.) Dr. Brown further stated that “these performance advantages for . . . prepubertal male children, are inherent to the biological differences between the sexes.” (*Id.* ¶ 9.) And Dr. Brown further claimed that “[b]iological male physiology” provides a “preexisting advantage” for transgender girls like B.P.J. who never undergo endogenous puberty as a result of receiving puberty-delaying medication. (*Id.* at 4, 56.)

Defendants do not—and cannot—defend the reliability of those hyperbolic claims. Instead, Defendants replace Dr. Brown’s unequivocal claims with the more modest argument that “sex-based differences in athletic performance emerge before puberty,” that “there is a biological component to those differences,” and that no published research has analyzed the athletic performance of transgender girls and women who receive puberty-delaying medication. (Dkt. No. 338 (Brown Opp.) at 1.) These critical concessions only underscore the unreliability of Dr. Brown’s opinions. Instead of surveying all the relevant evidence and drawing reasonable inferences from that data, Dr. Brown searched only for evidence supporting his predetermined thesis, and then made unsupported, illogical leaps based on that incomplete data. Even worse, Dr. Brown failed to acknowledge contrary data contained in his earlier reports and in the very articles he claimed to rely upon. Defendants cannot paper over these fatal mistakes by attempting after the fact to address that evidence and soften Dr. Brown’s opinions. Because Dr. Brown did not base his opinions in this case “on sufficient facts or data” and did not “reliably apply the principles and methods to

the facts of the case” his testimony is inadmissible. Fed. R. Evid. 702.

**A. Dr. Brown’s Assertions Regarding Prepubertal Physiological Differences Are Unreliable.**

Dr. Brown’s report asserts that “much data and multiple studies show that significant physiological differences” exist between prepubertal boys and prepubertal girls. (Dkt. No. 289-30 (Brown Rep.) ¶ 72.) As his primary support, he states in his report that “McManus and Armstrong (2011) reviewed the differences between boys and girls regarding bone density, body composition, cardiovascular function, metabolic function, and other physiologic factors that can influence athletic performance.” (*Id.* ¶ 71.) But as B.P.J. noted in her motion to exclude—and as Defendants now effectively concede—McManus and Armstrong did not actually find “significant differences” with respect to any of these factors, and for many of the factors found no difference at all. (Dkt. No. 316 (Brown *Daubert* Mot.) at 12.)

In response, Defendants attempt to rehabilitate Dr. Brown’s testimony by recharacterizing it. Defendants state that Dr. Brown merely claimed that “prepubertal boys and girls are different in *some* areas that contribute to athletic performance” and that the citation to McManus “was proper” because “McManus found measurable differences between prepubertal boys and girls in lean body mass, fat mass, percent body fat, and peak oxygen uptake.” (Dkt. No. 338 (Brown Opp.) at 13–14.) Defendants do not attempt to explain why Dr. Brown referred to “bone density” when describing the findings in McManus’s article.

Defendants' response ignores the fundamental problem with cherry-picking. The vice of cherry-picking is not that a particular citation is false. It is that cherry-picking "produces a misleadingly favorable result by looking only to 'good' outcomes." *EEOC v. Freeman*, 778 F.3d 463, 469–70 (4th Cir. 2015) (Agee, J., concurring). Dr. Brown used the McManus article to bolster his unsupportable claim that "much data and multiple studies show that significant physiological differences" exist between prepubertal boys and prepubertal girls, (Dkt. No. 289-30 (Brown Rep.) ¶ 72), and that these differences are "the basis for the performance advantage that . . . male children have over . . . female children in almost all athletic events," (*id.* at 4, 56). Had Dr. Brown acknowledged what his counsel acknowledged—that before puberty there are merely some "measurable differences" in "*some* areas that contribute to athletic performance" in some circumstances—then that acknowledgment would have undermined the plausibility of his assertion that those differences are "the basis" for a broad performance advantage "in almost all athletic events."<sup>2</sup>

Defendants engage in a similar attempt to rewrite Dr. Brown's testimony about Staiano and Katzmarzyk (2012). As discussed in B.P.J.'s motion to exclude, Dr. Brown's report gives the false impression that sex differences in total body fat were found in all twenty-two of the peer-reviewed publications discussed in the article. (*See* Dkt. No. 316 (Brown *Daubert* Mot.) at 12–13.) Defendants now acknowledge that several of the twenty-two studies did

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<sup>2</sup> Significantly, Dr. Brown's recent professional blog—touted by Defendants to show that Dr. Brown's opinions meet professional standards—does not include a discussion of the McManus and Armstrong article. (Dkt. No. 343-1 (Defs.' *Daubert* Resp. App.) at 69–75.)

not find any differences in total body fat, and say that “experts do not need unanimity to reach a reliable conclusion; rather, they are to look to the ‘great weight of the evidence.’” (Dkt. No. 338 (Brown Opp.) at 14.)

Experts may certainly base opinions on “the great weight of the evidence” but, despite Defendants’ assertion to the contrary, that is not “exactly what Dr. Brown did.” (*Id.*) Dr. Brown did not acknowledge conflicting findings or the existence of any contrary evidence at all. An expert cannot base an opinion on the weight of the evidence if the expert looks at only one side of the scale. “[E]ven assuming” that Dr. Brown’s citations are accurate, his “method of selecting them is too unreliable” to satisfy Rule 702. *Yates v. Ford Motor Co.*, 113 F. Supp. 3d 841, 858–59 (E.D.N.C. 2015) (excluding expert testimony because plaintiff “failed to show that [expert] engaged in a reliable process to select” the studies he reviewed).

**B. Dr. Brown’s Descriptions Of The Athletic Performance Of Prepubertal Children Are Unreliable.**

As discussed in B.P.J.’s motion to exclude, Dr. Brown purported to provide an expert opinion on the comparable athletic performance of prepubertal boys and girls while ignoring two of the most significant articles in the field. (Dkt. No. 316 (Brown *Daubert* Mot.) at 9 n.1, 15–16.) Studies by Tønnessen published in 2015 and Handelsmann in 2017 found that average sex-based differences in age-grade competitive sports were between 0-6% depending on the sport and both studies characterized those differences as minimal. Even though Dr. Brown had quoted those findings in a previous version of his expert report, he left them out of his expert report in this case and instead relied on physical fitness surveys and a single year’s worth of running data to provide a

wildly inflated impression of the degree of difference between cisgender boys and cisgender girls before puberty.

Defendants attempt to divert attention from these egregious omissions by characterizing the issue as a disagreement over whether the 0-6% performance differences in Tønnessen 2015 and Handelsmann 2017 should properly be characterized as “minimal.” (Dkt. No. 338 (Brown Opp.) at 16.) If Dr. Brown had properly cited to the data in the Tønnessen and Handelsmann studies and expressed an opinion that 0-6% performance differences should be considered significant, B.P.J. would not have moved to exclude that testimony. But that is not what Dr. Brown did. He ignored the Tønnessen and Handelsmann studies on this point and instead cited only to physical fitness surveys and his own data from a single year to provide an artificially higher percentage that, according to Defendants, are “sometimes well into double or even triple digits.” (*Id.*)<sup>3</sup>

B.P.J. has already explained at length why physical fitness surveys of the population at large cannot measure average differences in performance between equally aged, gifted, and trained cisgender boys and cisgender girls before puberty. (Dkt. No. 316 (Brown *Daubert* Mot.) at

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<sup>3</sup> In contrast to his selective citations in his expert report, Dr. Brown’s recent blog post acknowledges that “[a] 2012 report from the CDC indicated there were no differences between 6– 11-year-old boys and girls in performance on physical fitness tests,” that “[m]any sports leagues for pre-pubertal children are not separated by sex since the focus is developing basic sports skills rather than competition, and that Handelsmann has “stated that there are no differences in athletic performance between boys and girls prior to the onset of puberty.” (Dkt. No. 343-1 (Defs.’ *Daubert* Resp. App.) at 69 (footnotes omitted) (typos corrected).)

14.) Because these epidemiological studies do not compare athletes with athletes, there is no reliable basis for Dr. Brown to attribute those differences among the general population to innate biology instead of to social factors such as greater societal encouragement of athleticism in boys and greater opportunities for boys to play sports. Defendants respond by saying that studies of physical fitness surveys were “peer reviewed.” (Dkt. No. 338 (Brown Opp.) at 16.) But that does not change the fact that the studies are designed to measure average physical fitness differences in the population at large, not average differences in athletic performance for athletes.

B.P.J. has also already pointed out the anomalies in Dr. Brown’s single year’s worth of track-and-field data, which wildly fluctuate from reflecting percentage differences in the low single-digits for 7–8-year-olds, spike to double digits for 9–10-year-olds, and then return to single-digits for 11–12-year-olds. (Dkt. No. 316 (Brown *Daubert* Mot.) at 15.) Neither Dr. Brown nor Defendants provide any explanation—whether based on biology or any other factor—for why there would be a sudden spike in performance advantage for 9–10-year-old cisgender boys that then evaporates for 11–12-year-olds. The blip in the data most likely reflects anomalies in the data for that particular year. By contrast, the data from Tønnessen reflects sporting records going back to 1975, and data from Handelsmann reflects sporting records going back to 1981. Significantly, when Dr. Brown looked at all-time racing records, (*see* Dkt. No. 289-30 (Brown Rep.) ¶ 23), that data showed average performance differences of under 7%, which is in line with the findings of Tønnessen and Handelsmann—not the “double or even triple digits”

in percentage differences claimed by Defendants, (Dkt. No. 338 (Brown Opp.) at 16).<sup>4</sup>

Defendants assert that Dr. Brown’s opinions are “deemed reliable by the scientific community” because they were recently published in an editor-reviewed professional blog. (Dkt. No. 338 (Brown Opp.) at 21) (citing (Dkt. No. 343-1 (Defs.’ *Daubert* Resp. App.) at 69).<sup>5</sup> But the blog post—unlike Dr. Brown’s expert report—does not rely on the single-year’s worth of anomalous data. Instead, the blog post analyzes three years’ worth of data (from 2019 through 2021) and reports average differences in prepubertal running in the mid-to-low single digits. *See* (Dkt. No. 343-1 (Defs.’ *Daubert* Resp. App.) at 70 (stating that “across all events 7-8-year-old boys were  $4.4 \pm 1.9\%$  faster than girls, and 9-10-year-old boys were  $5.4 \pm 1.8\%$  faster than girls) (typos corrected).) The blog also analyzes all-time youth records from Track & Field USA and reports prepubertal differences in running in the mid-to-low single digit percentages. (*See id.*) And the blog post also acknowledges that youth records for USA Swimming show that prepubertal girls outperformed prepubertal

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<sup>4</sup> Despite Defendants’ claim to the contrary, it is not B.P.J.’s responsibility to provide an expert statistician to explain why Dr. Brown’s methodology is unreliable. (Dkt. No. 338 (Brown Opp.) at 18 n.25.) Defendants bear the burden of establishing reliability, and a single-year’s data set with such obvious anomalies is plainly inadequate.

<sup>5</sup> The review process for the blog submissions described by Dr. Brown is not, in fact, “peer review[.]” (Dkt. No. 338 (Brown Opp.) at 18.) According to Dr. Brown, once an author submits a proposed blog post, “the editor reviews it, someone else associated also reviews it prior to being put up on the web.” (Dkt. No. 289-31 (Brown Dep. Tr.) at 162:25–163:1.) What Dr. Brown describes is editorial review, not peer review from independent external reviewers.



boys in 4 out of 23 events. (*See id.*) Instead of supporting the reliability of Dr. Brown’s reliance on a single-years’ worth of anomalous data, the blog post shows that Dr. Brown applied a methodology in this case that falls below the standards that apply in his professional field—even for a relatively informal, non-peer-reviewed blog post.<sup>6</sup>

**C. Dr. Brown’s Assertions That Prepubertal Boys Have Athletic Advantages Due To Innate Physiology Are Unreliable.**

In their response to B.P.J.’s motion to exclude, Defendants abandon Dr. Brown’s indefensible assertion that “[b]iological male physiology is the basis for the performance advantage that . . . male children have over . . . female children in almost all athletic events.” (Dkt. No. 289-30 (Brown Rep.) at 4, 56.) Instead of trying to defend that unequivocal claim, Defendants now make the more modest argument that “sex-based differences in athletic performance emerge before puberty” and that “there is a biological component to those differences.” (Dkt. No. 338 (Brown Opp.) at 1.) These concessions are critical because they undermine the basis for Dr. Brown’s assumption that transgender girls who receive puberty-delaying medication will, on average, have “preexisting” biological advantages over cisgender girls by virtue of having a male sex assigned at birth.

Yet, even with these concessions, Defendants continue to defend a series of inherently unreliable inferences. Defendants state that Dr. Brown inferred that

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<sup>6</sup> In drawing contrasts between Dr. Brown’s expert report and his blog post, B.P.J. does not concede that the views expressed in the blog post are themselves sufficiently reliable to be admissible under Rule 702. The contrast merely highlights the severity of the deficiencies with Dr. Brown’s report.

prepubertal differences in athletic performance are based on biology because those differences also exist in Denmark, which according to Dr. Brown is a more egalitarian society than the United States. (*See* Dkt. No. 338 (Brown Opp.) at 22; Dkt. No. 289-30 (Brown Rep.) ¶ 107.) Dr. Brown has no expert qualifications in sociology and does not purport to have conducted any analysis into whether Denmark is different than the United States with respect to encouraging athleticism in young girls or providing them with athletic opportunities on par with those provided to young boys.

Defendants also state that Dr. Brown inferred that biology is the cause of prepubertal athletic differences because of “a peer-reviewed study demonstrating that girls as young as four years old exhibit slower reaction times than boys.” (Dkt. No. 338 (Brown Opp.) at 22 (citing Latorre-Roman 2018 (Supp. Block Decl., Ex. R)).) But Dr. Brown and Defendants both fail to mention that the cited study acknowledges that this finding was “unexpected[]” because “a previous study showed no significant differences between boys and girls in [reaction time] for age groups 6-12 years.” (Supp. Block Decl., Ex. R at 7–8 (summarizing a variety of conflicting studies).) This is not a reliable method of surveying the scientific landscape. It is hunting and pecking for information to support a predetermined thesis without any attempt to engage with or account for contrary evidence.

**D. Dr. Brown’s Assumption That Prepubertal Transgender Girls Are The Same As Prepubertal Cisgender Boys Is Unreliable.**

Dr. Brown’s expert report assumed that prepubertal transgender girls would have the same average body composition—and, thus, the same alleged “preexisting advantages”—as prepubertal cisgender boys. But as

explained in B.P.J.’s motion to exclude, in making that assumption, several of the articles cited by Dr. Brown undermine that assumption. (Dkt. No. 316 (Brown *Daubert* Mot.) at 16–17.) For example, the Klaver 2018 article cited by Dr. Brown specifically observed that even before receiving puberty-blocking medication, a cohort of transgender girls already had a percentage of body fat that was more similar to cisgender girls than to cisgender boys. (*See* Dkt. No. 317-15 (Klaver 2018) at 258.) But Dr. Brown ignored those findings, along with other data showing physiological differences between cisgender boys and men and transgender girls and women even before the initiation of gender affirming hormones. (*Id.*)

Defendants attempt to downplay those studies by stating that they “were not population-level studies designed to establish baseline comparisons.” (Dkt. No. 338 (Brown Opp.) at 24.) But that did not stop Dr. Brown from relying on those same studies when it was convenient to support his positions. (*Compare* Dkt. No. 338 (Brown Opp.) at 24 n.30 (criticizing reliance on Van Caenegem), *with* Dkt. No. 289-30 (Brown Rep.) ¶ 124 (relying on same study).) In any event, an expert applying reliable methodology would at least acknowledge this critical information before making sweeping statements about the alleged preexisting advantages of prepubertal transgender girls. Either Dr. Brown did not read the studies carefully enough to notice those findings or he intentionally omitted them from his analysis.

#### **E. Dr. Brown’s Opinions About The Effects Of Puberty-Delaying Medication Are Unreliable.**

Dr. Brown asserted in his expert report that “currently available evidence says” “that cross sex hormone therapy (puberty blockers, androgen inhibitors, or cross-sex hormones)” does not neutralize the alleged advantage that

transgender girls have over cisgender girls. (Dkt. No. 289-30 (Brown Rep.) at 57.) Defendants concede that insofar as Dr. Brown included “puberty blockers” in that statement, he was wrong. (*See* Dkt. No. 338 (Brown Opp.) at 25 (agreeing that data from study cited by Dr. Brown could not be used to prove retained athletic advantages exist).) Dr. Brown’s only authority for that claim was the Klaver 2018 article, but Defendants now say that Dr. Brown “never claimed [the Klaver article] ‘proves’ retained athletic advantages follow puberty suppression or anything of the sort.” (Dkt. No. 338 (Brown Opp.) at 25.) Instead, according to Defendants, Dr. Brown cited the article “for a negative proposition—it does not provide evidence that puberty suppression erases pre-existing performance advantages.” (*Id.*)

But an article cannot be reliably cited for a negative proposition when it did not purport to even address the relevant question. The Klaver 2018 article involved a cohort of transgender women who received puberty delaying medication after already experiencing significant portions of endogenous puberty, so there is no reason to think the article could prove anything regarding the effects of puberty-delaying medication that prevents endogenous puberty from occurring at all. (Dkt. No. 316 (Brown *Daubert* Mot.) at 18 n.2.) And the Klaver 2018 article did not even purport to measure “performance advantages.” Instead, it measured body composition and found that the transgender women in the study had body compositions that were more similar to cisgender women than to cisgender men. (*Id.* at 18.) Dr. Brown’s reliance on the Klaver 2018 study to draw conclusions about athletic performance is unreliable regardless of whether he was asserting a “negative proposition” or an affirmative one.

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The cumulative effect of all these errors, omissions, and misleading assertions renders Dr. Brown's opinions about prepubertal children and puberty-delaying medication inherently unreliable. At each step, critical problems with Dr. Brown's "methodology, the facts underlying the [his] opinion, [and] the link between the facts and the conclusion" render his testimony inadmissible. *Knight*, 482 F.3d at 354–55.

**II. The Court Should Exclude Dr. Brown's Opinions Purporting To Summarize An Alleged "Consensus" Among "Responsible Voices" That Suppressing Testosterone After Endogenous Puberty Is Categorically Insufficient To Eliminate Alleged Athletic Advantages Or Ensure "Fairness."**

The Court should strike Section V.C from Dr. Brown's report and exclude him from offering such testimony at trial or in support of summary judgment. In those portions of his report, Dr. Brown systemically misrepresents the opinions of other researchers and policy makers to bolster his preferred policy of categorically banning transgender women from participating with other women in all sports regardless of how long they suppress circulating testosterone after endogenous puberty. (*See* Dkt. No. 316 (Brown *Daubert* Mot.) at 21–25.) In reality, the same sources cited by Dr. Brown either continued to support policies based on suppressing circulating testosterone or opposed a single across-the-board rule for all sports. (*Id.*)

Defendants attempt to excuse Dr. Brown's misrepresentations by arguing that Dr. Brown is entitled to draw his own conclusion from the data without accepting other authors' policy conclusions. (Dkt. No. 338 (Brown Opp.) at 12.) But Dr. Brown did not merely rely on underlying data. He sought to bolster the credibility of his views by saying they reflected a growing consensus

among reliable voices. And based on his deposition testimony, Dr. Brown appears to have actually been under the misapprehension that those responsible voices actually did support a categorical ban when they, in fact, do not. (*See* Dkt. No. 289-31 (Brown Dep. Tr.) at 200:7, 212:11-23, 243:317.)

The Court should also strike the Conclusion section of Dr. Brown's report, in which he states that "the 'policy goals' of 'fairness, safety, and full transgender inclusion . . . are irreconcilable for many or most sports.'" (Dkt. No. 289-30 (Brown Rep.) at 57.) Defendants now state that "Dr. Brown does not offer an opinion on the 'best' or 'fairest' policy, as that is the role of policymakers, not expert witnesses." (Dkt. No. 338 (Brown Opp.) at 9.) Defendants thus concede that the policy opinions expressed in Dr. Brown's report should, therefore, be excluded.

### **III. Dr. Brown's Opinion Regarding The Definition Of "Biological Sex" Should Be Excluded.**

H.B. 3293's definition of "biological sex" as "an individual's physical form as a male or female based solely on the individual's reproductive biology and genetics at birth" reflects an inaccurate medical or scientific understanding of the term. To support H.B. 3293's distinction between "biological sex" and "gender identity," Dr. Brown's report selectively and misleadingly cited portions of Bhargava 2021 for the proposition that "a clear biological causative underpinning of gender identity remains to be demonstrated." (*See* Dkt. No. 317-4 (Bhargava 2021) at 8.) But the article goes on to explain that, while the precise causative factor is unknown, "there is ample but incomplete evidence for biological substrates—neuroanatomic, genetic, and hormonal—for gender orientation." (*Id.* at 227.) In their opposition to

B.P.J.’s motion to exclude, Defendants do not provide *any* defense of Dr. Brown’s testimony regarding the biological underpinnings of gender identity. His testimony on that topic should be excluded in its entirety.

To support H.B. 3293’s exclusive focus on “reproductive biology and genetics at birth,” Dr. Brown’s expert report also selectively and misleadingly cited to portions of Bhargava 2021 discussing the role of chromosomes in the development of sex while ignoring the article’s extensive discussion of the role of hormones and other biological determinants. (*See* Dkt. No. 316 (Brown *Daubert* Mot.) at 7–8.) By contrast, Dr. Brown’s recent professional blog post acknowledges the critical role of androgen exposure in sexual differentiation and acknowledges that his brief discussion “fail[es] to cover the myriad of complex interactions of genes, primordial stem cells, and hormones that regulate sex development, and the possible differences and disorders that can occur.” (Dkt. No. 343-1 (Defs.’ *Daubert* Resp. App.) at 71 (typos corrected).) Once again, Dr. Brown’s blog post demonstrates that his report was drafted as a one-sided advocacy piece that falls short of what would be required in a professional setting.

Defendants now seek to defend Dr. Brown’s testimony by asserting that “[t]he purpose of this section [of Dr. Brown’s report] is simply to introduce the concept, as it is common in exercise science to study sex-based differences in various aspects of exercise physiology and performance.” (Dkt. No. 338 (Brown Opp.) at 4.) Defendants further assert that Dr. Brown’s discussion of chromosomes and the definition of “biological sex” merely reflect what is true “in the overwhelming majority of cases.” (*Id.* at 6.) And Defendants state that Dr. Brown is offering no opinions with respect to people with

differences of sexual development (DSDs) including people with XY chromosomes who do not respond to testosterone. (*Id.* at 6 n.8.)

If Dr. Brown’s testimony is narrowed down to these parameters—limited only to describing what is true for cisgender people for whom all the biological indicators of sex are aligned in the same direction—then the testimony is irrelevant to the issues in this case. The only function the legislature’s decision to specifically define “biological sex” in H.B. 3293 as limited “solely to reproductive biology and genetics at birth,” is to exclude from that definition people whose hormonal sex-based characteristics and gender identity depart from the statutory definition. (*See* Dkt. No. 331 (MSJ Opp.) at 40.) Because Dr. Brown cannot offer an expert opinion on the biological components of sex for girls who are transgender or have intersex characteristics, his testimony is not helpful, reliable, or relevant under Rule 702.

### **CONCLUSION**

For the foregoing reasons, B.P.J.’s motion to exclude the testimony of Gregory A. Brown should be granted.



**IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF WEST  
VIRGINIA**

**CHARLESTON DIVISION**

B. P. J., et al.,

Plaintiffs,

v.

CIVIL ACTION NO. 2:21-cv-00316

WEST VIRGINIA STATE BOARD OF EDUCATION,  
et al.,

Defendants.

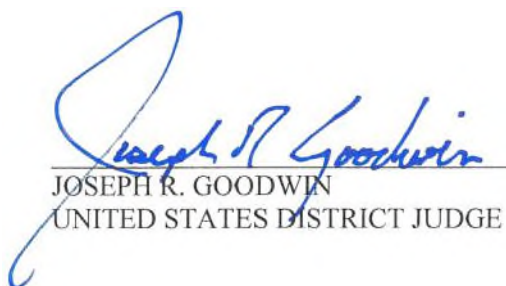
**JUDGMENT ORDER**

The court **ORDERS** that judgment be entered in accordance with accompanying Memorandum Opinion and Order, and that this case be dismissed and stricken from the docket.

The court **DIRECTS** the Clerk to send a certified copy of this Judgment Order to counsel of record and to any unrepresented party.

4264

ENTER: January 5, 2023



JOSEPH R. GOODWIN  
UNITED STATES DISTRICT JUDGE

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

B. P. J., et al.,

Plaintiffs,

v.

CIVIL ACTION NO. 2:21-cv-00316

WEST VIRGINIA STATE BOARD OF EDUCATION,  
et al.,

Defendants,

and

LAINIEY ARMISTEAD,

Defendant-Intervenor.

**DECLARATION OF B.P.J.**

I, B.P.J., pursuant to 28 U.S.C. § 1746, declare as follows:

1. I make this declaration of my own personal knowledge, and, if called as a witness, I could and would testify competently to the matters stated herein.

2. On April 19, 2022, I signed a declaration for my attorneys to submit to the court. When I signed the

declaration, I was an 11-year-old girl in sixth grade at Bridgeport Middle School.

3. I am now a 12-year-old girl, and I am currently in the seventh grade at Bridgeport Middle School.

4. I knew from when I was very little that I am a girl. I began receiving puberty-delaying medication in 2020 as part of my treatment for gender dysphoria, which I am still receiving. The doctors gave me a Vantas implant, and I felt so happy that my body would reflect the girl that I am. In June of 2022, after years of visits, my doctor told me that I was ready to begin an estrogen hormone therapy called Estradiol, and I have been taking that medication in addition to the puberty-delaying medication for the last seven months.

5. Competing on a team with my friends on the girls' cross-country and track-and-field teams is a central part of my life and identity. After my Fall cross-country season in 2021, I was very excited to try out for the girls' track-and-field team in the Spring of 2022. My coach, Ms. Schoonmaker, encouraged me to try out some of the field events based on my running times from my cross-country season so that I could still join the track-and-field team and compete with my friends. I ended up loving shotput and discus, and I made the team for those two events. It was so much fun to cheer on my teammates who ran at the meets, and they would cheer me on when I competed in shotput and discus. I then ran on the girls' cross-country team again in Fall 2022. I am excited to try out for the girls' track-and-field team this spring and have been preparing to do so. Tryouts begin on February 27, 2023.

6. The past two years on Bridgeport Middle School's girls' cross-country and track-and-field teams have been the best of my life. I love being on a team with my friends.

We have the best time during practices and at cross-country and track-and-field meets. If I had not been able to join the cross-country or track-and-field teams these last few years, I would have missed out on challenging myself with all the amazing friends I made and the time we got to spend together. My teammates support me even when I am not the fastest or best on the team.

7. Every practice and meet is different. I learn something new at each event, and I am happiest when I am trying my best and motivating my teammates to do their best. When it rains and our trails become muddy, we have so much fun together being knee-deep in the mud and finishing our runs. When I compete in meets, I always feel the support from my coach, my teammates, and my family to have fun and keep a positive attitude. You get to push yourself, and the only way to lose is by not trying your hardest. I love breathing in the fresh air and feeling proud when I work hard. I feel so free and fully myself when I am out on the field.

8. When my mom told me that the court had ruled against me and I would no longer be able to participate on the girls' team with my friends, I felt so angry and upset. I ran upstairs to my room and cried in my bed the whole night.

9. I was scared to go to school the next day and tell my friends and my teammates the bad news, but they were so supportive. Even the kids I am not as close to at school told me they think it is unfair that this law prevents me from participating on the girls' team. Running on the boys' team is not an option for me, but would be deeply upsetting, humiliating, and confusing because I am a girl. I feel sad and frustrated that West Virginia does not see me for the girl that I am and won't let me play on a team with my friends and be happy.

10. I don't want to stop doing the thing that I love and that is part of who I am. Sports are everything to me and my cross-country and track-and-field teams have become my second family over the last two years. Nothing makes me happier than being on a team with my friends and competing on behalf of my school. I have many more years of cross-country and track-and-field left, and I just want the opportunity to participate in school sports like any other girl.

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I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on January 20, 2023

/s/ B. P. J.

B.P.J.

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

B. P. J., et al.,

Plaintiffs,

v.

CIVIL ACTION NO. 2:21-cv-00316

WEST VIRGINIA STATE BOARD OF EDUCATION,  
et al.,

Defendants,

and

LAINIEY ARMISTEAD,

Defendant-Intervenor.

**DECLARATION OF HEATHER JACKSON**

I, Heather Jackson, pursuant to 28 U.S.C. § 1746,  
declare as follows:

1. I make this declaration of my own personal  
knowledge, and, if called as a witness, I could and would  
testify competently to the matters stated herein.

2. On April 19, 2022, I signed a declaration for my  
attorneys to submit to the court.

3. I am 54 years old. I am the mother of two sons, ages 21 and 14, and a 12-year-old daughter. I live in Lost Creek, West Virginia.

4. My daughter's name is B.P.J. B.P.J. has been on puberty delaying treatment since 2020, under the care of a multidisciplinary team of medical providers with expertise in treating transgender adolescents.

5. In June of 2022, under the care of Dr. Kacie Kidd and her team at the West Virginia University Department of Pediatrics, B.P.J. and I were told that B.P.J. was eligible to start hormone therapy. B.P.J. had pure joy and radiance in her eyes when she realized her body could develop in a way that matches what her brain is telling her. After we spoke as a family, and after we spoke in-depth with her medical and mental health providers, B.P.J. was prescribed estradiol, an estrogen-based hormone therapy, which she has been taking for the last seven months. B.P.J. is very comfortable with her treatment plan and is so excited for her body to go through puberty in a way that matches who she is.

6. For the past year and a half—thanks to the court's injunction order—participating on Bridgeport Middle School's girls' cross-country and track teams has meant everything to my daughter. Having the opportunity to play on the girls' teams is important to B.P.J. because she feels her happiest when she is out on the field making friends and competing in one of her favorite sports. She is a gracious teammate and an incredible motivator, and she always tries to have as much fun as possible!

7. After running with her cross-country team in the Fall of 2021, B.P.J. was so excited for Spring track-and-field in 2022. Although B.P.J. was not fast enough to make the track-and-field team in running events, her coach, Ms.



Schoonmaker, encouraged her to try out for the field events, and B.P.J. focused on shotput and discus. B.P.J. loved taking on a new challenge, was able to make the team, and participated in meets for those two field events. At the Connect Bridgeport Middle School Invitational, B.P.J. placed 36 out of 45 participants in shotput, and 29 out of 29 participants in discus; at the Ritchie Middle School Pizza Box Invitational, B.P.J. placed 15 out of 25 participants in discus; and at the Harry Green Middle School Invitational, B.P.J. placed 57 out of 61 participants in shotput, and 35 out of 53 participants in discus. B.P.J.'s 2022 track-and-field meet records are attached hereto as Exhibit A.

8. After participating on the cross-country and track-and-field teams for both seasons in the 2021-2022 school year, it was no surprise to me that B.P.J. carried this interest into her seventh-grade year, and tried out for, and made, the girls' cross-country team again in the Fall of 2022. During this second cross-country season of hers, B.P.J. participated in several meets with her teammates. At the Charles Point Invitation, B.P.J. placed 54 out of 55 participants; at the Mountain Holler Middle School Invitational, B.P.J. placed 43 out of 53 participants; at the Taylor County Middle School Invitational, B.P.J. placed 38 out of 46 participants; at the Elkins Middle School Invitational, B.P.J. placed 78 out of 80 participants; and at the Mid-Mountain 10 Conference Middle School Championships, B.P.J.'s final race of the season, B.P.J. finished 64 out of 65 participants. B.P.J. did not participate in any additional meets after her final race due to a toe injury that she has since recovered from. B.P.J.'s 2022 cross-country meet records are attached hereto as Exhibit B.

9. B.P.J. has been excited about trying out for track again this spring and has been planning to do so. Tryouts will take place on February 27, 2023.

10. My daughter's love for participating in school sports is a precious thing. B.P.J. loves all the friends she has made on the girls' cross-country and track teams, trying her best at every practice and meet, and being a team player. In her two years of sports with Bridgeport Middle School, B.P.J. has not encountered any problems with any of her teammates or children from any other schools, and her coaches and teachers have been extremely supportive of her participation. I have never seen my daughter happier than when I pick her up from practices and take her to meets. Photos from B.P.J.'s 2022 cross-country season are attached as Exhibit C.

11. This new year of 2023 has been incredibly difficult for B.P.J. I watched my daughter run upstairs to her room in tears after I told her about the recent ruling against her and removing the injunction that allowed her to participate as the girl she is. She was devastated and cried for the entire night and told me that she was terrified about not being able to continue doing the thing that she loves with her friends. The next morning, B.P.J. told me that although she is very sad, she will never stop fighting for her right to play with her teammates and to be treated equally.

12. Forcing B.P.J. to compete on the boys' cross-country or track-and-field teams would profoundly harm her, erase who she actually is, and make participating in the school sports that bring her so much joy impossible for her. She cannot be the person she is and compete on the boys' team.

13. My daughter is a twelve-year old girl who just wants the same opportunities as the other girls in her school. By refusing to treat her as a girl and singling her out for different treatment than all the other girls, West Virginia sends a clear message that it refuses to see her, accept her, and respect her equally to others. My daughter will be forever harmed if she is not able to compete alongside her teammates and friends as she has done so happily for the past year and a half.

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I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on January 20, 2023

/s/ Heather Jackson

Heather Jackson



## Connect-Bridgeport Middle School Invitational MS

OFFICIAL Mar 25, 2022 Bridgeport HS

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## Womens Middle School Discus

## Finals – 1kg

1.	7	Mattie Brown	66-08 PR	Ritchie County
2.	7	Reese Lambert	65-07	Taylor County
3.	7	Chloe Bramos	64-09 PR	Ritchie County
4.	6	Morgan Morris	64-01 PR	Ritchie County
5.	-	Isabella McCullough	58-11	Bridgeport
6.	8	Courtney Knight	58-08.50 PR	South Harrison
7.	8	Kailee Haymond	58-04.50 PR	East Fairmont
8.	7	Jadyn Pifer	56-09.50	South Preston
9.	7	Lillian Boyles	56-02	Tucker Valley
10.	7	Kennedy Marsh	53-01.50	Bridgeport
11.	6	Katie Samples	52-07	Buckhannon- Upshur
12.	8	Karley Knotts	52-00	Tucker Valley
13.	7	Mercy Frase	51-06.50	South Harrison
14.	8	Hannah Kirk	48-09.50	Tyler Consolidated
15.	8	Quinn McGervey	47-02.50 PR	West Fairmont

# 4275

16.	8	Markiah Guthrie	46-09.50 SR	Taylor County
17.	8	Demi Billotti	45-11	South (Morgantown)
18.	8	Eliana Winfrey	45-07 PR	Tyler Consolidated
19.	7	Olivia Markley	43-09.50 PR	East Fairmont
20.	7	Nellann Pase	42-06	South Preston
21.	8	Alexa Riffle	42-02.50	Washington Irving
22.	8	Brookelyn Martin	41-03.50	Washington Irving
23.	8	Kate Gaines	40-05.50	Westwood
24.	7	Layla Frazer	39-04 PR	West Fairmont
25.	-	Adaleia Wolfe	39-01.50	Bridgeport
26.	8	Tacy Pollock	37-09.50	Buckhannon- Upshur
27.	-	London Davis	36-08	Bridgeport
28.	8	Ryder Thompson	33-08	Tucker Valley
29.	6	Becky Pepper-Jackson	31-11.50	Bridgeport
--	6	Halo Redman	ND	Westwood
	7	Madison Richeson	ND	Tyler Consolidated
	8	Madison Alt	ND	Keyser
	7	Kaitlyn Gill	ND	Westwood



## Connect-Bridgeport Middle School Invitational <sup>MS</sup>

**OFFICIAL** Mar 25, 2022 Bridgeport HS

[Show More Details...](#)

### Womens Middle School Shot Put

#### Finals – 6lb

1.	7	Mattie Brown	28-08.00 PR	Ritchie County
2.	8	Kyra Nolan	27-11.50	Tyler Consolidated
3.	7	Gabby Conrad	27-02.50	Robert L Bland
4.	7	Kennedy Marsh	26-08.50	Bridgeport
5.	-	Isabella McCullough	25-08.00	Bridgeport
6.	6	Morgan Morris	25-07.50 PR	Ritchie County
7.	7	Kasey Rogers	25-05.50	East Fairmont
8.	7	Reese Lambert	25-00.50	Taylor County
9.	8	Courtney Knight	25-00.50	South Harrison
10.	8	Hannah Amsler	24-08.50	South (Morgantown)
11.	7	Emma Casto	24-07.50	East Fairmont
12.	7	Lillian Boyles	24-06.00 PR	Tucker Valley
13.	7	Emily Smith	24-06.00	Tygarts Valley
14.	8	Madilynn Kyle	23-10.50	West Fairmont
15.	8	Eliana Winfrey	23-08.50	Tyler Consolidated
16.	8	Ada Workman	23-00.50 PR	South Harrison
17.	8	MaKenzie Bryant	22-08.00 PR	Washington Irving
18.	8	Eliana Price	22-07.00	West Fairmont
19.	8	Karley Knotts	22-06.50	Tucker Valley
20.	7	Nellann Pase	22-02.50	South Preston
21.	8	Alyssa Swecker	22-00.50	Tygarts Valley

22.	8	Maddy Haddix	21-11.00 PR	Taylor County
23.	6	Katie Samples	21-09.50	Buckhannon- Upshur
24.	7	Chloe Bramos	21-03.50 PR	Ritchie County
25.	8	Demi Billotti	20-11.00	South (Morgantown)
26.	8	Madison Sypolt	20-10.00	East Preston
27.	-	Adaleia Wolfe	20-09.00 PR	Bridgeport
28.	8	Tacy Pollock	20-04.50	Buckhannon- Upshur
29.	7	Ryleigh Freshour	20-03.00	South (Morgantown)
30.	8	Alexa Riffle	20-01.00	Washington Irving
31.	8	Zola Bailey	19-03.50	West Fairmont
32.	6	Halee Rowe	19-01.00 PR	South Harrison
33.	-	London Davis	18-11.50	Bridgeport
34.	8	Kate Gaines	18-10.50	Westwood
35.	7	Lilly Anger	18-09.00	Elkins
36.	6	Becky Jackson	Pepper- 18-06.50	Bridgeport
37.	7	Breonna Plumley	18-05.00 PR	Elkins
38.	6	Isabella Bowers	18-02.00	Buckhannon- Upshur
39.	8	Madison Alt	17-05.50	Keyser
40.	6	Madalyn Snyder	16-03.50 PR	East Fairmont
41.	7	Emma Russell	15-10.00	Westwood
42.	6	Chloe Lee	13-04.00	Westwood
43.	6	Daelyn Leach	12-10.00 PR	Tygarts Valley
44.	7	Sophia Ratnaker	12-10.00	Elkins
45.	8	Ryder Thompson	12-03.50	Tucker Valley

**Licensed to Doddridge County Middle School****HY-TEK's Meet Manager 4/23/2022 10:06 PM****Ritchie Middle Pizza Box Invitational - 4/23/2022****Chuck Schofield Memorial****Results****Girls 100 Meter Dash**

	<b>Name</b>	<b>Year</b>	<b>School</b>	<b>Finals</b>	<b>H#</b>	<b>Points</b>
1	Lipscomb, Jaycee	08	Doddridge	13.60	5	10
2	Courtney, Savannah	-	Bms Red	13.80	5	8
3	Angiulli, Julia	7	Mountaineer(H)	13.84	5	6
4	Ashcraft, Eryn	7	Mountaineer(H)	13.85	4	4
5	Lathon, Brea	8	Mountaineer(H)	13.86	4	2
6	Stitt, Kadessa	-	Mini Titans	14.15	5	1
7	Sass, Liza	6	Wash. Irving	14.32	5	-
8	Riley, Emery	-	Lincoln	14.47	5	-
9	Harnett, Madison	8	Wash. Irving	14.52	5	-
10	Kniceley-See, Emma	-	Bms Red	14.70	4	-
11	Sharpe, Emma	7	South Harrison	14.87	1	-
12	McKinney, Jalin	-	Bms Red	15.04	4	-
13	Poyser, JaeCea	-	Pcms	15.04	3	-
14	Winfrey, Eliana	-	Tyler	15.14	4	-



15	Rodeheaver, Audrey	-	Lincoln	15.19	3	-
16	Gilfillan, Lana	-	Pcms	15.32	3	-
17	Lewis, Kami	8	Wash. Irving	15.38	4	-
18	Blackhurst, Jayla	-	TCMS	15.44	3	-
19	McGuffey, Rielee	-	TCMS	15.58	3	-
20	Misel, Maura	-	Wildcats	15.67	1	-
21	Ratliff, Brooklyn	-	Mini Titans	15.85	2	-
22	Clemm, Liya	-	TCMS	15.90	3	-
23	Householder, Katie	-	PCMS	15.94	3	-
24	Kirk, Hannah	-	Tyler	16.19	2	-
25	Gerlach, Sidni	-	Pcms	16.64	4	-
26	Hagedorn, Nylah	06	Doddridge	17.50	2	-
27	Bishop, Sienna	-	Ritchie	18.15	1	-
28	Workman, Ada	8	South Harrison	18.22	1	-
29	Richeson, Madison	-	Tyler	18.51	1	-
30	Krolick, Taylor	-	Ritchie	18.58	2	-
31	Cayton, Cynthia	6	South Harrison	18.69	1	-
32	Nelson, Emma	-	PCMS	18.79	2	-
33	Kumpyte, Elze	-	Mini Titans	19.81	2	-
34	Hardman, Katelyn	-	Ritchie	21.72	1	-

**Girls 200 Meter Dash**

	<b>Name</b>	<b>Year</b>	<b>School</b>	<b>Finals</b>	<b>H#</b>	<b>Points</b>
1	Lipscomb, Jaycee	08	Doddridge	28.42	5	10
2	Angiulli, Julia	7	Mountaineer(H)	29.04	5	8
3	Stitt, Kadessa	-	Mini Titans	29.27	5	6
4	Ashcraft, Eryn	7	Mountaineer(H)	29.38	5	4
5	Perine, Eliza	-	Bms Red	29.50	5	2
6	Trent, Payton	08	Doddridge	29.63	5	1
7	Burdette, Destiny	-	Lincoln	30.55	4	-
8	Harnett, Madison	8	Wash. Irving	30.96	3	-
9	McCall, Ellie	-	Bms Red	31.37	4	-
10	Riley, Addison	-	Lincoln	31.80	4	-
11	Sass, Liza	6	Wash. Irving	32.28	4	-
12	Runner, Alizae	-	TCMS	32.52	3	-
13	Fiber, Andi	-	Tyler	33.31	3	-
14	Linville, Bentli	-	Ritchie	33.36	4	-
15	Nolan, Kyra	-	Tyler	33.45	4	-
16	Freeman, Payge	-	Lincoln	33.92	4	-
17	Misel, Maura	-	Wildcats	33.94	1	-
18	Parsons, Autumn	-	Ritchie	34.00	3	-
19	Hess, Hope	8	Mountaineer(H)	34.19	3	-
20	Cecil, Autumn	-	Pcms	34.97	2	-
21	Davis, Brooklyn	-	Pcms	35.18	3	-
22	Clutter, Alyssa	7	South Harrison	35.32	2	-

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23	Radabaugh, Irelyn	6	South Harrison	35.70	1	-
24	Kimball, Olivia	-	Pcms	35.75	3	-
25	Guthrie, Markiah	-	TCMS	36.78	1	-
26	Bailey, Hailey	-	TCMS	36.99	2	-
27	Erlandson, Madelyn	-	Wildcats	37.06	1	-
28	Smith, Kendall	-	Ritchie	37.38	2	-
29	Fincham, Maddie	7	South Harrison	38.23	2	-
30	Yeager, Addison	-	Nms Girls	38.39	1	-
31	Baker, Braylin	-	Nms Girls	40.28	1	-
32	Nelson, Emma	-	PCMS	41.25	2	-
33	Kumptye, Elze	-	Mini Titans	42.78	1	-

### Girls 400 Meter Dash

	Name	Year	School	Finals H#	Points
1	Trent, Payton	08	Doddridge	1:03.83 5	10
2	Lathon, Brea	8	Mountaineer(H)	1:06.60 5	8
3	Day, Maria	-	Bms Red	1:08.36 5	6
4	Angelos, Calli	-	Wildcats	1:09.46 1	4
5	Bennett, Avry	-	Pcms	1:09.95 5	2
6	Fiber, Andi	-	Tyler	1:10.50 5	1
7	Wilson, Allie	-	Bms Red	1:10.68 5	-
8	Kniceley-See, Emma	-	Bms Red	1:11.70 4	-
9	Householder, Katie	-	PCMS	1:12.05 4	-
10	Snyder, Bella	06	Doddridge	1:13.26 4	-
11	Smith, Callie	-	Ritchie	1:13.37 4	-

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12 Sturgeon, Reagan	-	Pcms	1:14.78	3	-
13 Duncan, Jadyn	-	PCMS	1:14.86	4	-
14 Cartwright, Natalee	-	TCMS	1:14.96	4	-
15 Williams, Bentlee	-	Ritchie	1:16.15	4	-
16 Weaver, Bailey	-	TCMS	1:16.96	2	-
17 Perkins, Amber	-	Wildcats	1:18.52	2	-
18 Weekley, Taya	-	Tyler	1:19.24	3	-
19 Erlandson, Madelyn	-	Wildcats	1:19.43	1	-
20 Clutter, Alyssa	7	South Harrison	1:20.45	5	-
21 Brown, Lauren	7	South Harrison	1:20.95	3	-
22 Pumphrey, Kyley	7	Mountaineer(H)	1:21.42	2	-
23 Long, Jazzmyne	-	Lincoln	1:21.80	2	-
24 Bailey, Hailey	-	TCMS	1:22.03	2	-
25 Gentilozzi, Estelle	7	Wash. Irving	1:23.72	1	-
26 Counts, Lilliana	-	Lincoln	1:23.93	2	-
27 Van Pelt, Payton	-	Lincoln	1:24.51	3	-
28 Doak, Olivia	-	Ritchie	1:24.60	3	-
29 Cain, Rayonna	7	Mountaineer(H)	1:24.93	3	-
30 Frase, Mercy	7	South Harrison	1:25.24	3	-
31 Catena, Justyna	6	Wash. Irving	1:27.75	1	-
32 Zorick, Leah	6	Wash. Irving	1:53.96	2	-

## Girls 800 Meter Run

Name	Year	School	Finals Points
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1	Bennett, Anna	-	Pcms	2:40.18	10
2	Angelos, Calli	-	Wildcats	2:46.46	8
3	Sias, Marley	07	Doddridge	2:50.24	6
4	Lathon, Brea	8	Mountaineer(H)	2:54.30	4
5	Henderson, Haydn	-	Bms Red	2:55.22	2
6	Austin, Sophia	-	TCMS	2:56.67	1
7	Cartwright, Natalee	-	TCMS	2:57.13	-
8	Key, Kaitlyn	8	Mountaineer(H)	2:58.96	-
9	Williams, Bentlee	-	Ritchie	3:01.18	-
10	Duncan, Jadyn	-	PCMS	3:01.23	-
11	White, McKenzie	-	Lincoln	3:02.44	-
12	Glass, Abigail	-	Lincoln	3:02.65	-
13	Moore, Adreona	7	Wash. Irving	3:05.46	-
14	Stewart, Madison	-	Bms Red	3:06.41	-
15	Haught, Lily	-	Tyler	3:10.44	-
16	Fetty, Mya	-	Tyler	3:15.74	-
17	Weaver, Bailey	-	TCMS	3:18.96	-
18	Brown, Lauren	7	South Harrison	3:19.70	-
19	Tomes, Payton	-	Bms Red	3:20.31	-
20	Davis, Lariah	6	South Harrison	3:22.02	-
21	Moore, Charlotte	-	Nms Girls	3:25.22	-
22	Balcerek, Sydney	-	Nms Girls	3:26.27	-
23	Landis, Lindy	-	Tyler	3:32.83	-
24	Jeffers, Makinsey	-	Pcms	3:37.05	-

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25 Gooden, Kiersten	-	Lincoln	3:37.70	-
26 Krolick, Taylor	-	Ritchie	3:51.70	-
27 Handley, Elliot	-	Wildcats	3:53.51	-

### Girls 1600 Meter Run

	Name	Year	School	Finals	Points
1	Bennett, Anna	-	Pcms	5:41.91	10
2	Glass, Abigail	-	Lincoln	6:21.00	8
3	Martin, MaKenna	-	Tyler	6:24.48	6
4	Cochran, Raley	-	Lincoln	6:27.75	4
5	Key, Kaitlyn	8	Mountaineer(H)	6:28.33	2
6	Austin, Sophia	-	TCMS	6:34.57	1
7	Williams, Bentlee	-	Ritchie	6:40.36	-
8	Henderson, Haydn	-	Bms Red	6:44.29	-
9	Moore, Adreona	7	Wash. Irving	6:52.51	-
10	Duncan, Jadyn	-	PCMS	6:53.51	-
11	Stewart, Madison	-	Bms Red	6:58.03	-
12	Shuman, Annika	8	Mountaineer(H)	7:03.74	-
13	Perkins, Amber	-	Wildcats	7:07.80	-
14	Bartlett, Payton	-	Ritchie	7:08.56	-
15	Cartwright, Natalee	-	TCMS	7:11.20	-
16	Balcerek, Sydney	-	Nms Girls	7:17.09	-
17	Jeffers, Makinsey	-	Pcms	8:02.78	-
18	Handley, Elliot	-	Wildcats	8:38.83	-

19	Catena, Justyna	6	Wash. Irving	8:44.48	-
20	Conley, Elizabeth	8	Wash. Irving	10:28.45	-

### Girls 3200 Meter Run

	Name	Year	School	Finals	Points
1	Key, Kaitlyn	8	Mountaineer(H)	13:39.82	10
2	Whitlock, Mariah	-	Pcms	13:45.65	8
3	Sias, Marley	07	Doddridge	13:52.38	6
4	Austin, Sophia	-	TCMS	14:01.91	4
5	Burd, Savana	-	Pcms	14:02.60	2
6	Shuman, Annika	8	Mountaineer(H)	14:13.47	1
7	Cochran, Raley	-	Lincoln	14:19.67	-
8	Ahmed, Emma	-	Bms Red	15:34.28	-
9	Bartlett, Payton	-	Ritchie	15:34.36	-
10	Guthrie, Katrina	-	Lincoln	15:49.02	-
11	Mace, Annelise	-	Bms Red	16:59.99	-
12	Janssen, Payton	-	Bms Red	18:01.02	-

### Girls 100 Meter Hurdles

	Name	Year	School	Finals	H#	Points
1	Hoard, Airiana	-	Mini Titans	18.15	5	10
2	Parrish, Kahlen	-	Mini Titans	18.76	5	8
3	Adams, Kimberly	08	Doddridge	18.88	5	6

4	Vandergrift, Carly	-	TCMS	19.04	5	4
5	Dillaman, Lily	-	Tyler	19.56	4	2
6	White, Alivia	-	Lincoln	19.62	4	1
7	Blosser, Addison	-	Tyler	19.65	5	-
8	Haddix, Maddy	-	TCMS	19.68	4	-
9	McGill, Ava	-	Lincoln	20.24	3	-
10	Heintzman, Ralynn	-	Tyler	20.43	5	-
11	Beaver, Emma	08	Doddridge	20.52	5	-
12	Small, Kamryn	-	Bms Red	20.69	3	-
13	Hollar, Emily	6	Mountaineer(H)	20.98	3	-
14	Singer, Kalie	08	Doddridge	21.09	4	-
15	Bell, Olivia	-	Bms Red	21.44	4	-
16	Christian, Audrina	6	South Harrison	21.45	3	-
17	Caplan, Lyhla	-	Bms Red	21.50	4	-
18	Purnell, Hayley	8	Wash. Irving	21.88	2	-
19	Crabtree, Kara	7	Mountaineer(H)	22.14	3	-
20	Pumphrey, Kyley	7	Mountaineer(H)	22.17	3	-
21	Lynch, Maddie	-	TCMS	22.45	4	-
22	Huffman, Andrea	-	Ritchie	22.84	3	-
23	Radabaugh, Irelyn	6	South Harrison	23.68	2	-
24	Freed, Colleen	-	Ritchie	24.22	1	-
25	Brackman, Emily	7	Wash. Irving	24.39	2	-
26	Freeman, Izabella	-	Lincoln	24.93	2	-
27	Rowe, Halee	6	South Harrison	25.90	2	-



28 Hatcher, Lily	-	PCMS	26.19	1	-
29 Davis, Lexie	8	Wash. Irving	26.35	1	-

**Girls 200 Meter Hurdles**

	Name	Year	School	Finals	H#	Points
1	Hoard, Airiana	-	Mini Titans	31.62	4	10
2	Adams, Kimberly	08	Doddridge	33.28	4	8
3	Lattea, Carley	-	Bms Red	33.33	4	6
4	Burdette, Destiny	-	Lincoln	34.81	3	4
5	Sharpe, Emma	7	South Harrison	34.95	4	2
6	Kelley, Lyla	-	Bms Red	35.16	4	1
7	Haddix, Maddy	-	TCMS	36.22	3	-
8	Vandergrift, Carly	-	TCMS	36.53	4	-
9	Beaver, Emma	08	Doddridge	37.08	4	-
10	Hess, Hope	8	Mountaineer(H)	37.26	3	-
11	Hardy, Isabella	-	Bms Red	37.48	3	-
12	Sturgeon, Reagan	-	Pcms	37.97	2	-
13	Hollar, Emily	6	Mountaineer(H)	38.01	3	-
14	Carroll, Katelyn	-	Ritchie	38.23	3	-
15	Donaldson, Taylor	-	Tyler	38.37	3	-
16	Cecil, Autumn	-	Pcms	39.57	2	-
17	Rhodes, Faith	-	Ritchie	39.80	2	-
18	Householder, Katie	-	PCMS	41.47	2	-
19	Brackman, Emily	7	Wash. Irving	43.29	1	-
20	Cottrill, Brooklynn	7	Mountaineer(H)	44.83	1	-

21	Hatcher, Lily	-	PCMS	47.10	1	-
22	Freeman, Izabella	-	Lincoln	47.15	2	-
23	Hayes, Skylar	-	Lincoln	47.47	2	-
--	Underwood, Kasey	07	Doddridge	DQ	2	-

### Girls 4x100 Meter Relay

#### Girls 4x100 Meter Relay - Complete Results

	School		Finals H#	Points	Team Members
1	Doddridge County Middle School 'A'	54.91	2	10	1) Lipscomb, Jaycee 08 2) Adams, Kimberly 08 3) Trent, Payton 08 4) Rymer, Hannah 07
2	Bridgeport Middle School Red 'A'	55.37	2	8	1) Day, Maria 2) Perine, Eliza 3) Courtney, Savannah 4) McCall, Ellie
3	Washington Irving Middle 'A'	58.87	2	6	1) Lewis, Kami 8 2) Sass, Liza 6 3) Purnell, Hayley 8 4) Harnett, Madison 8
4	Tyler Consolidated MS 'A'	59.23	2	4	1) Dillaman, Lily 2) Winfrey, Eliana 3) Blosser, Addison 4) Martin, MaKenna
5	Lincoln Middle School 'A'	1:00.27	2	2	1) Riley, Emery 2) Rodeheaver, Audrey 3) Riley, Addison 4) White, Alivia
6	Taylor County Middle School 'A'	1:01.84	2	1	1) Runner, Alizae 2) Clemm, Liya 3) McGuffey, Rielee 4) Blackhurst, Jayla
7	New Martinsville School Girls 'A'	1:02.01	2	-	1) Hartline, Leah 2) Barcus, Halle 3) Moore,

					Charlotte 4) Campbell, Bindy
8	Ritchie County Middle School 'A'	1:05.05	1	-	1) Smith, Callie 2) Bennett, Katelyn 3) Freed, Colleen 4) Linville, Bentli
9	Pleasants County Middle School 'A'	1:05.26	1	-	1) Gerlach, Sidni 2) Gilfillan, Lana 3) Renner, Rylee 4) Poyser, JaeCea
10	South Harrison Middle School 'A'	1:06.91	1	-	1) Fincham, Maddie 7 2) Scheuvront, Crystal 7 3) Rowe, Halee 6 4) Workman, Ada 8
11	Gilmer County Mini Titans 'A'	1:07.07	1	-	1) Woodford, Bristol 2) Kumpyte, Elze 3) Woodford, Reese 4) Ward, Mackenzie
12	Mountaineer Middle Harrison 'A'	1:11.46	1	-	1) Mcelwee, Tabitha 6 2) Wolford, Shylynn 7 3) Leon, Taylor 8 4) Scardina, Alexis 7

**Girls 4x200 Meter Relay**

	<b>School</b>		<b>Finals H#</b>	<b>Points</b>	<b>Team Members</b>
1	Bridgeport Middle School 'A'	1:57.84	2	10	1) Perine, Eliza 2) Courtney, Savannah 3) Day, Maria 4) McCall, Ellie
2	Lincoln Middle School 'A'	2:03.37	2	8	1) Riley, Emery 2) Riley, Addison 3) Burdette, Destiny 4) White, McKenzie
3	Doddridge County Middle School 'A'	2:05.46	2	6	1) Snyder, Bella 06 2) McLane, Paytin 06 3) Wiseman, Rachel 07 4) Rymer, Hannah 07
4	Gilmer County Mini Titans 'A'	2:10.43	1	4	1) Woodford, Bristol 2) Ratliff, Brooklyn 3) Woodford, Reese 4) Parrish, Kahlen
5	Tyler Consolidated MS 'A'	2:11.00	2	2	1) Nolan, Kyra 2) Weekley, Taya 3) Donaldson, Taylor 4) Winfrey, Eliana
6	New Martinsville School Girls 'A'	2:11.92	2	1	1) Hartline, Leah 2) Barcus, Halle 3) Moore, Charlotte 4) Campbell, Bindy
7	Taylor County Middle School 'A'	2:12.94	1	-	1) Runner, Alizae 2) Clemm, Liya 3) Lynch, Maddie 4) Blackhurst, Jayla
8	Ritchie County Middle School 'A'	2:14.12	2	-	1) Smith, Callie 2) Freed, Colleen 3) Bennett, Katelyn 4) Carroll, Katelyn
9	Washington Irving Middle 'A'	2:15.48	1	-	1) Gentilozzi, Estelle 7 2) Martin, Brookelyn 8 3)

					Jordan, Kalei 8 4) Henley, Makila 6
10	Pleasants County Middle School 'A'	2:19.11	2	-	1) Kimball, Olivia 2) Davis, Brooklyn 3) Renner, Rylee 4) Allen, Bella
11	South Harrison Middle School 'A'	2:24.79	1	-	1) Christian, Audrina 6 2) Davis, Lariah 6 3) Fincham, Maddie 7 4) Scheuvront, Crystal 7
12	Mountaineer Middle Harrison 'A'	2:26.35	1	-	1) Mcelwee, Tabitha 6 2) Scardina, Alexis 7 3) Crabtree, Kara 7 4) Leon, Taylor 8

### Girls 4x400 Meter Relay

	School	Finals H#	Points	Team Members
1	Bridgeport Middle School Red 'A'	5:10.68 2	10	1) Small, Kamryn 2) Ahmed, Emma 3) Kniceley-See, Emma 4) Wilson, Allie
2	Doddridge County Middle School 'A'	5:14.32 2	8	1) Underwood, Jeonah 08 2) Snyder, Bella 06 3) Mclane, Paytin 06 4) Wiseman, Rachel 07
3	Lincoln Middle School 'A'	5:24.56 2	6	1) Milnes, Gabrielle 2) McGill, Ava 3) Yoho, Miley 4) Long, Zoey
4	Pleasants County Middle School 'A'	5:31.21 2	4	1) Bennett, Avry 2) Gerlach, Sidni 3) Davis, Brooklyn 4) Renner, Rylee
5	Gilmer County Mini Titans 'A'	5:37.30 2	2	1) Woodford, Bristol 2) Ratliff, Brooklyn 3) Woodford, Reese 4) Ward, Mackenzie

South Harrison 6 Middle School 'A'	5:45.97 1	1	1) Brown, Lauren 7 2) Clutter, Alyssa 7 3) Davis, Lariah 6 4) Scheuvront, Crystal 7
New 7 Martinsville School Girls 'A'	5:48.85 2	-	1) Hartline, Leah 2) Barcus, Halle 3) Balcerek, Sydney 4) Campbell, Bindy
Ritchie County 8 Middle School 'A'	6:05.89 1	-	1) Bennett, Katelyn 2) Metheney, Jennalee 3) McDonald, Sophie 4) Smith, Kendall
Mountaineer 9 Middle Harrison 'A'	6:20.49 2	-	1) Cottrill, Brooklynn 7 2) Cain, Rayonna 7 3) Mutschelknaus, Scarlett 7 4) Scardina, Alexis 7

### Girls 4x800 Meter Relay

School	Finals	Points	Team Members
1 Pleasants County Middle School 'A'	11:22.84	10	1) Bennett, Anna 2) Burd, Savana 3) Whitlock, Mariah 4) Bennett, Avry
2 Bridgeport Middle School Red 'A'	12:04.10	8	1) Stewart, Madison 2) Lattea, Carley 3) Henderson, Haydn 4) Tomes, Payton
3 Doddridge County Middle School 'A'	12:18.69	6	1) Singer, Kalie 08 2) Underwood, Kasey 07 3) Underwood, Jeonah 08 4) Sias, Marley 07
4 Lincoln Middle School 'A'	12:40.82	4	1) Guthrie, Katrina 2) Cochran, Raley 3) Willey, Jenna 4) Glass, Abigail

5	Tyler Consolidated MS 'A'	13:08.22	2	1) Haught, Lily 2) Fetty, Mya 3) Landis, Lindy 4) Fiber, Andi
6	Ritchie County Middle School 'A'	14:20.65	1	1) Bartlett, Payton 2) Bishop, Sienna 3) McDonald, Sophie 4) Parsons, Autumn
7	Mountaineer Middle Harrison 'A'	14:41.88	-	1) Leon, Taylor 8 2) Cain, Rayonna 7 3) Mutschelknaus, Scarlett 7 4) Posey, Maggie 7
8	Washington Irving Middle 'A'	15:50.80	-	1) Moore, Adreona 7 2) Conley, Elizabeth 8 3) Catena, Justyna 6 4) Zorick, Leah 6

### Girls 4x100 Meter Shuttle Hurdle

	School	Finals	H#	Points	Team Members
1	Taylor County Middle School 'A'	46.12	3	10	1) Vandergrift, Carly 2) McGuffey, Rielee 3) Lynch, Maddie 4) Haddix, Maddy
2	Doddridge County Middle School 'A'	46.13	3	8	1) Singer, Kalie 08 2) Cheeseman, Aleigh 07 3) Beaver, Emma 08 4) Rymer, Hannah 07
3	Gilmer County Mini Titans 'A'	46.63	3	6	1) Parrish, Kahlen 2) Ward, Mackenzie 3) Stitt, Kadessa 4) Hoard, Airiana
4	Tyler Consolidated MS 'A'	46.97	2	4	1) Blosser, Addison 2) Donaldson, Taylor 3) Heintzman, Ralynn 4) Dillaman, Lily
5	Bridgeport Middle School Red 'A'	47.80	2	2	1) Edgell, Scarlett 2) Hardy, Isabella 3) Linville, Graylee 4) Lattea, Carley

6	Lincoln Middle School 'A'	49.13	1	1	1) McGill, Ava 2) White, Alivia 3) Templeton, Olivia 4) Rodeheaver, Audrey
7	Mountaineer Middle Harrison 'A'	49.82	2	-	1) Crabtree, Kara 7 2) Hess, Hope 8 3) Hollar, Emily 6 4) Pumphrey, Kyley 7
8	Washington Irving Middle 'A'	51.20	1	-	1) Purnell, Hayley 8 2) Brackman, Emily 7 3) Gentilozzi, Estelle 7 4) Jordan, Kalei 8
9	Ritchie County Middle School 'A'	51.80	1	-	1) Carroll, Katelyn 2) Huffman, Andrea 3) Rhodes, Faith 4) Linville, Bentli

### Girls High Jump

	Name	Year	School	Finals Points
1	Adams, Kimberly	08	Doddridge	4-08.00 10
2	Lattea, Carley	-	Bms Red	4-08.00 8
3	Stitt, Kadessa	-	Mini Titans	4-08.00 6
4	Angiulli, Julia	7	Mountaineer(H)	4-06.00 4
5	Hartline, Leah	-	Nms Girls	4-06.00 2
6	Wilson, Allie	-	Bms Red	4-04.00 1
7	Dillaman, Lily	-	Tyler	4-04.00 -
8	Parsons, Autumn	-	Ritchie	4-04.00 -
9	Rodeheaver, Audrey	-	Lincoln	4-02.00 -
9	Milnes, Gabrielle	-	Lincoln	4-02.00 -



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11 Lathon, Brea	8	Mountaineer(H)	4-02.00	-
12 Lynch, Maddie	-	TCMS	4-00.00	-
12 White, McKenzie	-	Lincoln	4-00.00	-
12 Heintzman, Ralynn	-	Tyler	4-00.00	-
15 Allen, Bella	-	Pcms	4-00.00	-
16 Wood, Jacie	-	Bms Red	4-00.00	-
16 Rowe, Halee	6	South Harrison	4-00.00	-
16 Cheeseman, Aleigh	07	Doddridge	4-00.00	-
-- Landis, Lindy	-	Tyler	NH	-
-- Doak, Olivia	-	Ritchie	NH	-
-- Christian, Audrina	6	South Harrison	NH	-
-- Gentilozzi, Estelle	7	Wash. Irving	NH	-
-- Ward, Mackenzie	-	Mini Titans	NH	-
-- Barcus, Halle	-	Nms Girls	NH	-

## Girls Pole Vault

	Name	Year	School	Finals	Points
1	Lipscomb, Jaycee	08	Doddridge	7-00.00	10
2	Sass, Liza	6	Wash. Irving	6-06.00	8
3	Cheeseman, Aleigh	07	Doddridge	6-06.00	6
4	Beaver, Emma	08	Doddridge	6-00.00	4
5	Williams, Bentlee	-	Ritchie	5-06.00	2
--	Brackman, Emily	7	Wash. Irving	NH	-

**Girls Long Jump**

	<b>Name</b>	<b>Year</b>	<b>School</b>	<b>Finals</b>	<b>Points</b>
1	Hoard, Airiana	-	Mini Titans	16-05.75	10
2	Campbell, Bindy	-	Nms Girls	15-00.75	8
3	Trent, Payton	08	Doddridge	14-08.00	6
4	Day, Maria	-	Bms Red	14-07.00	4
5	Ashcraft, Eryn	7	Mountaineer(H)	14-04.75	2
6	Angiulli, Julia	7	Mountaineer(H)	14-03.25	1
7	Blosser, Addison	-	Tyler	14-03.25	-
8	Edgell, Scarlett	-	Bms Red	14-00.00	-
9	Parrish, Kahlen	-	Mini Titans	13-05.00	-
10	McGuffey, Rielee	-	TCMS	13-04.00	-
11	Sharpe, Emma	7	South Harrison	13-04.00	-
12	Martin, MaKenna	-	Tyler	13-00.75	-
13	Riley, Emery	-	Lincoln	12-11.75	-
14	Smith, Callie	-	Ritchie	12-06.50	-
15	McCall, Ellie	-	Bms Red	12-06.25	-
16	Weaver, Bailey	-	TCMS	12-05.25	-
17	Burdette, Destiny	-	Lincoln	12-04.25	-
18	Linville, Bentli	-	Ritchie	11-11.00	-
19	Clemm, Liya	-	TCMS	11-02.50	-
20	Jordan, Kalei	8	Wash. Irving	11-02.25	-
21	White, Alivia	-	Lincoln	10-09.75	-
22	Davis, Lexie	8	Wash. Irving	9-06.75	-

23 Parsons, Autumn - Ritchie 9-01.00 -

### Girls Shot Put

	Name	Year	School	Finals	Points
1	Johnston, Savannah	07	Doddridge	34-05.50	10
2	Gauldin, Phoenix	-	Lincoln	32-03.50	8
3	Burnside, Brooke	08	Doddridge	32-00.50	6
4	Rymer, Hannah	07	Doddridge	31-00.00	4
5	Nolan, Kyra	-	Tyler	30-02.50	2
6	Stewert, Sabena	-	Wildcats	29-08.50	1
7	Brown, Mattie	-	Ritchie	29-04.00	-
8	McCullough, Isabella	-	Bms Red	27-09.00	-
9	Morris, Morgan	-	Ritchie	27-04.50	-
10	Marsh, Kennedy	-	Bms Red	27-00.50	-
11	Winfrey, Eliana	-	Tyler	26-09.00	-
12	Huffman, Paige	-	Mini Titans	23-09.50	-
13	Workman, Ada	8	South Harrison	23-06.00	-
14	Guthrie, Markiah	-	TCMS	23-03.00	-
15	Baker, Braylin	-	Nms Girls	22-11.00	-
15	Martin, Brookelyn	8	Wash. Irving	22-11.00	-
17	Poyser, JaeCea	-	Pcms	22-09.00	-
18	Davis, London	-	Bms Red	22-04.50	-
19	Wolford, Shylynn	7	Mountaineer(H)	22-02.00	-

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20 Riffle, Alexa	8	Wash. Irving	21-10.00	-
21 Roy, Aubrey	-	TCMS	21-03.50	-
22 Freeman, Darby	-	Lincoln	21-03.00	-
23 McPherson, Chelsea	7	Mountaineer(H)	20-06.50	-
24 Yeager, Addison	-	Nms Girls	20-04.50	-
25 Rupert, Riley	-	Pcms	20-04.00	-
26 Hartline, Jana	-	Nms Girls	20-01.00	-
27 Posey, Maggie	7	Mountaineer(H)	19-04.50	-
28 Bunner, Hope	-	Pcms	17-01.00	-
29 Owens, Abi	-	Lincoln	16-11.50	-
30 Peters, Ashley	-	Mini Titans	14-05.00	-
-- Haddix, Maddy	-	TCMS	FOUL	-

### Girls Discus Throw

	Name	Year	School	Finals	Points
1	Burnside, Brooke	08	Doddridge	88-00	10
2	Underwood, Jeonah	08	Doddridge	86-10	8
3	Gauldin, Phoenix	-	Lincoln	79-11	6
4	Stewert, Sabena	-	Wildcats	71-02	4
5	Morris, Morgan	-	Ritchie	67-08	2
6	Dodrill, Aaliyah	-	Lincoln	63-00	1
7	Johnston, Savannah	07	Doddridge	62-08	-
8	Frase, Mercy	7	South Harrison	61-00	-
9	McCullough, Isabella	-	Bms Red	60-06	-

10 WOLFORD, Shylynn	7	Mountaineer(H)	53-08	-
11 Marsh, Kennedy	-	Bms Red	52-11	-
12 Huffman, Paige	-	Mini Titans	50-06	-
13 Baker, Braylin	-	Nms Girls	50-05	-
14 McPherson, Chelsea	7	Mountaineer(H)	42-01	-
15 Pepper-Jackson, Becky	-	Bms Red	41-08	-
16 Rupert, Riley	-	Pcms	41-03	-
17 Greynolds, Emma	-	Lincoln	41-02	-
18 Guthrie, Markiah	-	TCMS	40-11	-
19 Wood, Aubrey	-	Mountaineer(H)	40-10	-
20 Tennant, Abbigail	-	Nms Girls	39-11	-
21 Peters, Ashley	-	Mini Titans	37-03	-
22 Tharp, Billie	-	Nms Girls	36-11	-
23 Roy, Aubrey	-	TCMS	35-11	-
24 Holmes, Olivia	-	Pcms	35-09	-
25 Mayle, Adalyn	-	Pcms	32-00	-
-- Hatcher, Lily	-	PCMS	FOUL	-
-- Riffle, Alexa	8	Wash. Irving	FOUL	-
-- Kirk, Hannah	-	Tyler	FOUL	-
-- Richeson, Madison	-	Tyler	FOUL	-
-- Martin, Brookelyn	8	Wash. Irving	FOUL	-
-- Brown, Mattie	-	Ritchie	FOUL	-

**Women – Team Rankings – 18 Events Scored**

<b>Place</b>	<b>Team</b>	<b>Points</b>
1	Doddridge County Middle Sc	169
2	Bridgeport Middle School	76
3	Gilmer County Mini Titans	63
4	Mountaineer Middle Harris	56
5	Lincoln Middle School	53
6	Pleasants County Middle S	46
7	Tyler Consolidated MS	23
8	Taylor County Middle Scho	21
9	Wood County Christian Scho	17
10	Washington Irving Middle	14
11	New Martinsville School Gi	11
12	Ritchie County Middle Sch	5
13	South Harrison Middle Scho	3

**Men – Team Rankings – 18 Events Scored**

<b>Place</b>	<b>Team</b>	<b>Points</b>
1	Doddridge County Middle Sc	116
2	Mountaineer Middle Harris	100.50
3	Ritchie County Middle Scho	76
4	Bridgeport Middle School	64.50

4301

5	Taylor County Middle Schoo	64
6	Lincoln Middle School	49
7	South Harrison Middle Scho	30
8	Tyler Consolidated MS	24
9	Washington Irving Middle	11
10	New Martinsville School G	10
11	Wood County Christian Scho	9
12	Pleasants County Middle S	3



Harry Green Middle School Invitational MS

OFFICIAL May 14, 2022 Bridgeport HS

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## Womens Middle School Discus

### Finals – 1kg

1.	8	Brooke Burnside	98-04 PR	Doddridge County
2.	8	Jeonah Underwood	84-09 PR	Doddridge County
3.	-	Cassandra Weikle	83-02 PR	Point Pleasant
4.	8	Grace Yeager	82-01 PR	Winfield
5.	8	Phoenix Gauldin	76-10	Lincoln
6.	6	Aliyah Bonnell	74-08 PR	Doddridge County
7.	7	Jenna Geter	74-02 PR	Hurricane
8.	7	Rylee Gurnee	73-05 PR	Winfield
9.	7	Mila Herscher	73-04 PR	Winfield
10.	-	Shelby Plants	73-01	Point Pleasant
11.	7	Reese Lambert	72-01 PR	Taylor County
12.	6	Kaylee Robinson	70-11	Charles Town
13.	-	Isabella McCullough	68-01 PR	Bridgeport
14.	-	Vivian Hoang	67-09 PR	Hurricane
15.	8	Trinity Perkins	67-01 PR	Eastern Greenbrier
16.	7	Raqi Thomas	66-02 PR	Suncrest
17.	7	LaKrista Buckingham	64-04	West Preston



18.	6	Katie Samples	62-03 PR	Bucichannon-Upshur
19.	7	Hydee Wykle	61-05	Eastern Greenbrier
20.	7	Piper Baldwin	59-07 PR	Eastern Greenbrier
21.	8	Aaliyah Dodrill	58-11	Lincoln
22.	8	Hannah Kirk	58-05 PR	Tyler Consolidated
23.	7	Shylynn Welford	57-09	Mountaineer (Clarksburg)
24.	7	Marlee Graciano	57-00 PR	Central Preston
25.	8	Lyanla Lawrence	56-05 PR	Charles Town
26.	8	Demi Billotti	56-02	South (Morgantown)
27.	8	Courtney Knight	55-08	South Harrison
28.	6	Gianna Petruzzello	54-06 PR	Wildwood
29.	8	Samantha Zizzi	52-09	South (Morgantown)
30.	6	Brynlie Austin	52-07	Shepherdstown
31.	7	Gabby Conrad	51-10 PR	Robert L. Bland
32.	7	Aylin Godfrey	50-06	Shepherdstown
33.	8	Alexa Riffle	50-03	Washington Irving
34.	8	Jocelyn Nolan	50-01	St. Francis Central Catholic
35.	6	Becky Pepper-Jackson	49-07 PR	Bridgeport
36.	7	Kayla DuVal	47-05	Wildwood
37.	7	Maggie Posey	46-02	Mountaineer (Clarksburg)
38.	7	Lorelei Namsupak	46-00	Suncrest
39.	7	Chelsea Mchperson	45-07	Mountaineer (Clarksburg)
40.	7	Jeimy Elizondo-Zavala	45-04	Wildwood
41.	-	Payge Freeman	43-11	Lincoln
42.	7	Christine Larsen	39-01	Charles Town

43.	8	Mckenna Tighe	37-11	Mountaineer (Morgantown)
44.	7	Baylee Yost	37-09	Suncrest
45.	8	Olivia Riley	37-04	South (Morgantown)
46.	-	Adaleia Wolfe	37-01	Bridgeport
47.	-	London Davis	36-11 PR	Bridgeport
48.	6	Madison Yoakum	36-00 PR	Tygarts Valley
49.	8	Tacy Pollock	35-08	Buckhannon- Upshur
50.	7	Aubrey Roy	35-00	Taylor County
51.	6	Daelyn Leach	33-07 PR	Tygarts Valley
52.	8	Madeline Martin	33-01 PR	Mountaineer (Morgantown)
53.	8	Paige Hetrick	31-01	Mountaineer (Morgantown)
	7	Summer Keener	DNS	West Preston
	8	Markiah Guthrie	FOUL	Taylor County
	8	Madison Sypolt	DNS	East Preston
	8	Karsyn Lewis	DNS	Point Pleasant
	8	Madison Alt	DNS	Keyser

## Womens Middle School Shot Put

### Finals – 6lb

1.	7	Jenna Geter	37-08.00 PR	Hurricane
2.	8	Phoenix Gauldin	34-04.00 PR	Lincoln
3.	7	Savannah Johnston	33-11.00 PR	Doddridge County
4.	8	Brooke Burnside	33-06.50 PR	Doddridge County
5.	7	Gabby Conrad	32-08.50 PR	Robert L. Bland
6.	7	Hannah Rymer	32-05.50 PR	Doddridge County
7.	-	Shelby Plants	32-03.00 PR	Point Pleasant
8.	7	Raqi Thomas	31-05.00 SR	Suncrest
9.	8	Grace Yeager	30-05.00 PR	Winfield
10.	8	Hannah Amsler	30-02.00 PR	South (Morgantown)
11.	-	Cassandra Weikle	30-00.50 PR	Point Pleasant
12.	6	Kaylee Robinson	29-09.00 PR	Charles Town
13.	8	Jocelyn Nolan	29-06.00 PR	St. Francis Central Catholic
14.	8	Kyra Nolan	29-01.50 PR	Tyler Consolidated
15.	8	Eliana Winfrey	28-11.00 PR	Tyler Consolidated
16.	8	Aubrey Skidmore	27-04.00	South (Morgantown)
17.	7	Emily Smith	27-03.00 PR	Tygarts Valley
18.	8	Sarah Diaz	27-02.00	Wildwood
19.	-	Isabella McCullough	27-00.00	Bridgeport

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20.	8	Alyssa Swecker	27-00.00 PR	Tygarts Valley
21.	7	Reese Lambert	26-10.50	Taylor County
22.	7	Rylee Gurnee	26-09.00 PR	Winfield
23.	8	Grace Wolfe	26-06.00 PR	Mountaineer (Morgantown)
24.	8	Lyanla Lawrence	25-05.50	Charles Town
25.	8	Dulce Guzman	25-02.50 PR	Mountaineer (Morgantown)
26.	8	Courtney Knight	25-00.50	South Harrison
27.	-	Brooke Kelley	25-00.50 PR	Hurricane
28.	6	Reagan Watkins	24-08.00 PR	South (Morgantown)
29.	8	Marldah Guthrie	24-01.00 PR	Taylor County
30.	-	Vivian Hoang	23-09.00 PR	Hurricane
31.	8	Harper Powell	23-08.50	Wildwood
32.	6	Isabella Bowers	23-06.00 PR	Buckhannon-Upshur
33.	8	Alexa Riffle	23-05.00	Washington Irving
34.	7	Shylynn Wolford	23-00.50	Mountaineer (Clarksburg)
35.	8	Ada Workman	22-10.50	South Harrison
36.	-	London Davis	22-07.50 PR	Bridgeport
37.	6	Katie Samples	22-06.50	Buckhannon-Upshur
38.	7	Hydee Wykle	22-06.00 PR	Eastern Greenbrier
39.	7	Aylin Godfrey	22-05.50	Shepherdstown
40.	7	Marlee Graciano	22-01.50	Central Preston
41.	8	Hannah Kirk	22-00.00 PR	Tyler Consolidated
42.	7	Piper Baldwin	21-10.00 PR	Eastern Greenbrier
43.	7	Abby Decker	21-06.50	Eastern Greenbrier
44.	7	LaKrista Buckingham	21-06.00	West Preston
45.	8	Brigid Wilson	20-11.50 SR	Suncrest
46.	7	Lilly Anger	20-09.00 PR	Elkins

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47.	8	Tacy Pollock	20-08.50	Burkhannon-Upshur
48.	7	Chelsea Mchperson	20-06.50	Mountaineer (Clarksburg)
49.	8	Mackenzie Willard	20-05.50 PR	Winfield
50.	6	Abi Owens	20-04.50 PR	Lincoln
51.	7	Lorelei Namsupak	20-02.50	Suncrest
52.	8	Paige Hetrick	19-11.00	Mountaineer (Morgantown)
53.	-	Adaleia Wolfe	19-08.00	Bridgeport
54.	7	Kayla DuVal	19-05.00	Wildwood
55.	7	Maggie Posey	19-02.00	Mountaineer (Clarksburg)
56.	-	Darby Freeman	18-11.00	Lincoln
57.	6	Becky Pepper-Jackson	18-10.00 PR	Bridgeport
58.	6	Brynlie Austin	18-08.00	Shepherdstown
59.	7	Aubrey Roy	18-00.50	Taylor County
60.	7	Sophia Ratnaker	16-09.50 PR	Elkins
61.	7	Emma Kinder	15-01.00	Charles Town
	7	Breonna Plumley	DNS	Elkins
	8	Karsyn Lewis	DNS	Point Pleasant
	7	Summer Keener	DNS	West Preston
	8	Madison Alt	DNS	Keyser
	8	Madison Sypolt	DNS	East Preston

**2022 Charles Pointe Invitational**  
**Bridgeport Recreation Complex - Bridgeport, WV**  
**August 27, 2022**  
**Results by The TSR Timing Group - TSRTiming.com**  
**All Results posted at TriStateRacer.com**

**Weather: 73° and Foggy**

**\*\*\*\*\* Middle School Girls Results \*\*\*\*\***

	TmPl	No.	Name	Gr	School	Time	Pace
1		8783	Julia Angiulli	8	Mountaineer MS (Harrison)	12:42.7	6:50
2	1	8673	Emily Cottrill	6	Doddridge County Middle	13:08.5	7:03
3	2	8710	Annabelle Skidmore	7	East Fairmont Middle	13:24.3	7:12
4	3	8707	Jenna Conaway	6	East Fairmont Middle	13:56.4	7:29
5	4	8711	Lily Stuck	6	East Fairmont Middle	14:11.9	7:37
6	5	8866	Addison Sole	7	Taylor County Middle	14:12.2	7:38
7		8882	Liza Saas	7	Washington-Irving Middle	14:15.9	7:40
8	6	8452	Haydn Henderson	7	Bridgeport Middle	14:22.7	7:43
9	7	8678	Marley Sias	8	Doddridge County Middle	14:29.4	7:47
10		8501	Kylie Cline	8	Covenant Christian School	14:35.1	7:50

	<b>TmPl</b>	<b>No.</b>	<b>Name</b>	<b>Gr</b>	<b>School</b>	<b>Time</b>	<b>Pace</b>
11	8	8712	Anna Wycoff	7	East Middle	Fairmont	14:39.1 7:52
12	9	8708	Linsey Kramer	8	East Middle	Fairmont	14:51.3 7:59
13		8784	Cadence Blake	7	Mountaineer (Harrison)	MS	14:59.5 8:03
14	10	8675	Paytin McLane	7	Doddridge Middle	County	15:12.2 8:10
15	11	8679	Kasey Underwood	8	Doddridge Middle	County	15:14.9 8:11
16	12	8706	Ryleigh Bills	8	East Middle	Fairmont	15:32.9 8:21
17		8881	Adreona Moore	8	Washington-Irving Middle		16:07.9 8:40
18	13	8494	Sophia Sandone	7	Clay-Battelle Middle		16:18.9 8:46
19	14	8413	Emma Ahmed	7	Bridgeport Middle		16:33.6 8:53
20	15	8868	Peyton Stevens	8	Taylor Middle	County	16:43.1 8:59
21	16	8490	Ali Hellyer	8	Clay-Battelle Middle		16:45.4 9:00
22	17	8453	Annelise Mace	8	Bridgeport Middle		16:45.7 9:00
23	18	8459	Brooklyn Richmond	6	Bridgeport Middle		16:47.9 9:01
24	19	8861	Ainsley Alexander	7	Taylor Middle	County	16:51.5 9:03
25	20	8460	Ava Sweeney	6	Bridgeport Middle		16:54.0 9:04

	<b>TmPl</b>	<b>No.</b>	<b>Name</b>	<b>Gr</b>	<b>School</b>	<b>Time</b>	<b>Pace</b>
26		8502	Hailey Paugh	6	Covenant Christian School	16:55.0	9:05
27	21	8454	Jordyn McIntyre	8	Bridgeport Middle	16:59.9	9:08
28	22	8489	Breanna Debolt	8	Clay-Battelle Middle	17:01.9	9:09
29		8786	Rayonna Cain	8	Mountaineer (Harrison) MS	17:24.2	9:21
30		8844	Kendra Thompson	8	Robert L Bland Middle	17:49.3	9:34
31		8500	Lexis Buck	6	Covenant Christian School	17:49.3	9:34
32		8842	Ciara Burrows	8	Robert L Bland Middle	18:01.7	9:41
33	23	8496	Emily Spears	7	Clay-Battelle Middle	18:08.8	9:45
34	24	8491	Mia Hellyer	6	Clay-Battelle Middle	18:09.3	9:45
35		8785	Isabella Cain	6	Mountaineer (Harrison) MS	18:13.9	9:47
36	25	8458	Skyla Reider	6	Bridgeport Middle	18:20.6	9:51
37		8880	Justyna Catena	7	Washington-Irving Middle	18:21.6	9:51
38		8461	Chloe Witt	6	Bridgeport Middle	18:27.1	9:54
39	26	8674	Hayden Heaster	6	Doddridge County Middle	18:35.0	9:59
40	27	8862	Addie Annon	6	Taylor County Middle	18:40.5	10:02



		<b>TmPl</b>	<b>No.</b>	<b>Name</b>	<b>Gr</b>	<b>School</b>	<b>Time</b>	<b>Pace</b>
41	28	8680		Amelia Weekley	6	Doddridge County Middle	18:55.0	10:09
42		8843		Hannah Grubb	8	Robert L Bland Middle	19:37.3	10:32
43	29	8677		Emerson Sias	6	Doddridge County Middle	20:02.8	10:46
44	30	8863		Lydia Conrad	6	Taylor County Middle	20:07.3	10:48
45	31	8493		Aliana Riley	8	Clay-Battelle Middle	20:48.5	11:10
46	32	8867		Suri Stemple	7	Taylor County Middle	21:05.4	11:19
47	33	8864		Jordan Cox	7	Taylor County Middle	21:08.8	11:21
48		8815		Lillie Nardella	7	Notre Dame Middle School	21:09.3	11:21
49		8865		Arabella Jones	7	Taylor County Middle	21:12.3	11:23
50		8814		Claire McElwayne	8	Notre Dame Middle School	21:30.2	11:33
51	34	8709		Olivia Markley	8	East Fairmont Middle	22:58.7	12:20
52	35	8492		Taylor Michael	8	Clay-Battelle Middle	23:15.3	12:29
53		8455		Colleen Metheny	6	Bridgeport Middle	24:05.9	12:56
54		8457		Becky Pepper- Jacks	7	Bridgeport Middle	24:37.5	13:13
55		8456		Caitlin Murray	8	Bridgeport Middle	25:12.1	13:32

**\*\*\*\*\* Middle School Girls Team Results \*\*\*\*\***

1. East Fairmont Middle - 26 points (14:14, 1:11:06, 1:27)

1. (2) Annabelle Skidmore 7 - 13:25
2. (3) Jenna Conaway 6 - 13:57
3. (4) Lily Stuck 6 - 14:12
4. (8) Anna Wycoff 7 - 14:40
5. (9) Linsey Kramer 8 - 14:52
6. (12) Ryleigh Bills 8 - 15:33
7. (34) Olivia Markley 8 - 22:59

2. Doddridge County Middle - 55 points (15:21, 1:16:42, 5:26)

1. (1) Emily Cottrill 6 - 13:09
2. (7) Marley Sias 8 - 14:30
3. (10) Paytin McLane 7 - 15:13
4. (11) Kasey Underwood 8 - 15:15
5. (26) Hayden Heaster 6 - 18:35
6. (28) Amelia Weekley 6 - 18:55
7. (29) Emerson Sias 6 - 20:03

3. Bridgeport Middle - 75 points (16:17, 1:21:25, 2:31)

1. (6) Haydn Henderson 7 - 14:23
2. (14) Emma Ahmed 7 - 16:34
3. (17) Annelise Mace 8 - 16:46
4. (18) Brooklyn Richmond 6 - 16:48
5. (20) Ava Sweeney 6 - 16:54

6. (21) Jordyn McIntyre 8 - 17:00
7. (25) Skyla Reider 6 - 18:21
4. Taylor County Middle - 96 points (17:20, 1:26:38, 5:55)
  1. (5) Addison Sole 7 - 14:13
  2. (15) Peyton Stevens 8 - 16:44
  3. (19) Ainsley Alexander 7 - 16:52
  4. (27) Addie Annon 6 - 18:41
  5. (30) Lydia Conrad 6 - 20:08
  6. (32) Suri Stemple 7 - 21:06
  7. (33) Jordan Cox 7 - 21:09
5. Clay-Battelle Middle - 98 points (17:18, 1:26:26, 1:51)
  1. (13) Sophia Sandone 7 - 16:19
  2. (16) Ali Hellyer 8 - 16:46
  3. (22) Breanna Debolt 8 - 17:02
  4. (23) Emily Spears 7 - 18:09
  5. (24) Mia Hellyer 6 - 18:10
  6. (31) Aliana Riley 8 - 20:49
  7. (35) Taylor Michael 8 - 23:16

**Incomplete Teams:**

**Mountaineer MS (Harrison):** Julia Angiulli 8, Cadence Blake 7, Rayonna Cain 8, Isabella Cain 6

**Washington-Irving Middle:** Liza Saas 7, Adreona Moore 8, Justyna Catena 7

**Covenant Christian School:** Kylie Cline 8, Hailey Paugh 6, Lexis Buck 6

**Robert L Bland Middle:** Kendra Thompson 8, Ciara Burrows 8, Hannah Grubb 8

**Notre Dame Middle School:** Lillie Nardella 7, Claire McElwayne 8

**Mountain Hollar Middle School Invitational – JV  
Girls**

Place	Team	Score
1	Suncrest	20
2	South (Morgantown)	55
3	St. Francis Central Catholic	82
4	West Fairmont	82
	East Fairmont	INC
	Southern	INC
	Mountaineer (Morgantown)	INC
	Mountaineer (Clarksburg)	INC
	Moundsville	INC
	Aurora	INC
	Frankfort	INC
	Covenant Christian	INC
	Clay Battelle	INC
	Central Preston	INC
	Cameron	INC
	Bruceton	INC

	Bridgeport	INC
	Westwood	INC

O/A Rank	Bib#	Name	Grade	Team	Team Rank	Team Score	Time
1	215	Solenne Anderson	7	South (Morgantown)	1	1	14:56.7
2	307	Anna Houde	7	Suncrest	1	2	15:10.2
3	261	JJ Monroy	7	Suncrest	2	5	15:37.4
4	265	Emma Zhou	7	Suncrest	3	9	15:40.3
5	256	Olivia Lupo	8	Suncrest	4	14	16:27.9
6	260	A. Monroe	8	Suncrest	5	20	16:44.9
7	217	Bella Cost	6	South (Morgantown)	2	8	17:08.2
8	251	Gloria Hu	6	Suncrest	6	-	17:09.8
9	242	Queenie Chen	7	Suncrest	7	-	18:06.7
10	255	Emily Liu	7	Suncrest	8	-	18:18.1
11	245	Dana Ghattas	7	Suncrest	9	-	18:21.1
12	259	morgan McGough	6	Suncrest	10	-	18:37.4
13	258	Madison McGough	7	Suncrest	11	-	18:37.7
14	210	Bianca Monseau	6	Mountaineer (Morgantown)	1	INC	18:45.8

O/A Rank	Bib#	Name	Grade	Team	Team Rank	Team Score	Time
15	248	Emily Gu	6	Suncrest	12	-	18:46.4
16	253	Alanah Jones	6	Suncrest	13	-	18:52.7
17	233	Sophie Dunn	6	St. Francis Central Catholic	1	10	18:54.7
18	303	Ayla Lilly	8	West Fairmont	1	11	19:02.6
19	257	Grayson Martucci	8	Suncrest	14	-	19:04.9
20	252	Adalynn Jones	6	Suncrest	15	-	19:35.2
21	207	Addisyn Lemasters	7	Mountaineer (Morgantown)	2	INC	19:37.9
22	208	Rylee Lemley	7	Mountaineer (Morgantown)	3	INC	20:08.2
23	244	Elizabeth Esposito	8	Suncrest	16	-	20:25.3
24	225	Reese Park	6	South (Morgantown)	3	20	20:33.7
25	249	Hallie Hall	6	Suncrest	17	-	20:44.7
26	262	Destiny Shi	6	Suncrest	18	-	20:47.6
27	250	Lyla Haney	6	Suncrest	19	-	20:47.9
28	272	Lilia Norman	6	West Fairmont	2	24	20:55.4

O/A Rank	Bib#	Name	Grade	Team	Team Rank	Team Score	Time
29	237	Olivia Schaefer	6	St. Francis Central Catholic	2	24	21:16.4
30	238	Ana Tolia	6	St. Francis Central Catholic	3	39	21:29.7
31	206	Madeline Brandmeir	6	Mountaineer (Morgantown)	4	INC	21:31.7
32	263	Sophia Tiar	8	Suncrest	20	-	21:36.2
33	254	Lili Kieffer	6	Suncrest	21	-	21:44.4
34	230	Elizabeth White	7	South (Morgantown)	4	36	21:49.5
35	270	Kaelin Hamilton	8	West Fairmont	3	41	21:58.1
36	271	Anna Jones	6	West Fairmont	4	59	22:02.5
37	228	Hannah Sions	7	South (Morgantown)	5	55	22:32.9
38	205	Chloe Witt	6	Bridgeport	1	INC	22:39.8
39	229	Alexis Thomas	8	South (Morgantown)	6	-	22:45.7
40	234	Alden Owen	7	St. Francis Central Catholic	4	60	23:19.8
41	236	Eiley Lavara Quinn	8	St. Francis Central Catholic	5	82	23:46.4

O/A Rank	Bib#	Name	Grade	Team	Team Rank	Team Score	Time
42	268	Halle Cercone	8	West Fairmont	5	82	23:46.5
43	204	Becky Pepper-Jackson	7	Bridgeport	2	INC	24:19.4
44	202	Colleen Metheny	6	Bridgeport	3	INC	24:29.6
45	241	Allison Carr	6	Suncrest	22	-	25:03.1
46	264	Baylee Yost	8	Suncrest	23	-	25:12.8
47	239	Jenna Alsop	6	Suncrest	24	-	25:25.8
48	301	Emma Sollars	6	Clay Battelle	1	INC	25:58.1
49	302	Taylor Michael	8	Clay Battelle	2	INC	26:03.1
50	247	Olivia Griffin	6	Suncrest	25	-	26:05.2
51	203	Caitlin Murray	8	Bridgeport	4	INC	26:08.3
52	243	Brooke Corley	6	Suncrest	26	-	26:11.1
53	232	Elizaveta Abbitt	8	St. Francis Central Catholic	6	-	26:19.4



**Doddridge County Middle School**  
**HY-TEK's Meet Manager**  
**Taylor County Middle School Invitational**  
**Grafton HS**  
**Last Completed Event**  
**Event 3      Girls 3k Run CC**

Name	Year School	Finals	Points
1 Jamie Gilcrest	8 Suncrest Jr High	14:24.00	1
2 Tessa Abildso	7 South Middle	14:47.00	2
3 Reese Park	6 South Middle	15:29.00	3
4 Caraline Eberhart	6 South Middle	15:42.00	4
5 Harlyn Nelson	8 Suncrest Jr High	15:55.00	5
6 Ariana Howell	7 South Middle	15:58.00	6
7 Vienna Lisle	Mountaineer Morg	16:17.00	
8 Ava Monroe	8 Suncrest Jr High	16:26.00	7
9 Tori Hovatter	6 Trinity Chri	16:31.00	
10 Olivia Lupo	8 Suncrest Jr High	16:49.00	8
11 Kalea Anderson	7 Suncrest Jr High	17:04.00	9
12 Olivia Kiser	8 South Middle	17:08.00	10
13 Elaina Beard	7 South Middle	17:18.00	11
14 Alanah Jones	6 Suncrest Jr High	17:24.00	12
15 Emily Woods	7 West Virgini	17:25.00	
16 Adalynn Jones	6 Suncrest Jr High	18:43.00	13
17 Grayson Martucci	8 Suncrest Jr High	18:52.00	
18 Anna Jones	6 West Fairmon	19:02.00	
19 Anna Houde	7 Suncrest Jr High	19:31.00	
20Addisyn Lemasters	Mountaineer Morg	19:36.00	
21 Kaelin Hamilton	8 West Fairmon	19:40.00	
22 Lyla Haley	6 Suncrest Jr High	20:00.00	
23 Destiny Shi	6 Suncrest Jr High	20:02.00	
24 Lily Keiffer	6 Suncrest Jr High	20:15.00	
25 Hannah Sions	7 South Middle	20:25.00	14
26 Elizabeth Esposito	8 Suncrest Jr High	20:42.00	
27 Hallie Hall	6 Suncrest Jr High	20:52.00	
28 Noelle Cain	6 West Virgini	21:06.00	
29 Faith Perry	8 Trinity Chri	21:21.00	
30 Sophia Grose	8 Trinity Chri	21:38.00	
31 Ava Abel	8 West Fairmon	21:57.00	
32 McKenna Sexton	7 West Fairmon	22:00.00	
33 Sydney Harris	8 Trinity Chri	22:31.00	
34 Elizabeth White	7 South Middle	22:37.00	

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35 Claire Jones	7 South Middle	22:37.01	
36 Alexis Thomas	8 South Middle	23:54.00	
37 Allison Carr	6 Suncrest Jr High	24:05.00	
38 Becky Pepper-Jackson	7 Bridgeport Middle	24:09.00	
39 Isabella Edmunds	7 West Preston	24:09.01	
40 Baylee Yost	8 Suncrest Jr High	24:25.00	
41 Riley Lemley	Mountaineer Morg	24:32.00	
42 Caitlin Murray	8 Bridgeport Middle	24:50.00	
43 Jenna Alsop	6 Suncrest Jr High	24:56.00	
44 Olivia Griffin	6 Suncrest Jr High	24:57.00	
45 Donna Cavendar	7 West Preston	25:12.00	
46 Anna Eagle	7 West Preston	25:51.00	

### Team Scores

#### 1. South Middle - 25 points

Total Time: 1:19:04.00, Average: 15:48.80

2-3-4-6-10 (11-14)

#### 2. Suncrest Jr High - 30 points

Total Time: 1:20:38.00, Average: 16:07.60

1-5-7-8-9 (12-13)

**2022 Elkins Middle School Invitational****At Davis and Elkins | 9/17/22****Results Provided by The Appalachian Timing  
Group - APTiming.com****Weather: 72 Degrees and Partly Cloudy - Wind  
Calm****Middle School GIRLS Overall Results**

Place	TmPl	Name	Gr	School	S Time	Pace
1	1	Leyland Phillips	6	South Middle	F 14:31.5	7:16
2	2	Julia Biola	8	Elkins Middle	F 14:37.1	7:19
3	3	Megyn Amsler	8	South Middle	F 14:54.4	7:28
4	4	Ava Barrick	8	Keyser Middle	F 15:03.3	7:32
5	5	Ella Egidi	8	West Fairmont Middle School	F 15:04.5	7:33
6	6	Ryleigh Freshour	8	South Middle	F 15:05.2	7:33
7	7	Ainsley Friend	8	Keyser Middle	F 15:17.9	7:39
8	8	Zoey Workman	8	South Middle	F 15:18.6	7:40
9	9	Josalyn Ammons	8	South Middle	F 15:19.2	7:40
10	10	Solenne Anderson	7	South Middle	F 15:28.8	7:45
11	11	Brenna Lupton	8	West Fairmont Middle School	F 15:31.8	7:46
12	12	Emilia Tenney	8	Elkins Middle	F 15:34.8	7:48

Place	Tm	Pl Name	Gr	School	S Time	Pace
13	-	Taylor Kitzmilller-Bos	7	Southern Garrett Middle School	F 15:37.1	7:49
14	13	Tessa Abildso	7	South Middle	F 15:37.7	7:49
15	14	Lyla Garcia	7	West Fairmont Middle School	F 15:51.7	7:56
16	-	Kynlee Nary	7	Elkview Middle	F 15:53.3	7:57
17	15	Haydn Henderson	7	Bridgeport Middle	F 16:02.3	8:02
18	-	Liza Saas	7	Washington-Irving Middle	F 16:28.6	8:15
19	16	Evelyn Cole	7	Keyser Middle	F 16:34.0	8:17
20	17	Lilian Burda	7	Elkins Middle	F 16:38.4	8:20
21	-	Kylie Cline	8	Covenant Christian School	F 16:41.0	8:21
22	18	Brooklyn Richmond	6	Bridgeport Middle	F 16:42.8	8:22
23	19	Zoey Borgman	7	Central Preston Middle School	F 16:45.0	8:23
24	20	Neva Pritts	7	Keyser Middle	F 16:49.7	8:25
25	-	Bella Cost	6	South Middle	F 16:58.6	8:30
26	21	Hayleigh Haggerty	8	Keyser Middle	F 16:59.5	8:30
27	22	Molly McFadden	6	Elkins Middle	F 16:59.9	8:30
28	23	Emma Ahmed	7	Bridgeport Middle	F 17:00.0	8:30
29	-	Rae Smith- Pritt	6	Southern Garrett Middle School	F 17:07.4	8:34

Place	Tm	Pl Name	Gr	School	S Time	Pace
30	24	Avery Moore	8	West Fairmont Middle School	F 17:14.8	8:38
31	-	Ayla McCasi	8	South Middle	F 17:28.7	8:45
32	25	Delaney Seese	7	Central Preston Middle School	F 17:28.8	8:45
33	-	Caraline Eberhart	6	South Middle	F 17:29.6	8:45
34	26	Dakota Wolpert	6	Belington Middle	F 17:31.4	8:46
35	27	Lilian Anger	8	Elkins Middle	F 17:50.7	8:56
36	28	Marissa Brenwalt	7	Elkins Middle	F 17:52.4	8:57
37	29	Sienna Zuchelli	6	West Fairmont Middle School	F 17:52.8	8:57
38	30	Olivia Deweese	8	Elkins Middle	F 17:53.1	8:57
39	31	Kari Baker	7	Belington Middle	F 17:56.0	8:58
40	-	Molly Quint	8	Elkins Middle	F 18:05.6	9:03
41	-	Ariella Brown	6	Elkins Middle	F 18:11.0	9:06
42	32	Caylie Cox	8	Belington Middle	F 18:22.7	9:12
43	33	Jordyn McIntyre	8	Bridgeport Middle	F 18:27.4	9:14
44	34	Alexis Buffey	7	West Fairmont Middle School	F 18:29.7	9:15
45	35	Annelise Mace	8	Bridgeport Middle	F 18:34.3	9:18
46	-	Ariana Howell	7	South Middle	F 18:47.3	9:24
47	36	Chloe Witt	6	Bridgeport Middle	F 19:02.0	9:31

Place	Tm	Pl Name	Gr	School	S Time	Pace
48	-	Elaina Beard	7	South Middle	F 19:03.6	9:32
49	-	Elizabeth White	7	South Middle	F 19:38.0	9:49
50	-	Sophia Hornick	8	Elkins Middle	F 19:38.6	9:50
51	37	Ayla Lilly	8	West Fairmont Middle School	F 19:44.7	9:53
52	-	Hailey Paugh	6	Covenant Christian School	F 19:51.6	9:56
53	-	Zoey Fout	6	West Fairmont Middle School	F 19:56.5	9:59
54	38	Sydney Wade	6	Central Preston Middle School	F 20:09.7	10:05
55	39	Marlee Graciano	8	Central Preston Middle School	F 20:20.7	10:11
56	-	Carla Deberry	7	Southern Garrett Middle School	F 20:25.4	10:13
57	40	Rebekah Yates	7	Central Preston Middle School	F 20:34.3	10:18
58	-	Lexis Buck	6	Covenant Christian School	F 20:45.1	10:23
59	-	Kaelin Hamilton	8	West Fairmont Middle School	F 20:58.2	10:30
60	41	Ava Sweeney	6	Bridgeport Middle	F 21:07.4	10:34
61	-	Olivia Gray	7	Kasson Middle	F 21:12.9	10:37
62	-	Leia Pundsack	8	South Middle	F 21:26.0	10:43
63	-	Skyla Reider	6	Bridgeport Middle	F 21:39.2	10:50
64	-	Mylee Poling	7	Kasson Middle	F 22:01.3	11:01

Place	Tm	Pl Name	Gr	School	S	Time	Pace
65	-	Zoey Frey	8	Kasson Middle	F	22:02.5	11:02
66	-	Reese Park	6	South Middle	F	22:08.6	11:05
67	-	Anna Jones	6	West Fairmont Middle School	F	22:21.9	11:11
68	-	Callie Bittinger	7	Southern Garrett Middle School	F	22:23.3	11:12
69	-	McKenna Sexton	7	West Fairmont Middle School	F	22:38.4	11:20
70	-	Hannah Sions	7	South Middle	F	22:40.5	11:21
71	-	Claire Jones	7	South Middle	F	22:43.0	11:22
72	-	Lilia Newman	7	West Fairmont Middle School	F	22:49.1	11:25
73	-	Colleen Metheny	6	Bridgeport Middle	F	23:06.4	11:34
74	-	Alexis Thomas	8	South Middle	F	23:49.0	11:55
75	42	Rachel Wilson	6	Belington Middle	F	24:03.9	12:02
76	43	Olivia Watson	6	Belington Middle	F	24:16.9	12:09
77	-	Halle Cercone	8	West Fairmont Middle School	F	25:14.5	12:38
78	-	Becky Pepper- Jackson	7	Bridgeport Middle	F	27:39.7	13:50
79	-	Caitlin Murray	8	Bridgeport Middle	F	29:10.9	14:36
80	-	Aaliyah Shreeves	6	Covenant Christian School	F	29:32.7	14:47

## \*\*\*\*\* TEAM SCORE \*\*\*\*\*

1. South Middle - 27 points (15:01.8, 75:08.9, 0:47.7)
  1. (1) Leyland Phillips 6 - 14:31.5
  2. (3) Megyn Amsler 8 - 14:54.4
  3. (6) Ryleigh Freshour 8 - 15:05.2
  4. (8) Zoey Workman 8 - 15:18.6
  5. (9) Josalyn Ammons 8 - 15:19.2
  6. (10) Solenne Anderson 7 - 15:28.8
  7. (13) Tessa Abildso 7 - 15:37.7
2. Keyser Middle - 68 points (16:08.9, 80:44.4, 1:56.2)
  1. (4) Ava Barrick 8 - 15:03.3
  2. (7) Ainsley Friend 8 - 15:17.9
  3. (16) Evelyn Cole 7 - 16:34.0
  4. (20) Neva Pritts 7 - 16:49.7
  5. (21) Hayleigh Haggerty 8 - 16:59.5
3. Elkins Middle - 80 points (16:20.2, 81:40.9, 3:13.6)
  1. (2) Julia Biola 8 - 14:37.1
  2. (12) Emilia Tenney 8 - 15:34.8
  3. (17) Lilian Burda 7 - 16:38.4
  4. (22) Molly McFadden 6 - 16:59.9
  5. (27) Lilian Anger 8 - 17:50.7
  6. (28) Marissa Brenwalt 7 - 17:52.4
  7. (30) Olivia DeWeese 8 - 17:53.1
4. West Fairmont Middle School - 83 points (16:19.2, 81:35.6, 2:48.3)



1. (5) Ella Egidi 8 - 15:04.5
2. (11) Brenna Lupton 8 - 15:31.8
3. (14) Lyla Garcia 7 - 15:51.7
4. (24) Avery Moore 8 - 17:14.8
5. (29) Sienna Zuchelli 6 - 17:52.8
6. (34) Alexis Buffey 7 - 18:29.7
7. (37) Ayla Lilly 8 - 19:44.7
5. Bridgeport Middle - 124 points (17:21.4, 86:46.8, 2:32.0)
  1. (15) Haydn Henderson 7 - 16:02.3
  2. (18) Brooklyn Richmond 6 - 16:42.8
  3. (23) Emma Ahmed 7 - 17:00.0
  4. (33) Jordyn McIntyre 8 - 18:27.4
  5. (35) Annelise Mace 8 - 18:34.3
  6. (36) Chloe Witt 6 - 19:02.0
  7. (41) Ava Sweeney 6 - 21:07.4
6. Central Preston Middle School - 161 points (19:03.7, 95:18.5, 3:49.3)
  1. (19) Zoey Borgman 7 - 16:45.0
  2. (25) Delaney Seese 7 - 17:28.8
  3. (38) Sydney Wade 6 - 20:09.7
  4. (39) Marlee Graciano 8 - 20:20.7
  5. (40) Rebekah Yates 7 - 20:34.3
  7. Belington Middle - 174 points (20:26.2, 102:10.9, 6:45.5)
    1. (26) Dakota Wolpert 6 - 17:31.4

2. (31) Kari Baker 7 - 17:56.0
3. (32) Caylie Cox 8 - 18:22.7
4. (42) Rachel Wilson 6 - 24:03.9
5. (43) Olivia Watson 6 - 24:16.9

**Incomplete Teams:**

**Southern Garrett Middle School:** Taylor Kitzmiller-Bosley 7, Rae Smith-Pritt 6, Carla DeBerry 7, Callie Bittinger 7

**Elkview Middle:** Kynlee Nary 7

**Washington-Irving Middle:** Liza Saas 7

**Covenant Christian School:** Kylie Cline 8, Hailey Paugh 6, Lexis Buck 6, Aaliyah Shreeves 6

**Kasson Middle:** Olivia Gray 7, Mylee Poling 7, Zoey Frey 8

2022 Mid-Mountain 10 Conference Middle School  
Championships  
At Davis and Elkins 10/13/22  
Results Provided by The Appalachian Timing Group –  
APTtiming.com

Middle School GIRLS Overall Results

Place	TmPl	Name	Gr	School	S	Time	Pace
1	1	Julia Angiulli	8	Mountaineer Middle	F	14:21.3	7:11
2	2	Jenna Conaway	6	East Fairmont Middle	F	14:32.1	7:17
3	3	Haydn Henderson	7	Bridgeport Middle	F	15:05.0	7:33
4	4	Julia Biola	8	Elkins Middle	F	15:14.6	7:38
5	5	Addison Sole	7	Taylor County Middle	F	15:15.1	7:38
6	6	Annabelle	7	East Fairmont Middle	F	15:15.5	7:38
7		Raley Cochran	7	Lincoln Middle	F	15:15.9	7:38
8	7	Madison	7	Buckhannon Middle	F	15:17.0	7:39
9	8	Lily Stuck	6	East Fairmont Middle	F	15:43.3	7:52
10		Liza Saas	7	Washington Irving	F	15:45.4	7:53
11	9	Lena Rose Walker	7	Buckhannon Middle	F	15:48.1	7:55
12	10	Molly McFadden	6	Elkins Middle	F	15:57.0	7:59
13	11	Emma Ahmed	7	Bridgeport Middle	F	16:04.4	8:03
14	12	Angelina Winters	8	Buckhannon Middle	F	16:04.9	8:03
15	13	Emilia Tenney	8	Elkins Middle	F	16:12.9	8:07
16	14	Anna Wycoff	7	East Fairmont Middle	F	16:22.3	8:12
17	15	Chloe Lewis	7	Buckhannon Middle	F	16:29.1	8:15
18	16	Any Morehead	8	Buckhannon Middle	F	16:29.8	8:15
19	17	Cadence Blake	7	Mountaineer Middle	F	16:35.8	8:18
20	18	Brooklyn	6	Bridgeport Middle	F	16:35.9	8:18
21	19	Linsey Kramer	8	East Fairmont Middle	F	16:47.2	8:24
22	20	Lilian Burda	7	Elkins Middle	F	16:54.1	8:28
23	21	Ryleigh Bills	8	East Fairmont Middle	F	17:00.9	8:31
24	22	Isabella Bowers	7	Buckhannon Middle	F	17:23.8	8:42
25		Katrina Guthrie	7	Lincoln Middle	F	17:27.2	8:44
26	23	Lily Anger	8	Elkins Middle	F	17:29.9	8:45
27		Adreona Moore	8	Washington Irving	F	17:30.3	8:46
28	24	Ainsley Alexander	7	Taylor County Middle	F	17:32.8	8:47
29		Kendra Thompson	8	Robert L Bland Middle	F	17:34.8	8:48
30	25	Nicole Blandino	8	Buckhannon Middle	F	17:49.1	8:55
31	26	Annelise Mace	8	Bridgeport Middle	F	17:55.3	8:58
32	27	Marissa Brenwalt	7	Elkins Middle	F	17:55.9	8:58
33	28	Shayla Wotring	7	East Fairmont Middle	F	17:56.9	8:59

34	29 Jordyn McIntyre	8 Bridgeport Middle	F	17:57.7	8:59
35	30 Molly Quint	8 Elkins Middle	F	18:03.8	9:02
36	31 Peyton Stevens	8 Taylor County Middle	F	18:07.1	9:04
37	Olivia Deweese	8 Elkins Middle	F	18:14.0	9:07
38	Haleigh Skidmore	6 Buckhannon Middle	F	18:36.9	9:19
39	Alaina Tenney	7 Buckhannon Middle	F	18:48.5	9:25
40	32 Chloe Witt	6 Bridgeport Middle	F	18:59.1	9:30
41	Kelcie Criss	6 East Fairmont Middle	F	18:59.5	9:30
42	33 Ava Sweeney	6 Bridgeport Middle	F	19:18.7	9:40
43	Sophia Hornick	8 Elkins Middle	F	19:39.9	9:50
44	34 Brooklynn Cottrill	8 Mountaineer Middle	F	19:42.0	9:51
45	Macy Collett	6 Buckhannon Middle	F	19:43.5	9:52
46	35 Rayonna Cain	8 Mountaineer Middle	F	19:47.7	9:54
47	Emma Collett	7 Buckhannon Middle	F	19:59.7	10:00
48	36 Suri Stemple	7 Taylor County Middle	F	19:59.7	10:00
49	37 Addie Annon	6 Taylor County Middle	F	20:02.1	10:02
50	Kaitlin Davis	7 Buckhannon Middle	F	20:03.0	10:02
51	38 Isabella Cain	6 Mountaineer Middle	F	20:07.2	10:04
52	39 Lydia Conrad	6 Taylor County Middle	F	20:13.1	10:07
53	Sophia Fox	8 Buckhannon Middle	F	20:22.9	10:12
54	Alexis Carr	7 Buckhannon Middle	F	20:28.1	10:15
55	Skyla Reider	6 Bridgeport Middle	F	21:08.7	10:35
56	Jaden Messenger	6 Buckhannon Middle	F	21:25.6	10:43
57	Elinor Nuttall	6 Buckhannon Middle	F	21:27.3	10:44
58	Kinsley Ripley	6 Buckhannon Middle	F	21:46.9	10:54
59	Lillie Nardella	7 Notre Dame Middle	F	23:27.1	11:44
60	Annaleigh Pierce	7 Lincoln Middle	F	23:31.0	11:46
61	Colleen Metheny	6 Bridgeport Middle	F	24:33.2	12:17
62	Mara Beth Hines	7 Buckhannon Middle	F	24:36.9	12:19
63	Caitlin Murray	8 Bridgeport Middle	F	24:56.7	12:29
64	Becky Pepper-Jackson	7 Bridgeport Middle	F	25:02.9	12:32
65	Maria Roselius	6 Lincoln Middle	F	25:44.8	12:53

**TEAM SCORES**

1. East Fairmont Middle - 49 points (15:44.1, 78:40.4, 2:15.1)

1. (2) Jenna Conaway 6 - 14:32.1
2. (6) Annabelle Skidmore 7 - 15:15.5
3. (8) Lily Stuck 6 - 15:43.3
4. (14) Anna Wycoff 7 - 16:22.3
5. (19) Linsey Kramer 8 - 16:47.2
6. (21) Ryleigh Bills 8 - 17:00.9
7. (28) Shayla Wotring 7 - 17:56.9

2. Buckhannon Middle - 59 points (16:01.8, 80:08.9, 1:12.8)

1. (7) Madison Knabenshue 7 - 15:17.0
2. (9) Lena Rose Walker 7 - 15:48.1
3. (12) Angelina Winters 8 - 16:04.9
4. (15) Chloe Lewis 7 - 16:29.1
5. (16) Anya Morehead 8 - 16:29.8
6. (22) Isabella Bowers 7 - 17:23.8
7. (25) Nicole Blandino 8 - 17:49.1

3. Elkins Middle - 70 points (16:21.7, 81:48.5, 2:15.3)

1. (4) Julia Biola 8 - 15:14.6
2. (10) Molly McFadden 6 - 15:57.0
3. (13) Emilia Tenney 8 - 16:12.9

4. (20) Lilian Burda 7 - 16:54.1
  5. (23) Lily Anger 8 - 17:29.9
  6. (27) Marissa Brenwalt 7 - 17:55.9
  7. (30) Molly Quint 8 - 18:03.8
4. Bridgeport Middle - 87 points (16:43.7, 83:38.3, 2:52.7 gap)
1. (3) Haydn Henderson 7 - 15:05.0
  2. (11) Emma Ahmed 7 - 16:04.4
  3. (18) Brooklyn Richmond 6 - 16:35.9
  4. (26) Annelise Mace 8 - 17:55.3
  5. (29) Jordyn McIntyre 8 - 17:57.7
  6. (32) Chloe Witt 6 - 18:59.1
  7. (33) Ava Sweeney 6 - 19:18.7
5. Mountaineer Middle - 125 points (18:06.8, 90:34.0, 5:45.9)
1. (1) Julia Angiulli 8 - 14:21.3
  2. (17) Cadence Blake 7 - 16:35.8
  3. (34) Brooklynn Cottrill 8 - 19:42.0
  4. (35) Rayonna Cain 8 - 19:47.7
  5. (38) Isabella Cain 6 - 20:07.2
6. Taylor County Middle - 133 points (18:11.4, 90:56.8, 4:47.0)
1. (5) Addison Sole 7 - 15:15.1

2. (24) Ainsley Alexander 7 - 17:32.8
3. (31) Peyton Stevens 8 - 18:07.1
4. (36) Suri Stemple 7 - 19:59.7
5. (37) Addie Annon 6 - 20:02.1
6. (39) Lydia Conrad 6 - 20:13.1

**Incomplete Teams:**

**Lincoln Middle:** Raley Cochran 7, Katrina Guthrie 7,  
Annaleigh Pierce 7, Maria Roselius 8

**Washington Irving Middle:** Liza Saas 7, Adreona Moore  
8

**Robert L Bland Middle:** Kendra Thompson 8

**Notre Dame Middle:** Lillie Nardella 7

4334





4335



4336



4337







4339





4340



**IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF WEST  
VIRGINIA**

**CHARLESTON DIVISION**

B. P. J., et al.,

Plaintiffs,

v. CIVIL ACTION NO. 2:21-cv-00316

WEST VIRGINIA STATE BOARD OF EDUCATION,  
et al.,

Defendants.

**MEMORANDUM OPINION AND ORDER**

Pending before the court is Plaintiff's Motion for a Stay Pending Appeal. [ECF No. 515]. For the reasons stated herein, B.P.J.'s motion is **DENIED**.

**I. Background**

This case concerned the lawfulness of West Virginia's Save Women's Sports Act (the "Act"), a law passed by the West Virginia Legislature in April 2021. The Act classifies school athletic teams according to biological sex and prohibits biological males from participating on athletic teams designated for females. W. Va. Code § 18-2-25d(a)(5), (b), (c)(2). B.P.J., a transgender minor seeking to join her middle school's girls' cross country and track teams, filed a Complaint with this court, alleging that the Act violates the Equal Protection Clause of the Fourteenth Amendment and Title IX. [ECF No. 1]. On July 21, 2021, I granted

B.P.J. a preliminary injunction enjoining enforcement of the Act against her. [ECF No. 67]. Thus, B.P.J. was able to compete on the girls' cross country and track teams during the pendency of this case.

The parties filed motions for summary judgment on April 21, 2022. [ECF Nos. 276, 278, 283, 285, 286, 289]. On January 5, 2023, I denied B.P.J.'s motion for summary judgment and granted summary judgment in favor of the State of West Virginia, the Harrison County defendants, the State Board defendants, and Intervenor Lainey Armistead (collectively, the "Defendants"). [ECF No. 512]. I also dissolved the preliminary injunction. *Id.*

On January 20, 2023, B.P.J. filed the instant motion requesting that the court stay its January 5, 2023 Order, dissolving the preliminary injunction, until her appeal is resolved. [ECF No. 515]. B.P.J. seeks this relief so that she can "continue participating on those [athletic] teams consistent with her gender identity." *Id.* at 5. Defendants jointly responded on January 27, 2023. [ECF No. 520]. B.P.J. replied on January 30, 2023. [ECF No. 521].

## II. Legal Standard

Rule 62(d) of the Federal Rules of Civil Procedure permits the court to "restore" an injunction "[w]hile an appeal is pending from . . . final judgment that . . . dissolves . . . [the] injunction." When ruling on a motion to stay an order, the court considers the following four factors: "(1) whether the stay applicant has made a strong showing that [s]he is likely to succeed on the merits; (2) whether the applicant will be irreparably injured absent a stay; (3) whether issuance of the stay will substantially injure the other parties interested in the proceeding; and (4) where the public interest lies." *Nken v. Holder*, 556 U.S. 418, 426 (2009) (quoting *Hilton v. Braunskill*, 481 U.S. 770, 776



(1987)). “The first two factors . . . are the most critical,” and a party seeking a stay must demonstrate more than a mere possibility of success on the merits. *Id.* at 434.

### III. Discussion

As the Defendants have acknowledged, this was a novel and difficult case. *See* [ECF No. 520, at 13]. With respect to the instant motion, the second, third, and fourth factors weigh heavily in favor of granting B.P.J.’s motion for a stay. B.P.J. is a twelve-year-old transgender girl in middle school, often considered a memorable and pivotal time in a child’s life. For many children, the middle school experience is shaped considerably by their participation on their school’s athletic teams. B.P.J.’s experience has been no different. [ECF No. 515-1, ¶¶ 5–6]. Moreover, as I expressed in my previous Orders, not one child has been or is likely to be harmed by B.P.J.’s continued participation on her middle school’s cross country and track teams. [ECF No. 67, at 11; ECF No. 512, at 9]. Both cross country and track are non-contact sports, and B.P.J. often finishes near the end of the pack, [ECF Nos. 515-3, 515-4]. I am unpersuaded, as Defendants have argued, that B.P.J. finishing ahead of a few other children, who would have placed one spot higher without her participation, constitutes a substantial injury. In the end, the only person truly injured by the enforcement of the Act against her is B.P.J., who must now watch her teams compete from the sidelines. It is in the public interest that all children who seek to participate in athletics have a genuine opportunity to do so. Moreover, there is a public interest in celebrating not only the unique differences of those who fit into society’s binary world but also those who fall outside that box.

That said, a law is not deemed unconstitutional simply because it causes harm. When analyzing equal protection

claims, courts apply different levels of scrutiny to different types of classifications. In this case, the court applied intermediate scrutiny to the Act because the Act “separates student athletes based on sex.” [ECF No. 512, at 141. This level of scrutiny applied to both B.P.J.’s facial and as-applied challenges. *See Oswald v. Ireland-Imhof*, 599 F. Supp. 3d 211, 218 (D.N.J. 2022) (applying the same level of scrutiny to the plaintiff’s facial and as-applied challenges). To pass intermediate scrutiny, a law must be substantially related to an important governmental objective. *Miss. Univ. for Women v. Hogan*, 458 U.S. 718, 724 (1982).

As I explained in my Order granting summary judgment to the Defendants, B.P.J. never challenged the well-accepted practice of separating sports by sex; rather, she only challenged the state’s definitions of “male” and “female,” which determine the athletic team an individual may participate on. [ECF No. 512, at 101. To achieve sex-separated sports, however, the state needed to adopt some definition to determine eligibility for participation on either team. In this case, the state, claiming an interest in promoting equal athletic opportunities for females, drew the line at biological sex determined at birth. It is common knowledge that “sex, and the physical characteristics that flow from it,” are linked “to athletic performance and fairness in sports.” *Id.* at 19. Thus, separating athletic teams based on biology is substantially related to the state’s important interest in providing equal athletic opportunities to females, who would otherwise be displaced if required to compete with males. The Act, therefore, is not violative of the Equal Protection Clause.

As for Title IX, which authorizes sex-separate sports, “[t]here is no serious debate that [its] endorsement . . . refers to biological sex.” *Id.* at 21–22. Like the alleged

interest put forth by the state in this case, the goal of Title IX “was to increase opportunities for women and girls in athletics.” *Id.* at 21 (citing *Williams v. Sch. Dist. of Bethlehem, Pa.*, 998 F.2d 168, 175 (3d Cir. 1993)). Thus, I could not, and still cannot, find that the Act, “which largely mirrors Title IX, violates Title IX.” *Id.* at 22. As such, I am unpersuaded that B.P.J. is likely to succeed on her facial challenge of the Act on appeal.

Under the above analysis, the state is permitted to use biology as the sole criterion in separating school athletic teams. The legislature, of course, could have used less rigid definitions which would allow transgender individuals to play on the athletic team consistent with their gender identity. Indeed, more inclusive definitions might have even furthered the legislature’s stated objective. “But it [was] not for the court to impose such a requirement here.” *Id.* at 19. The question before the court was whether the Act survives intermediate scrutiny, and intermediate scrutiny does not require the tightest fit between means and ends for a law to withstand constitutional muster.

B.P.J.’s as-applied challenge asked the court to consider her gender in lieu of sex and to include her in the state’s definition of “female.” To do so, the court would have needed to assess B.P.J.’s individual characteristics, which is not appropriate under intermediate scrutiny. The court was required, instead, to consider whether excluding B.P.J. from teams designated as female—because she is biologically male and males consistently outperform females in athletics—is substantially related to the important government interest of providing equal athletic opportunities for females. The court answered that question in the affirmative: intermediate scrutiny permits the line drawing between “males” and “females”

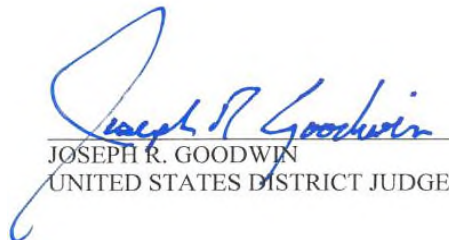
adopted here by the state in the context of sports, without individual consideration of occasional outliers. *Id.* The analysis must end there. Had the court looked any further and taken B.P.J.'s gender and sex characteristics into account, it would have been applying strict scrutiny's narrow tailoring requirement. *See id.* That analysis also would have been inconsistent with my decision to uphold the legislature's chosen definitions of "male" and "female" for the purpose of athletics. Accordingly, I cannot find that B.P.J. is likely to succeed on her as-applied challenge of the Act on appeal.

Because B.P.J. cannot satisfy the first prong of the test to obtain a stay, her motion is **DENIED**.

#### **IV. Conclusion**

For the foregoing reasons, B.P.J.'s Motion for a Stay Pending Appeal [ECF No. 515] is **DENIED**. The court **DIRECTS** the Clerk to send a copy of this Order to counsel of record and any unrepresented party.

ENTER: February 7, 2023



JOSEPH R. GOODWIN  
UNITED STATES DISTRICT JUDGE

FILED: February 22, 2023

UNITED STATES COURT OF APPEALS  
FOR THE FOURTH CIRCUIT

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No. 23-1078 (L)  
(2:21-cv-00316)

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

Plaintiffs - Appellants

v.

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

Defendants - Appellees

and

THE STATE OF WEST VIRGINIA; LAINEY  
ARMISTEAD

Intervenors – Appellees

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ORDER

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Upon consideration of submissions relative to Appellants' motion for stay pending appeal relief requested by February 26, 2023, which the court construes as a motion for an injunction pending appeal, the court grants the motion and stays the district court's January 5, 2023, order dissolving its preliminary injunction.

Entered at the direction of the panel: Judge Harris and Judge Heytens. Judge Agee dissents from the court's order.

For the Court

/s/ Patricia S. Connor, Clerk

No. 23-1078

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**IN THE UNITED STATES  
COURT OF APPEALS  
FOR THE FOURTH CIRCUIT**

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◆◆◆

B.P.J., BY NEXT FRIEND AND MOTHER,  
HEATHER JACKSON,  
*Plaintiff-Appellant,*

v.

WEST VIRGINIA STATE BOARD OF EDUCATION, *et al.*,  
*Defendants-Appellees,*

and

STATE OF WEST VIRGINIA, ET. AL.  
*Intervenors-Appellees.*

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On Appeal from the United States District Court  
for the Southern District of West Virginia (Charleston)  
Case No. 2:21-cv-00316

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**APPENDIX IN SUPPORT OF STATE OF WEST  
VIRGINIA AND LAINEY ARMISTEAD'S  
MOTION TO SUSPEND THE INJUNCTION  
PENDING APPEAL**

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Bridgeport

Graves MS Bridgeport, WV

B.P.J.

TF Bio

Compare

Profile

Go to XC

## Rankings

2023 Outdoor

## Shot Put 6lb - 28' 10"

Team: 3rd West Virginia:

National:

## Discus 1kg - 68' 7"

Team: 2nd West Virginia:

National:

Upgrade to Athletic+ for Rankings

## Training Log

9/2	Mountain Hollar MS ...	1.99 mi.
9/16	Doddridge Invitational	1.86 mi.
9/1	Mountain Hollar MS ...	1.99 mi.

## Season Records

## Shot Put - 6lb

2022 Outdoor	6	18' 10"
2023 Outdoor	7	28' 10" PR *

## Discus - 1kg

2022 Outdoor	6	49' 7"
2023 Outdoor	7	68' 7" PR *

\*Improvement

## 2023 Outdoor Season

Bridgeport Middle School

7

## Shot Put - 6lb

11	24' 11"	Mar 25	Connect Bridgeport Invitational - Middle School	MS F
18	22' 3"	Apr 7	Buckhannon-Upshur Middle School Invitational	MS F
6	27' 0"	Apr 12	Harrison County Middle School Championships	MS F
10	26' 9"	Apr 15	Pioneer MS Inv.	MS F
10	26' 10"	Apr 20	Bobcat MS Meet	MS F
6	28' 10" PR	Apr 29	Mid Mountain 10 MS Championships	MS F

## Discus - 1kg

13	52' 1"	Mar 25	Connect Bridgeport Invitational - Middle School	MS F
12	52' 4"	Apr 7	Buckhannon-Upshur Middle School Invitational	MS F
8	50' 4"	Apr 12	Harrison County Middle School Championships	MS F
7	61' 9"	Apr 15	Pioneer MS Inv.	MS F
6	66' 0"	Apr 20	Bobcat MS Meet	MS F

4	66' 0"	Apr 29	Mid Mountain 10 MS Championships	MS F
15	68' 7" PR	May 13	Harry Green Statewide MS Invitational	MS F

**2022 Outdoor Season****Bridgeport Middle School**

6

**Shot Put - 6lb**

36	18' 6.5"	Mar 25	Connect-Bridgeport Middle School Invitational	MS F
57	18' 10" SR	May 14	Harry Green Middle School Invitational	MS F

**Discus - 1kg**

29	31' 11.5"	Mar 25	Connect-Bridgeport Middle School Invitational	MS F
35	49' 7" SR	May 14	Harry Green Middle School Invitational	MS F

## 2023 Outdoor Event Records

### Mens

#### 100 Meters

1.	<b>8</b> Grayson Chur...	12.10	PR4/20Bobcat MS Meet
2.	<b>8</b> Gabe Martin	12.31	PR4/20Bobcat MS Meet
3.	<b>15</b> Patrick Aucre...	12.80	PR5/8 McDonald's 8th Grade Invt...
4.	<b>8</b> Eli Teribus	12.91	PR4/20Bobcat MS Meet
5.	<b>8</b> Will George	12.92	PR3/25Connect Bridgeport Invtati...
6.	<b>8</b> Sean Veitri	13.91	PR4/12Harrison County Middle Sc...
7.	<b>6</b> Ujin Mathews	14.19	PR4/29Mid Mountain 10 MS Cha...
8.	<b>8</b> Tristan Noble	14.42	PR5/8 McDonald's 8th Grade Invt...
9.	<b>6</b> Aidric Riley	14.42	PR3/25Connect Bridgeport Invtati...
10.	<b>8</b> Lopez Roman	14.54	PR4/29Mid Mountain 10 MS Cha...
11.	<b>6</b> Owen Glass	14.65	PR4/26South Harrison 6th Grade ...
12.	<b>8</b> Bnlyn Ford-P...	14.78	PR5/8 McDonald's 8th Grade Invt...
13.	<b>7</b> Braeden Matt...	14.85	PR3/25Connect Bridgeport Invtati...
14.	<b>7</b> Hunter Reid	14.88	PR5/13Harry Green Statewide MS ...
15.	<b>6</b> Evan Rose	15.02	PR4/20Bobcat MS Meet
16.	<b>8</b> Jaylen Brown	15.13	PR5/8 McDonald's 8th Grade Invt...
17.	<b>6</b> Nathaniel Mo...	15.72	PR4/20Bobcat MS Meet
18.	<b>6</b> Maverick Flint	16.76	PR4/20Bobcat MS Meet
19.	<b>6</b> Bentley Rowh	18.36	PR4/20Bobcat MS Meet

### Womens

#### 100 Meters

1.	<b>8</b> Ellie McCall	14.45	PR5/8 McDonald's 8th Grade Invtati...
2.	<b>7</b> Katie Backus	14.47	PR4/12Harrison County Middle Scho...
3.	<b>7</b> Scarlett Edgell	15.07	PR5/13Harry Green Statewide MS Inv...
4.	<b>8</b> Gabrielle Cye...	15.08	PR4/12Harrison County Middle Scho...
5.	<b>8</b> Isabella Harri...	15.40	PR4/20Bobcat MS Meet
6.	<b>8</b> Adaleia Cross	15.49	PR4/20Bobcat MS Meet
7.	<b>8</b> Addison Min...	15.49	PR5/8 McDonald's 8th Grade Invtati...
8.	<b>6</b> Bella Pritchard	15.58	PR4/26South Harrison 6th Grade Me...
9.	<b>8</b> Gretchen Sch...	15.63	PR4/7 Buckhamon-Upshur Middle S...
10.	<b>6</b> Veena Raol	15.64	PR4/7 Buckhamon-Upshur Middle S...
11.	<b>8</b> Lauren Stone	16.09	PR4/20Bobcat MS Meet
12.	<b>6</b> Colleen Meth...	16.44	PR3/25Connect Bridgeport Invitation...
13.	<b>6</b> Lilli Southern	16.51	PR4/26South Harrison 6th Grade Me...
14.	<b>8</b> London Davis	16.92	PR5/8 McDonald's 8th Grade Invtati...
15.	<b>7</b> Olivia Reed	17.17	PR4/7 Buckhamon-Upshur Middle S...
16.	<b>8</b> Mackenna Ra...	17.59	PR4/20Bobcat MS Meet
17.	<b>7</b> Amber Vincent	17.66	PR4/15Pioneer MS Inv.
18.	<b>7</b> Ella Carlson	18.85	PR4/12Harrison County Middle Scho...
19.	<b>6</b> Annabella Ro...	19.15	PR4/7 Buckhamon-Upshur Middle S...

## 200 Meters

1.	3 Grayson Chur...	24.61	PR 4/20 Bobcat MS Meet
2.	3 Gabe Merion	25.33	PR 4/29 Mid Mountain 10 MS Cha...
3.	3 Luke Rohrig	25.83	PR 4/20 Bobcat MS Meet
4.	3 Will George	26.04	PR 3/25 Connect Bridgeport Invitati...
5.	3 Aiden Gorty	27.11	PR 3/25 Connect Bridgeport Invitati...
6.	3 Eli Teribus	28.02	PR 3/25 Connect Bridgeport Invitati...
7.	3 Sean Veltri	28.09	PR 3/25 Connect Bridgeport Invitati...
8.	3 Ian Blount	29.16	PR 4/15 Pioneer MS Inv.
9.	3 Henry Hinkle	29.69	PR 4/20 Bobcat MS Meet
10.	7 Dominic Sanl...	30.21	PR 4/29 Mid Mountain 10 MS Cha...
11.	3 Lopez Roman	30.89	PR 4/12 Harrison County Middle Sc...
12.	3 Anderson Sa...	30.95	PR 4/29 Mid Mountain 10 MS Cha...
13.	3 Uriin Mathews	31.91	PR 4/20 Bobcat MS Meet
14.	3 Aidric Riley	32.13	PR 4/26 South Harrison 6th Grade ...
15.	3 Evan Rose	32.14	PR 4/20 Bobcat MS Meet
16.	3 Lawson Saish...	34.29	PR 3/25 Connect Bridgeport Invitati...
17.	3 Nathaniel Mo...	34.33	PR 4/20 Bobcat MS Meet
18.	3 Tilden Cope	35.31	PR 4/20 Bobcat MS Meet
19.	3 Mewerick Flint	37.09	PR 4/26 South Harrison 6th Grade ...
20.	3 Coley Cozad	37.59	PR 3/25 Connect Bridgeport Invitati...

## 400 Meters

1.	3 Grayson Chur...	54.25	PR 5/8 McDonald's 8th Grade Inviti...
2.	3 Gabe Merion	58.24c	PR 5/13 Harry Green Statewide MS I...
3.	3 Aiden Gorty	1:00.64	PR 4/15 Pioneer MS Inv.
4.	3 Eli Knight	1:01.77	PR 4/15 Pioneer MS Inv.
5.	3 Sean Veltri	1:02.92	PR 5/8 McDonald's 8th Grade Inviti...

## 200 Meters

1.	7 Emma Knice ...	28.83	PR 5/13 Harry Green Statewide MS Inv...
2.	3 Allie Wilson	29.21	PR 4/20 Bobcat MS Meet
3.	7 Madison Ste...	29.77	PR 4/29 Mid Mountain 10 MS Champi...
4.	3 Ellie McCal	30.27	PR 5/8 McDonald's 8th Grade Invitati...
5.	7 Ellie Bongiorno	31.25	PR 4/15 Pioneer MS Inv.
6.	3 Veera Rael	33.00	PR 3/25 Connect Bridgeport Invitati...
7.	3 Gracien Sch...	33.14	PR 5/8 McDonald's 8th Grade Invitati...
8.	3 Bella Pritchard	33.29	PR 4/29 Mid Mountain 10 MS Champi...
9.	3 Isabella Harli...	33.41	PR 5/13 Harry Green Statewide MS Inv...
10.	3 Addison W/r...	33.42	PR 5/8 McDonald's 8th Grade Invitati...
11.	3 Kennedy Marsh	34.20	PR 5/8 McDonald's 8th Grade Invitati...
12.	3 Colleen Meth...	34.34	PR 4/15 Pioneer MS Inv.
13.	3 Lauren Stone	34.49	PR 5/8 McDonald's 8th Grade Invitati...
14.	7 Olivia Reed	34.55	PR 4/20 Bobcat MS Meet
15.	3 Adalala Cross	35.07	PR 4/15 Pioneer MS Inv.
16.	3 Lili Southern	36.05	PR 4/7 Buckhannon-Upspur Middle S...
17.	3 Isla Tobray	36.11	PR 4/26 South Harrison 6th Grade Me...
18.	3 Mackenna Ra...	37.14	PR 5/8 McDonald's 8th Grade Invitati...
19.	7 Amber Vincent	37.75	PR 4/15 Pioneer MS Inv.
20.	3 Aaliyah Reider	38.19	PR 4/26 South Harrison 6th Grade Me...
21.	3 Annabel a Bo...	39.35	PR 4/26 South Harrison 6th Grade Me...

## 400 Meters

1.	7 Emma Knice ...	1:06.02	PR 4/29 Mid Mountain 10 MS Champi...
2.	3 Allie Wilson	1:06.16	PR 4/12 Harrison County Middle Scho...
3.	7 Ellie Bongiorno	1:10.64c	PR 5/13 Harry Green Statewide MS Inv...
4.	3 Gracien Sch...	1:17.32	PR 4/20 Bobcat MS Meet

6.	8 Ian Blount	1:33.54	PR 5/8	McDonald's 8th Grade Invt...
7.	14 Carson Bastin	1:04.47	PR 4/12	Harrison County Middle Sc...
8.	8 McNally Jaxson	1:05.20	PR 4/12	Harrison County Middle Sc...
9.	8 Sawyer Culice...	1:06.79	PR 4/12	Harrison County Middle Sc...
10.	7 Braeden Matt...	1:08.98	PR 4/20	Bobcat MS Meet
11.	8 Anderson Sa...	1:10.32	PR 5/8	McDonald's 8th Grade Invt...
12.	7 Michael Keeble	1:10.52	PR 3/25	Connect Bridgeport Invtati...
13.	6 Evan Rose	1:10.53	PR 4/26	South Harrison 6th Grade ...
14.	6 Nathaniel Mo...	1:19.82	PR 4/26	South Harrison 6th Grade ...
15.	6 Bentley Rowh	1:24.60	PR 4/12	Harrison County Middle Sc...

## 800 Meters

1.	8 Elt Knight	2:22.77	PR 5/8	McDonald's 8th Grade Invt...
2.	14 Carson Bastin	2:29.97	PR 5/13	Harry Green Statewide MS I...
3.	7 Zach Hickman	2:39.83	PR 5/13	Harry Green Statewide MS I...
4.	8 McNally Jaxson	2:40.44	PR 3/25	Connect Bridgeport Invtati...

## 1600 Meters

5.	8 Mason Matlock	2:48.85	PR 5/8	McDonald's 8th Grade Invt...
6.	6 Henley Hinkle	2:51.56	PR 4/12	Harrison County Middle Sc...
7.	6 Andrew Wag...	2:52.87	PR 4/26	South Harrison 6th Grade ...
8.	7 Kieran Moore	2:54.61	PR 3/25	Connect Bridgeport Invtati...
9.	8 Nolan Matlock	2:55.61	PR 5/8	McDonald's 8th Grade Invt...
10.	7 Michael Keeble	3:09.67	PR 4/15	Pioneer MS Inv.
11.	6 Nathaniel Mo...	3:14.07	PR 4/12	Harrison County Middle Sc...

## 1600 Meters

1.	7 Parker Muncy	5:25.14	PR 4/29	Mid Mountain 10 MS Cha...
2.	7 Kieran Moore	5:42.27	PR 5/13	Harry Green Statewide MS I...
3.	7 Zach Hickman	5:43.42	PR 4/29	Mid Mountain 10 MS Cha...
4.	8 Sawyer Culice...	5:55.79	PR 5/8	McDonald's 8th Grade Invt...

## 5. 7 Lylah Dearing 1:19.08 PR 4/20 Bobcat MS Meet

6.	6 Isla Tobrey	1:20.04	PR 4/26	South Harrison 6th Grade Me...
7.	7 Olivia Reed	1:23.59	PR 4/12	Harrison County Middle Scho...
8.	6 Aaliyah Reider	1:24.24	PR 4/26	South Harrison 6th Grade Me...
9.	6 Ulili Southern	1:24.56	PR 3/25	Connect Bridgeport Invitation...
10.	6 Colleen Meth...	1:26.29	PR 4/26	South Harrison 6th Grade Me...
11.	6 Annabella Bo...	1:31.10	PR 4/12	Harrison County Middle Scho...
12.	7 Amber Vincent	1:31.17	PR 4/20	Bobcat MS Meet
13.	6 Bella Pritchard	1:54.43	PR 4/7	Buckhamon-Upshur Middle S...

## 800 Meters

1.	7 Haydn Hende...	2:40.84	PR 5/13	Harry Green Statewide MS Inv...
2.	6 Brooklyn Rich...	2:50.19	PR 5/13	Harry Green Statewide MS Inv...
3.	7 Emma Ahmed	2:55.93	PR 4/15	Pioneer MS Inv.
4.	6 Aria Selaño	3:30.20	PR 4/15	Pioneer MS Inv.

## 1600 Meters

1.	7 Haydn Hende...	5:54.88	PR 4/29	Mid Mountain 10 MS Champi...
2.	7 Emma Ahmed	6:19.55	PR 5/13	Harry Green Statewide MS Inv...
3.	6 Brooklyn Rich...	6:20.61	PR 4/26	South Harrison 6th Grade Me...
4.	6 Isla Tobrey	6:44.46	PR 4/29	Mid Mountain 10 MS Champi...
5.	6 Aria Selaño	7:35.60	PR 4/12	Harrison County Middle Scho...

## 3200 Meters

1.	6 Brooklyn Rich...	13:41.35	PR 4/29	Mid Mountain 10 MS Champi...
2.	7 Emma Ahmed	16:33.02	PR 3/25	Connect Bridgeport Invitation...

## 100m Hurdles - 30"

1.	7 Kaite Backus	18.24c	PR 5/13	Harry Green Statewide MS Inv...
2.	7 Madison Ste...	19.23	PR 3/25	Connect Bridgeport Invitation...

5.	8 Nolan Matlock 6:13.73	pr 5/8	McDonald's 8th Grade Invt...	3.	7 Lyla Kelley	19.75	pr 5/8	McDonald's 8th Grade Invt...
6.	7 Jonathan Fer... 6:17.59	pr 5/13	Harry Green Statewide MS L...	4.	7 Scarlett Edgell	20.44	pr 4/12	Harrison County Middle Scho...
7.	6 Andrew Wag... 6:18.85	pr 4/26	South Harrison 6th Grade ...	5.	8 Isabella Hardt...	20.76	pr 5/13	Harry Green Statewide MS Inv...
8.	8 Mason Matlock 6:20.18	pr 5/8	McDonald's 8th Grade Invt...	6.	6 Caroline Ashc...	20.95	pr 4/26	South Harrison 6th Grade Me...
9.	8 Ben Hughes 6:31.64	pr 3/25	Connect Bridgeport Invtati...	7.	6 Gianna Beard...	21.20	pr 4/26	South Harrison 6th Grade Me...
10.	7 Isaac Boyce 6:34.47	pr 4/12	Harrison County Middle Sc...	8.	6 Addison Dau...	21.58	pr 4/20	Bobcat MS Meet
11.	7 Michael Keeble 6:48.41	pr 4/12	Harrison County Middle Sc...	9.	6 Ava Sweeney	22.21	pr 4/15	Pioneer MS Inv.
12.	6 Henry Hinkle 7:13.99	pr 4/26	South Harrison 6th Grade ...	10.	6 Isla Tobrey	23.73	pr 4/20	Bobcat MS Meet
13.	6 Coley Corzad 7:18.52	pr 4/15	Pioneer MS Inv.	11.	7 Lylah Dearing	24.88	4/20	Bobcat MS Meet

## 3200 Meters

## 200m Hurdles - 30"

1.	7 Parker Muny 11:20.98	pr 5/13	Harry Green Statewide MS L...	1.	7 Lyla Kelley	33.08	pr 4/29	Mid Mountain 10 MS Champi...
2.	7 Kieran Moore 13:07.53	pr 4/29	Mid Mountain 10 MS Cha...	2.	7 Madison Ste...	33.74	pr 4/20	Bobcat MS Meet
3.	7 Cole Phillips 13:13.47	pr 4/15	Pioneer MS Inv.	3.	7 Scarlett Edgell	34.61	pr 4/20	Bobcat MS Meet
4.	6 Andrew Wag... 13:49.21	pr 4/15	Pioneer MS Inv.	4.	8 Isabella Hardt...	35.96	pr 5/8	McDonald's 8th Grade Invtati...
5.	8 Ben Hughes 13:59.42	pr 4/15	Pioneer MS Inv.	5.	7 Katie Backus	36.04	pr 3/25	Connect Bridgeport Invitation...
6.	7 Jonathan Fer... 14:11.15	pr 3/25	Connect Bridgeport Invtati...	6.	6 Isla Tobrey	38.88	pr 4/26	South Harrison 6th Grade Me...

## 100m Hurdles - 33"

1.	8 Aiden Gorby 15.88	pr 5/8	McDonald's 8th Grade Invt...	8.	6 Addison Dau...	39.80	pr 4/26	South Harrison 6th Grade Me...
2.	8 Orlando Riley 17.23	pr 5/8	McDonald's 8th Grade Invt...	9.	6 Ava Sweeney	40.29	pr 4/7	Buckhamon-Upsur Middle S...
3.	8 Graham Vinc... 18.24c	pr 5/13	Harry Green Statewide MS L...	10.	6 Gianna Beard...	40.73	pr 3/25	Connect Bridgeport Invitation...
4.	8 Nate Dodson 19.37	pr 5/8	McDonald's 8th Grade Invt...	11.	7 Lylah Dearing	41.07	pr 4/12	Harrison County Middle Scho...
5.	6 Liam Paulsen 20.14	pr 4/26	South Harrison 6th Grade ...	4x60 Shuttle Relay				
6.	8 Dodson Nate 21.59	pr 4/12	Harrison County Middle Sc...	1.	7 Madison Ste...	44.87	pr 5/13	Harry Green Statewide MS Inv...
7.	7 Dominic Saml... 22.50	pr 3/25	Connect Bridgeport Invtati...	7	Scarlett Edgell			
8.	6 Lawson Salisb... 23.09	pr 3/25	Connect Bridgeport Invtati...	7	Lyla Kelley			

## 200m Hurdles - 30"

1.	8 Aiden Gorby 27.98	pr 5/8	McDonald's 8th Grade Invt...	4x100 Relay	7	Katie Backus		
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2.	8 Orlando Riley	30.27	PR/4/29 Mid Mountain 10 MS Cha...	1.	7 Scarlett Edgeall	57.26	PR/4/29 Mid Mountain 10 MS Champi...
3.	8 Graham Vinc...	32.07	PR/5/13 Harry Green Statewide MS I...		6 Veena Raol		
4.	8 Nate Dodson	32.21	PR/5/8 McDonald's 8th Grade Invt...		7 Lyia Kelley		
5.	8 Dodson Nate	34.25	PR/4/12 Harrison County Middle Sc...		8 Ellie McCall		
6.	7 Dominic Sanl...	34.44	PR/4/20 Bobcat MS Meet	2.	6 Veena Raol	57.57	PR/4/15 Pioneer MS Inv.
7.	6 Liam Paulsen	34.47	PR/4/20 Bobcat MS Meet		7 Lyia Kelley		
8.	7 Braeden Matt...	34.48	PR/4/20 Bobcat MS Meet		8 Ellie McCall		
9.	6 Lawson Salisb...	37.68	PR/4/15 Pioneer MS Inv.		7 Katie Backus		
10.	6 Bentley Rowh	42.03	PR/4/15 Pioneer MS Inv.	3.	8 Ellie McCall	57.78	PR/5/13 Harry Green Statewide MS Inv...
<b>4x60 Shuttle Relay</b>							
1.	8 Aiden Gorby	41.17	PR/5/8 McDonald's 8th Grade Invt...		7 Scarlett Edgeall		
	8 Orlando Riley				7 Lyia Kelley		
	8 Graham Vincent				7 Katie Backus		
	8 Nate Dodson			4.	7 Lyia Kelley	58.88	PR/5/8 McDonald's 8th Grade Invtat...
2.	8 Orlando Riley	42.47	PR/5/13 Harry Green Statewide MS I...		8 Adaleia Cross		
	8 Graham Vincent				8 Isabella Hardi...		
	6 Liam Paulsen				8 Ellie McCall		
	7 Braeden Matthis			5.	7 Scarlett Edgeall	59.49	PR/4/20 Bobcat MS Meet
<b>4x100 Relay</b>							
1.	8 Gabe Martin	50.11	PR/4/20 Bobcat MS Meet		8 Ellie McCall		
	8 Luke Rohrig			6.	8 Addison Min...	1:01.15	PR/4/15 Pioneer MS Inv.
	8 Ei Terebus				7 Arianna Vigil...		
	15 8 Patrick Aucre...				8 Kennedy Mar...		
2.	8 Gabe Martin	50.63	PR/4/12 Harrison County Middle Sc...		8 Gabrielle Cve...		
	8 Ei Terebus			7.	6 Veena Raol	1:01.49	PR/4/20 Bobcat MS Meet
	8 Luke Rohrig				8 Addison Min...		
	8 Will George				6 Beila Pritchard		
					7 Arianna Vigil...		

3.	8 Gabe Martin	50.93	PR 4/29 Mid Mountain 10 MS Cha...	8. 8 Addison Min...	1:03.46	PR 4/12 Harrison County Middle Scho...
	8 Lopez Roman			8 London Davis		
	7 Braeden Mat...			6 Aaliyah Reider		
	15.8 Patrick Aucre...			7 Arianna Vigil...		
4.	8 Gabe Martin	51.06	PR 5/8 McDonald's 8th Grade Invit...	9. 6 Veena Raol	1:03.46	PR 4/26 South Harrison 6th Grade Me...
	8 Lopez Roman			6 Lili' Southern		
	8 Luke Rohrig			6 Gianna Beard...		
	8 Eli Teribus			6 Bella Pritchard		
5.	8 Will George	53.88	PR 4/15 Pioneer MS Inv.	10. 8 Gretchen Sch...	1:03.53	PR 5/8 McDonald's 8th Grade Invitati...
	8 Graham Vincent			8 London Davis		
	8 Eli Teribus			8 Lauren Stone		
	8 Gabe Martin			8 Addison Min...		
6.	15.8 Patrick Aucre...	54.69	PR 3/25 Connect Bridgeport Invitati...	11. 8 Lauren Stone	1:04.62	PR 4/15 Pioneer MS Inv.
	8 Orlando Riley			6 Addison Day...		
	8 Luke Rohrig			6 Bella Pritchard		
	8 Eli Teribus			6 Ava Sweeney		
7.	8 Sean Veltri	54.71	PR 5/13 Harry Green Statewide MS L...	12. 6 Veena Raol	1:04.79	PR 4/7 Buckhannon-Upspur Middle S...
	14.7 Carson Bastin			8 Kennedy Mar...		
	8 Lopez Roman			6 Lili' Southern		
	7 Hunter Reid			8 Gretchen Sch...		
8.	8 Lopez Roman	56.90	PR 4/20 Bobcat MS Meet	13. 6 Gianna Beard...	1:07.83	PR 4/7 Buckhannon-Upspur Middle S...
	8 Sean Veltri			6 Colleen Meth...		
	7 Hunter Reid			6 Bella Pritchard		
	8 Anderson Sauc...			6 Aaliyah Reider		
9.	6 Maverick Flint	1:00.40	PR 4/12 Harrison County Middle Sc...	14. 6 Aaliyah Reider	1:09.42	PR 3/25 Connect Bridgeport Invitation...
	6 Tildon Cope			6 Gianna Beard...		
	7 Hunter Reid			6 Lili' Southern		
	6 Aidric Riley			8 Lauren Stone		



8	Ellie Teribus				
5.	Sean Veltri	1:47.71	PR4/20 Bobcat MS Meet		
	8	Ellie Teribus			
	8	Luke Rohrig			
	15	8 Patrick Aucre...			
6.	Sean Veltri	1:52.42	PR4/29 Mid Mountain 10 MS Cha...		
	6	Henley Hinkle			
	8	Ian Blount			
	14	7 Carson Bastin			
7.	Will George	1:53.72	PR4/15 Pioneer MS Inv.		
	8	Sawyer Culicento			
	8	Ell Knight			
	8	Ell Teribus			
8.	6 Nathaniel Morr...	2:03.47	PR4/12 Harrison County Middle Sc...		
	6	Owen Glass			
	6	Henley Hinkle			
	6	Ulin Matthews			
9.	7 Dominic SanJul...	2:05.94	PR4/15 Pioneer MS Inv.		
	6	Ulin Matthews			
	8	Anderson Sauc...			
	6	Lamson Salisbury			
10.	6 Evan Rose	2:06.94	PR4/26 South Harrison 6th Grade ...		
	6	Ulin Matthews			
	6	Nathaniel Morr...			
	6	Henley Hinkle			
11.	6 Maverick Flint	2:07.14	PR4/20 Bobcat MS Meet		
	6	Henley Hinkle			
	7	Hunter Reid			
	8	Addison Min...			
	8	7 Amber Vincent	2:24.33	PR4/12 Harrison County Middle Scho...	
	6	Bella Pritchard			
	6	Colleen Meth...			
	8	Lauren Stone			
	9	6 Verna Read	2:26.75	PR4/26 South Harrison 6th Grade Me...	
	6	Lili Southern			
	6	Colleen Meth...			
	6	Annabella a Bo...			
10.	7 Olivia Reed	2:36.63	PR3/25 Connect Bridgeport Invitation...		
	7	Amber Vincent			
	6	Annabella a Bo...			
	8	Mackenna Ra...			
	4x	400 Relay			
	1.	7 Emma Knicel...	4:47.02	PR5/13 Hary Green Statewide MS Inv...	
	7	Emma Ahmed			
	7	Ellie Bongiorno			
	7	Haydn Hend...			
	2.	7 Emma Knicel...	4:47.97	PR4/20 Bobcat MS Meet	
	7	Ellie Bongiorno			
	7	Lylan Deating			
	8	Allie Wilson			
	3.	7 Ellie Bongiorno	4:52.89	PR4/29 Mid Mountain 10 MS Champi...	
	7	Lylan Deating			
	8	Gretchen Sch...			
	7	Emma Knicel...			
	4.	7 Emma Knicel...	5:01.25	PR4/15 Pioneer MS Inv.	
	7	Ellie Bongiorno			

8 Nate Dodson			7 Emma Ahmed	
12. 8 Lopez Roman	2:13.29	PR 3/25 Connect Bridgeport Invitati...	7 Haydn Hend...	
6 Aidric Riley			5. 7 Ellie Bongiorno 5:08.27	
7 Braeden Mattis			PR 4/7 Buckhammon-Upshur Middle S...	
6 Nathaniel Morr...			7 Emma Ahmed	
			6 Brooklyn Ric...	
			7 Haydn Hend...	
4x400 Relay				
1. 8 Gabe Martin	4:06.69	PR 4/12 Harrison County Middle Sc...	6. 8 Allie Wilson 5:08.82	
8 Sawyer Culicerto			PR 4/12 Harrison County Middle Scho...	
8 Eli Knight			7 Lylah Dearing	
8 Grayson Church			7 Ellie Bongiorno	
2. 8 Aiden Gorby	4:09.20	PR 5/13 Harry Green Statewide MS 1...	7 Emma Knicel...	
7 Parker Muncy			7. 7 Amber Vincent 6:15.85	
8 Sawyer Culicerto			PR 4/12 Harrison County Middle Scho...	
8 Gabe Martin			6 Annabella Bo...	
3. 8 Grayson Church	4:12.11	PR 3/25 Connect Bridgeport Invitati...	8 Lauren Stone	
8 Sawyer Culicerto			6 Lili Southern	
8 Eli Knight			4x800 Relay	
8 Gabe Martin			1. 7 Emma Ahmed 11:25.13	
4. 8 Eli Knight	4:12.36	PR 4/29 Mid Mountain 10 MS Cha...	PR 4/20 Bobcat MS Meet	
8 Sean Veltri			6 Isla Tobrey	
8 Sawyer Culicerto			6 Brooklyn Ric...	
8 Aiden Gorby			2. 7 Emma Ahmed 11:52.11	
5. 8 Grayson Church	4:12.74	PR 5/8 McDonald's 8th Grade Invti...	PR 4/12 Harrison County Middle Scho...	
8 Sean Veltri			6 Brooklyn Ric...	
8 Sawyer Culicerto			6 Isla Tobrey	
8 Eli Knight			3. 7 Emma Knicel 11:54.04	
6. 8 McNally Jaxon	4:20.94	PR 4/20 Bobcat MS Meet	PR 3/25 Connect Bridgeport Invitation...	
8 Sean Veltri			6 Brooklyn Ric...	
			7 Emma Ahmed	
			7 Haydn Hend...	
			4x60 Shuttle Hurdles	

8 Aiden Gofby				1. 7 Madison Ste... 44.44	PR4/29 Mid Mountain 10 MS Champl...
8 Eli Knight				7 Scarlett Edgell	
7. 7 Zach Hickman 4:35.92	PR4/15 Pioneer MS Inv.			7 Lyia Kelley	
8 Sean Velti				7 Katie Backus	
14 7 Carson Bastin				2. 7 Madison Ste... 45.99	PR4/15 Pioneer MS Inv.
8 Sawyer Cullc...				8 Isabella Hardi...	
8. 8 Lopez Roman 4:40.57	PR4/12 Harrison County Middle Sc...			7 Lyia Kelley	
7 Braeden Matthis				7 Katie Backus	
6 Eyan Rose				3. 6 Gianna Beard... 50.19	PR4/26 South Harrison 6th Grade Me...
8 Sean Velti				6 Caroline Ashc...	
9. 8 Lopez Roman 4:42.13	PR4/20 Bobcat MS Meet			6 Ava Sweeney	
7 Michael Keeble				6 Addison Dau...	
7 Dominic Sanjuli...				4. 6 Ava Sweeney 51.39	PR4/12 Harrison County Middle Scho...
7 Zach Hickman				6 Isla Tobrey	
10. 8 Lopez Roman 4:46.87	PR4/15 Pioneer MS Inv.			6 Gianna Beard...	
8 Ian Blount				6 Caroline Ashc...	
8 Anderson Sauc...				5. 6 Caroline Ashc... 52.34	PR4/7 Buckhannon-Upshur Middle S...
7 Braeden Matthis				7 Lyiah Dearing	
11. 7 Michael Keeble 5:16.11	PR3/25 Connect Bridgeport Invitat...			6 Gianna Beard...	
6 Coley Cozad				6 Ava Sweeney	
7 Braeden Matthis				6. 6 Addison Dau... 53.78	PR4/20 Bobcat MS Meet
8 Lopez Roman				6 Ava Sweeney	
4x800 Relay				6 Gianna Beard...	
1. 7 Parker Muny 10:08.30	PR4/29 Mid Mountain 10 MS Cha...			6 Caroline Ashc...	
8 Eli Knight				4x100 Shuttle Hurdles - 33"	
14 7 Carson Bastin				1. 7 Madison Ste... 45.99	PR4/15 Pioneer MS Inv.
8 Sawyer Cullc...				8 Isabella Hardi...	
2. 8 McNally Jaxs... 10:27.62	PR4/20 Bobcat MS Meet			7 Lyia Kelley	

<b>8 Eli Knight</b>	
<b>147 Carson Bastin</b>	
<b>7 Parker Muncy</b>	
3. <b>8 McNally Jaxon</b>	10:28.90 PR 4/12 Harrison County Middle Sc...
<b>8 Eli Knight</b>	
<b>8 Sawyer Culicerto</b>	
<b>7 Parker Muncy</b>	
4. <b>7 Parker Muncy</b>	10:28.9h PR 5/13 Harry Green Statewide MS L...
<b>147 Carson Bastin</b>	
<b>7 Zach Hickman</b>	
<b>8 Sawyer Culic...</b>	
5. <b>7 Parker Muncy</b>	10:30.85 PR 3/25 Connect Bridgeport Invitati...
<b>147 Carson Bastin</b>	
<b>8 Sawyer Culic...</b>	
<b>8 Eli Knight</b>	
6. <b>7 Zach Hickman</b>	10:36.39 PR 4/15 Pioneer MS Inv.
<b>8 Sawyer Culic...</b>	
<b>147 Carson Bastin</b>	
<b>7 Parker Muncy</b>	
7. <b>8 Eli Knight</b>	10:57.05 PR 5/8 McDonald's 8th Grade Invt...
<b>8 Sawyer Culicerto</b>	
<b>8 Ben Hughes</b>	
<b>8 Anderson Sauc...</b>	
8. <b>7 Cole Phillips</b>	11:31.88 PR 4/15 Pioneer M5 Inv.
<b>8 Mason Matlock</b>	
<b>8 Nolan Matlock</b>	
<b>7 Kieran Moore</b>	
9. <b>147 Carson Bastin</b>	11:33.49 PR 4/12 Harrison County Middle Sc...

<b>7 Kate Backus</b>	
<b>Shot Put - 6lb</b>	
1. <b>8 Isabella McCu...</b>	35' 3" PR 4/29 Mid Mountain 10 MS Champi...
2. <b>8 Kennedy Marsh</b>	32' 4" PR 4/20 Bobcat MS Meet
3. <b>7 B.P. J.</b>	28' 10" PR 4/29 Mid Mountain 10 MS Champi...
4. <b>7 Arianna Vigila...</b>	28' 6" PR 4/20 Bobcat MS Meet
5. <b>8 Adaleia Cross</b>	24' 1" PR 3/25 Connect Bridgeport Invitation...
6. <b>7 Olivia Reed</b>	22' 5" PR 4/20 Bobcat MS Meet
7. <b>8 London Davis</b>	21' 10.5" 5/8 McDonald's 8th Grade Invitati...
8. <b>7 Ella Carlson</b>	21' 1" PR 4/20 Bobcat MS Meet
9. <b>8 Lauren Stone</b>	19' 3" PR 3/25 Connect Bridgeport Invitation...

<b>Shot Put - 4kg</b>	
1. <b>8 Isabella McCu...</b>	36' 6" PR 4/12 Harrison County Middle Scho...

<b>Discus - 1kg</b>	
1. <b>8 Isabella McCu...</b>	101' 5" PR 5/8 McDonald's 8th Grade Invitati...
2. <b>7 B.P. J.</b>	68' 7" PR 5/13 Harry Green Statewide MS Inv...
3. <b>8 London Davis</b>	57' 2" PR 4/20 Bobcat MS Meet
4. <b>8 Adaleia Cross</b>	55' 2" PR 4/20 Bobcat MS Meet
5. <b>8 Kennedy Marsh</b>	53' 1.5" 4/15 Pioneer MS Inv.
6. <b>7 Arianna Vigila...</b>	52' 8.5" PR 4/15 Pioneer MS Inv.
7. <b>8 Lauren Stone</b>	49' 11" PR 5/8 McDonald's 8th Grade Invitati...
8. <b>7 Ella Carlson</b>	42' 2" PR 4/20 Bobcat MS Meet
9. <b>6 Aria Salario</b>	39' 2" PR 4/26 South Harrison 6th Grade Me...

<b>High Jump</b>	
1. <b>7 Lyla Kelley</b>	4' 8" PR 4/12 Harrison County Middle Scho...
2. <b>8 Isabella Hardi...</b>	4' 4" PR 4/20 Bobcat MS Meet

8 Mason Matlock			3. 7 Katie Backus	4' 2"	PR4/20 Bobcat MS Meet
8 Nolan Matlock			4. 6 Brooklyn Rich...	4' 2"	PR4/29 Mid Mountain 10 MS Champi...
7 Zach Hickman			5. 7 Lyiah Dearing	3' 10"	PR4/7 Buckhammon-Upshur Middle S...
10. 6 Henley Hinkle	11:53.76	PR4/20 Bobcat MS Meet	Pole Vault		
8 Mason Matlock			1. 7 Madison Ste...	6' 0"	PR4/12 Harrison County Middle Scho...
8 Nolan Matlock			2. 8 Adaleia Cross	5' 6"	PR4/15 Pioneer MS Inv.
7 Cole Phillips			3. 6 Veena Raol	5' 0"	PR4/26 South Harrison 6th Grade Me...
11. 7 Zach Hickman	12:06.37	PR3/25 Connect Bridgeport Invitati...	4. 7 Emma Knicel...	4' 6"	PR4/12 Harrison County Middle Scho...
8 Mason Matlock			Long Jump		
8 Nolan Matlock			1. 7 Scarlett Edgell	14' 9"	PR4/20 Bobcat MS Meet
8 McNally Jasson			2. 7 Haydn Hende...	14' 0.5"	PR4/29 Mid Mountain 10 MS Champi...
4x60 Shuttle Hurdles			3. 8 Ellie McCall	13' 8"	PR4/20 Bobcat MS Meet
1. 8 Graham Vincent	42.41	PR4/12 Harrison County Middle Sc...	4. 7 Madison Ste...	12' 6"	PR4/20 Bobcat MS Meet
8 Orlando Riley			5. 6 Bella Pritchard	12' 1"	PR4/20 Bobcat MS Meet
6 Liam Paulsen			6. 6 Veena Raol	10' 8"	PR4/20 Bobcat MS Meet
8 Aiden Gorby			7. 8 Addison Min...	8' 10"	PR4/12 Harrison County Middle Scho...
2. 8 Orlando Riley	43.13	PR4/29 Mid Mountain 10 MS Cha...			
8 Graham Vincent					
7 Dominic Sanjuli...					
7 Braeden Mathis					
3. 8 Orlando Riley	46.17	PR4/20 Bobcat MS Meet			
8 Graham Vincent					
6 Liam Paulsen					
7 Dominic Sanjuli...					
4. 6 Liam Paulsen	50.48	PR4/15 Pioneer MS Inv.			
7 Dominic Sanjuli...					
6 Bentley Rowh					
7 Braeden Mathis					

**4x110 Shuttle Hurdles - 39"**

1. 6 Liam Paulsen 50.48 PR 4/15 Pioneer MS Inv.
- 7 Dominic SanJuli...
- 6 Bentley Rowh
- 7 Braeden Matthis

**Shot Put - 4kg**

1. 15 8 Patrick Aucre... 43' 11" PR 5/8 McDonald's 8th Grade Invit...
2. 8 Jaylen Brown 41' 0" PR 4/29 Mid Mountain 10 MS Cha...
3. 8 Tristan Noble 40' 0.25" PR 4/12 Harrison County Middle Sc...
4. 7 Tytan Martin 39' 7" PR 4/29 Mid Mountain 10 MS Cha...
5. 8 Brilyn Ford-P... 31' 7" PR 4/20 Bobcat MS Meet
6. 6 William Hend... 21' 0.5" PR 4/12 Harrison County Middle Sc...
7. 6 Elijah Morgan 16' 2" PR 4/26 South Harrison 6th Grade ...

**Discus - 1kg**

1. 7 Tytan Martin 121' 2" PR 4/29 Mid Mountain 10 MS Cha...
2. 15 8 Patrick Aucre... 119' 10" PR 4/20 Bobcat MS Meet
3. 8 Jaylen Brown 102' 3" PR 3/25 Connect Bridgeport Invitati...
4. 8 Brilyn Ford-P... 88' 0" PR 4/20 Bobcat MS Meet
5. 8 Tristan Noble 63' 2" PR 4/15 Pioneer MS Inv.
6. 6 William Hend... 51' 9" PR 4/26 South Harrison 6th Grade ...
7. 6 Elijah Morgan 36' 4" PR 4/15 Pioneer MS Inv.

**High Jump**

1. 8 Grayson Chur... 5' 6" PR 4/12 Harrison County Middle Sc...
2. 8 Ian Blount 5' 6" PR 4/12 Harrison County Middle Sc...
3. 8 Graham Vinc... 5' 0" PR 4/20 Bobcat MS Meet
4. 7 Tytan Martin 5' 0" PR 4/20 Bobcat MS Meet

5. 8Dodson Nate 4' 10" PR4/12 Harrison County Middle Sc...
6. 8Gabe Martin 4' 8" PR3/25 Connect Bridgeport Invitati...
7. 8Nate Dodson 4' 8" 5/8 McDonald's 8th Grade Invit...
8. 147Carson Bastin 4' 4" PR4/15 Pioneer MS Inv.
9. 6Tildon Cope 3' 8" PR4/26 South Harrison 6th Grade ...

#### Pole Vault

1. 158Patrick Aucre... 8' 6" PR5/13 Harry Green Statewide MS I...
2. 8Will George 7' 6" PR4/15 Pioneer MS Inv.
3. 8Sawyer Culice... 7' 0" PR4/15 Pioneer MS Inv.
4. 8Graham Vinc... 7' 0" PR4/12 Harrison County Middle Sc...
5. 6Urlin Mathews 6' 6" PR4/26 South Harrison 6th Grade ...
6. 6Nathaniel Mo... 6' 6" PR4/26 South Harrison 6th Grade ...
7. 6Tildon Cope 5' 0" PR4/26 South Harrison 6th Grade ...

#### Long Jump

1. 8Gabe Martin 19' 7" PR4/20 Bobcat MS Meet
2. 8Eli Knight 18' 1" PR4/20 Bobcat MS Meet
3. 8Aiden Gorby 17' 5" PR4/20 Bobcat MS Meet
4. 8Luke Rohrig 16' 5.75" PR3/25 Connect Bridgeport Invitati...
5. 8Will George 15' 5.25" PR3/25 Connect Bridgeport Invitati...
6. 6Aidric Riley 13' 9.5" PR3/25 Connect Bridgeport Invitati...
7. 8McNally Jaxson 13' 8.5" PR3/25 Connect Bridgeport Invitati...
8. 6Owen Glass 12' 9.5" PR4/26 South Harrison 6th Grade ...
9. 6Henley Hinkle 12' 7.5" PR4/26 South Harrison 6th Grade ...

\*Recent improvement

Age on December 31st. USATF rules for 18-19 year old exception.



## Connect Bridgeport Invitational - Middle School <sup>MS</sup>

**OFFICIAL** Mar 25, 2023 📍 Bridgeport HS

[Show More Details...](#)

### Womens Middle School Shot Put

#### Finals – 6lb

1.	8	Savannah Johnston	35-03.00	Doddridge County
2.	8	Mattie Brown	31-07.50	Ritchie County
3.	8	Tessa Farley	30-11.00	Doddridge County
4.	7	Morgan Morris	30-07.50 PR	Ritchie County
5.	8	Raqi Thomas	30-00.00	Suncrest
6.	8	Reese Lambert	29-04.00	Taylor County
7.	8	Isabella McCullough	26-09.00	Bridgeport
8.	8	Aliyah Bonnell	25-11.00	Doddridge County
9.	7	Isabella Bowers	25-08.00	Buckhannon-Upshur
10.	7	Reagan Watkins	25-02.00	South (Morgantown)
11.	7	B.P.J.	24-11.00	Bridgeport
12.	7	Katie Samples	24-08.00	Buckhannon-Upshur
13.	8	Aniya Brown	24-05.00	Mountaineer (Morgantown)
14.	8	Cadence McDonald	24-03.00	Robert L Bland



# 4367

15.	8	Adaleia Cross	24-01.00 PR	Bridgeport
16.	8	Chelsea McPherson	22-08.00	Mountaineer (Clarksburg)
17.	8	McKenzie Egress	22-08.00	Buckhannon-Upshur
18.	8	Lilly Anger	22-05.50	Elkins
19.	7	Brooklyn Leshner	22-02.50	Keyser
20.	6	Angel Redman	21-07.50 PR	Keyser
21.	6	Lila Burgr	21-07.00	Robert L Bland
22.	8	Kayli West	21-03.00	Tyler Consolidated
23.	8	Alyssa Folgeman	21-01.50	Suncrest
24.	8	Aubrey Roy	21-00.00	Taylor County
25.	8	Kayleigh Nelson	20-11.50	Keyser
26.	7	Ella Carlson	20-05.50	Bridgeport
27.	8	Maggie Posey	20-03.00	Mountaineer (Clarksburg)
28.	8	London Davis	20-02.00	Bridgeport
29.	8	Aubrey Cottrill	19-10.00	Mountaineer (Clarksburg)
30.	7	Bailey Fernatt	19-03.00	Taylor County
31.	8	Lauren Stone	19-03.00 PR	Bridgeport
32.	8	Baylee Yost	18-04.00	Suncrest
33.	8	Tessa Velazquez	17-10.50	Washington Irving
34.	8	Ave Cook	17-06.00	Mountaineer (Morgantown)
35.	6	Lillian Harnett	17-03.50	Washington Irving
36.	8	Shilah Jones	17-01.00	Tucker Valley

# 4368

37.	8	Mary Phillips	16-02.50	Tucker Valley
38.	8	Selena Wilson	16-01.50	Tyler Consolidated
39.	6	Isabella Henderson	14-01.00 PR	Mountaineer (Morgantown)
40.	6	Brandy Gum	11-07.50	South Harrison
41.	7	Mackenzie Collins	10-07.00	Ritchie County



## Connect Bridgeport Invitational - Middle School MS

**OFFICIAL** Mar 25, 2023 📍 Bridgeport HS

[Show More Details...](#)

### Womens Middle School Discus

#### Finals – 1kg

1.	7	Morgan Morris	76-00 PR	Ritchie County
2.	8	Ella Powers	75-01	Doddridge County
3.	8	Aliyah Bonnell	74-11	Doddridge County
4.	8	Reese Lambert	74-01	Taylor County
5.	8	Savannah Johnston	73-03	Doddridge County
6.	8	Natalie Henger	73-01	Ritchie County
7.	8	Isabella McCullough	64-02	Bridgeport
8.	8	Raqi Thomas	61-00	Suncrest
9.	8	Mattie Brown	59-03	Ritchie County
10.	7	Katie Samples	58-08	Buckhannon-Upshur
11.	8	Mercy Frase	55-00	South Harrison
12.	8	Aubrey Cottrill	53-02	Mountaineer (Clarksburg)
13.	7	B.P.J.	52-01	Bridgeport
14.	8	London Davis	52-00	Bridgeport
15.	8	Chelsea McPherson	49-10	Mountaineer (Clarksburg)

16.	8	Lorelei Namsupak	48-04	Suncrest
17.	8	Selena Wilson	45-02 PR	Tyler Consolidated
18.	8	Adaleia Cross	44-10	Bridgeport
19.	7	Brooklyn Leshner	44-06	Keyser
20.	8	Madison Richeson	44-05 PR	Tyler Consolidated
21.	6	Angel Redman	43-04	Keyser
22.	8	Baylee Yost	42-11	Suncrest
23.	8	Lauren Stone	41-11	Bridgeport
24.	8	Kayleigh Nelson	41-07	Keyser
25.	8	Maggie Posey	39-04	Mountaineer (Clarksburg)
26.	7	Bailey Fernatt	39-01	Taylor County
27.	7	Hannah Sions	38-02 PR	South (Morgantown)
28.	7	Ella Carlson	38-01	Bridgeport
29.	8	Ava Cook	36-03	Mountaineer (Morgantown)
30.	6	Maggie O'Neill	35-00	Buckhannon- Upshur
31.	8	Shilah Jones	34-11	Tucker Valley
32.	8	Mary Phillips	29-08	Tucker Valley
33.	8	Savannah Weese	29-04	Tyler Consolidated
34.	6	Lillian Harnett	27-11	Washington Irving
35.	8	Anndrea Cummings	26-10	South Harrison
36.	7	Chloee Crislip	23-10	Washington Irving
37.	6	Dora Gum	22-02	South Harrison

38.	6	Isabella Henderson	18-08	Mountaineer (Morgantown)
	8	Aniya Brown	DNS	Mountaineer (Morgantown)
	8	McKenzie Egress	DNS	Buckhannon- Upshur



## Buckhannon-Upshur Middle School Invitational MS

**OFFICIAL** Apr 7, 2023 📍 Buckhannon-Upshur HS

[Show More Details...](#)

### Womens Middle School Shot Put

#### Finals – 6lb

1.	8	Emma Casto	31-02.00	East Fairmont
2.	8	Kasey Rogers	29-11.00	East Fairmont
2.	8	Reese Lambert	29-11.00 PR	Taylor County
4.	8	Ashtyn Hill	29-05.00	Robert L. Bland
5.	8	Brynne Davis	29-01.00 PR	Braxton County
6.	8	Cortney Shaffer	28-05.00	Aurora
7.	8	Isabella McCullough	27-04.00	Bridgeport
8.	8	Emily Smith	27-03.00 SR	Tygarts Valley
9.	8	Kennedy Marsh	26-10.00	Bridgeport
10.	8	Kayleigh Nelson	26-08.00	Keyser
11.	7	Isabella Bowers	25-00.00	Buckhannon-Upshur
12.	6	Lila Burgr	23-10.00	Robert L. Bland
13.	7	Katie Samples	23-03.00	Buckhannon-Upshur
14.	8	Brooklyn Leshner	23-01.00	Keyser
15.	8	McKenzie Egress	22-05.00	Buckhannon-Upshur
16.	8	Tessa Velazquez	22-04.00	Washington Irving
16.	7	Bailey Fernatt	22-04.00	Taylor County
18.	8	Joslynn Napier	22-03.00	Braxton County

18.	7	<b>B.P.J.</b>	22-03.00	Bridgeport
20.	8	Faithlynn Ferrell	21-09.00	South Harrison
21.	8	Mary Phillips	21-04.00	Tucker Valley
22.	8	Aubrey Roy	21-01.00	Taylor County
23.	8	Ryleigh Bills	20-09.00	East Fairmont
24.	6	Mckenzie Conrad	20-06.00	Braxton County
25.	8	Shilah Jones	20-03.00 PR	Tucker Valley
26.	6	Angel Redman	19-00.00	Keyser
27.	6	Lillian Harnett	16-09.00	Washington Irving
28.	6	Brandy Gum	11-09.00	South Harrison
	6	Riley Martin	DNS	Tygarts Valley



## Buckhannon-Upshur Middle School Invitational MS

**OFFICIAL** Apr 7, 2023 📍 Buckhannon-Upshur HS

[Show More Details...](#)

### Womens Middle School Discus

#### Finals – 1kg

1.	8	Reese Lambert	70-11	Taylor County
2.	8	Linsey Kramer	65-11	East Fairmont
3.	8	Isabella McCullough	65-05	Bridgeport
4.	7	Shalen Moore	62-06	Braxton County
5.	8	Mercy Frase	60-01	South Harrison
6.	8	Alexis Herndon	59-03	Braxton County
7.	8	Brooklyn Leshner	55-05	Keyser
8.	8	Ashtyn Hill	54-10	Robert L Bland
9.	8	McKenzie Egress	54-00	Buckhannon-Upshur
10.	8	Kaitlyn Woodland	52-11	East Fairmont
11.	7	Katie Samples	52-08	Buckhannon-Upshur
12.	7	<b>B.P.J.</b>	52-04	Bridgeport
13.	8	Gabriella Berry	51-05	Aurora
14.	8	Kayleigh Nelson	49-02	Keyser



15.	7	Bailey Fernatt	48-06	Taylor County
16.	7	Brooklyn Hymes	45-02	East Fairmont
17.	6	Angel Redman	44-11	Keyser
18.	8	Kennedy Marsh	44-04	Bridgeport
19.	8	Joslynn Napier	42-05	Braxton County
20.	8	Mary Phillips	38-10	Tucker Valley
21.	8	Shilah Jones	37-10	Tucker Valley
22.	6	Kenzeta Warner	36-02	Aurora
23.	6	Livey Baker	35-11	Aurora
24.	6	Maggie O'Neill	35-08	Buckhannon- Upshur
25.	6	Lillian Harnett	33-07	Washington Irving
26.	7	Kenleigh Rittenhouse	31-06	Robert L. Bland
27.	6	Dora Gum	30-11	South Harrison
28.	8	Anndrea Cummings	29-01	South Harrison
29.	7	Chloee Crislip	28-08	Washington Irving
	6	Autumn Wratchford	DNS	Tygarts Valley
	6	Riley Martin	DNS	Tygarts Valley



## Harrison County Middle School Championships MS

**OFFICIAL** Apr 12, 2023 📍 Mazzei Reaser Athletic ...

[Show More Details...](#)

### Womens Middle School Shot Put

#### Finals – 4kg

Isabella	36'06 PR	Bridgeport
McCullough		

#### Finals – 6lb

1.	8	Hannah Westfall	33-00.25	Lincoln
2.	8	Isabella McCullough	32-00.50	Bridgeport
3.	8	Kennedy Marsh	30-00.75	Bridgeport
4.	8	Julia Martin	29-09.50	Lincoln
5.	8	Gracie Devericks	28-09.00	Mountaineer (Clarksburg)
6.	7	B.P.J.	27-00.00	Bridgeport
7.	8	Chelsea McPherson	26-04.75	Mountaineer (Clarksburg)
8.	7	Arianna Viglianco	26-01.50	Bridgeport
9.	8	Aries Frag man	26-00.00 PR	Lincoln
10.	8	Tessa Velazquez	24-06.50 PR	Washington Irving
11.	7	Emmy Salerno	23-00.00 PR	Lincoln
12.	7	Olivia Reed	22-00.00	Bridgeport
13.	8	Faithlynn Ferrell	21-08.75	South Harrison

14.	8	Aubrey Cottrill	21-08.50	Mountaineer (Clarksburg)
15.	8	Maggie Posey	21-00.00	Mountaineer (Clarksburg)
16.	7	Abi Owens	20-00.00	Lincoln
17.	6	Lillian Harnett	18-10.50	Washington Irving
18.	8	Jai'ah Andrew	17-11.50	Mountaineer (Clarksburg)
19.	7	Lyliana Vadi	17-00.25	Washington Irving
20.	6	Brandy Gum	12-00.25	South Harrison

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Team Results Management

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**Harrison County Middle School Championships** MS  
**OFFICIAL** Apr 12, 2023 📍 Mazzei Reaser Athletic ...

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[Show More Details...](#)

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## Womens Middle School Discus

### Finals – 1kg

1.	7	Ava McGill	68-03	Lincoln
2.	8	Isabella McCullough	66-07	Bridgeport
3.	8	Mercy Frase	58-03	South Harrison
4.	7	Emmy Salerno	55-03	Lincoln
5.	8	Adaleia Cross	51-03	Bridgeport
6.	8	Chelsea McPherson	50-11	Mountaineer (Clarksburg)
7.	8	London Davis	50-05	Bridgeport
8.	7	B.P.J.	50-04	Bridgeport
9.	8	Aries Fragman	49-05	Lincoln
10.	7	Sabrina Shriver	48-03	Lincoln
11.	8	Kennedy Marsh	48-01	Bridgeport
12.	8	Aubrey Cottrill	47-07	Mountaineer (Clarksburg)
13.	8	Maggie Posey	47-03	Mountaineer (Clarksburg)
14.	6	Lillian Harnett	40-08 PR	Washington Irving

15.	8	Ty'Yonna Smith	40-06 PR	Mountaineer (Clarksburg)
16.	7	Chloee Crislip	37-00	Washington Irving
17.	8	Jazzmyne Long	35-09	Lincoln
18.	6	Dora Gum	27-11	South Harrison
	8	Anndrea Cummings	SCR	South Harrison

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Team Results Management

Pioneer MS Inv. MS

**OFFICIAL** Apr 15, 2023 📍 Lewis County HS

[Show More Details...](#)

## Womens Middle School Shot Put

### Finals – 6lb

1.	8	Hannah Westfall	33-07.50	Lincoln
2.	8	Mattie Brown	32-00.00 PR	Ritchie County
3.	8	Isabella McCullough	31-09.50	Bridgeport
4.	8	Ashtyn Hill	30-11.00	Robert L. Bland
5.	8	Kennedy Marsh	29-07.50	Bridgeport
6.	8	Cadence McDonald	28-06.00 PR	Robert L. Bland
7.	8	Brynne Davis	28-00.00	Braxton County
8.	8	Julia Martin	27-08.00	Lincoln
9.	7	Morgan Morris	27-03.50	Ritchie County
10.	7	<b>B.P.J.</b>	26-09.00	Bridgeport
11.	7	Arianna Viglianco	26-04.50	Bridgeport
12.	7	Shalen Moore	25-09.50 PR	Braxton County
13.	8	Joslynn Napier	25-07.50	Braxton County
14.	7	Isabella Bowers	25-06.50	Buckhannon-Upshur
15.	6	Lila Burgr	24-08.50	Robert L Bland
16.	9	Paige Huffman	24-08.00 PR	Gilmer

17.	7	Katie Samples	24-07.00	Buckhannon-Upshur
18.	8	Aries Fragman	22-11.50	Lincoln
19.	6	Mckenzie Conrad	22-11.00 PR	Braxton County
20.	7	Olivia Reed	21-07.00	Bridgeport
21.	8	Claira Stewart	21-05.50 PR	Braxton County
22.	-	Peighton Rutherford	21-04.00 PR	Gilmer
23.	7	Emmy Salerno	20-11.00	Lincoln
24.	8	Alexis Herndon	20-01.50 PR	Braxton County
25.	6	Maggie O'Neill	19-09.00	Buckhannon-Upshur
26.	7	Ella Carlson	18-03.50	Bridgeport
27.	7	Alawna Powell	16-09.50	Lincoln
28.	6	Brooklyn Weaver	15-03.50	Buckhannon-Upshur
29.	6	Clarissa Miller	14-04.00 PR	Gilmer
30.	7	Mackenzie Collins	13-05.50 PR	Ritchie County
31.	6	Brandy Gum	12-03.50	South Harrison
--	8	Faithlynn Ferrell	DNS	South Harrison

Pioneer MS Inv. MS**OFFICIAL** Apr 15, 2023 📍 Lewis County HS[Show More Details...](#)

## Womens Middle School Discus


### Finals – 1kg

1.	8	Natalie Henger	79-11.50 PR	Ritchie County
2.	8	Isabella McCullough	70-09	Bridgeport
3.	8	Mattie Brown	68-04 PR	Ritchie County
4.	7	Shalen Moore	65-11	Braxton County
5.	7	Katie Samples	63-09	Buckhannon-Upshur
6.	7	Ava McGill	62-11	Lincoln
7.	7	<b>B.P.J.</b>	61-09	Bridgeport
8.	8	Mercy Frase	58-07	South Harrison
9.	7	Emmy Salerno	57-08	Lincoln
10.	8	Alexis Herndon	56-01	Braxton County
11.	8	Joslynn Napier	55-01 PR	Braxton County
12.	9	Paige Huffman	54-06 PR	Gilmer
13.	8	Brooklyn Paletti	54-00	Braxton County
14.	8	Kennedy Marsh	53-01.50 SR	Bridgeport
15.	8	Aries Fragman	52-10	Lincoln
16.	7	Arianna Viglianco	52-08.50 PR	Bridgeport



17.	-	Peighton Rutherford	51-03	Gilmer
18.	7	Morgan Morris	51-01	Ritchie County
19.	6	Mckenzie Conrad	50-10 PR	Braxton County
20.	8	Ashtyn Hill	50-09	Robert L Bland
21.	8	Adaleia Cross	48-10	Bridgeport
22.	-	Samantha Richison	48-02 PR	Gilmer
23.	7	Sabrina Shriver	48-00	Lincoln
24.	8	Izabella Freeman	47-10	Lincoln
25.	8	London Davis	47-07	Bridgeport
26.	8	Claira Stewart	46-10.50 PR	Braxton County
27.	6	Dora Gum	44-00 PR	South Harrison
28.	7	Kenleigh Rittenhouse	42-02 PR	Robert L Bland
29.	6	Brooklyn Weaver	30-01	Buckhannon-Upshur
30.	6	Maggie O'Neill	28-11	Buckhannon-Upshur
	8	Anndrea Cummings	DNS	South Harrison

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Team Results Management

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**Bobcat MS Meet** MS  
**OFFICIAL** Apr 20, 2023 📍 WV Wesleyan College

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[Show More Details...](#)

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## Womens Middle School Shot Put

### Finals – 6lb

1.	8	Hannah Westfall	34-09.00	Lincoln
2.	8	Kennedy Marsh	32-04.00 PR	Bridgeport
3.	8	Isabella McCullough	31-07.00	Bridgeport
4.	8	Kasey Rogers	30-11.50	East Fairmont
5.	8	Emma Casto	30-05.00	East Fairmont
6.	8	Julia Martin	29-02.00	Lincoln
7.	7	Arianna Viglianco	28-06.00 PR	Bridgeport
8.	7	Katie Samples	27-05.00 PR	Buckhannon-Upshur
9.	8	Ashley Masters	26-11.00 PR	Barrackville
10.	7	<b>B.P.J.</b>	26-10.00	Bridgeport
11.	8	Emily Smith	26-09.50	Tygarts Valley
12.	7	Isabella Bowers	26-00.00	Buckhannon-Upshur
13.	8	Lilly Anger	25-04.50 PR	Elkins
14.	8	Elizabeth Sweeney	25-01.00	Summersville
15.	8	Tiffany Pheasant	24-02.50 PR	East Fairmont
16.	8	Adaleia Cross	23-11.00	Bridgeport
17.	8	Juliann Harlan	23-10.00 PR	Elkins
18.	8	Aries Fragman	23-09.00	Lincoln
19.	7	Lily Burda	23-07.00 PR	Elkins

20.	8	Breonna Plumley	23-07.00 PR	Elkins
21.	8	McKenzie Egress	23-06.00	Buckhannon-Upshur
22.	7	Kaylen Martin	23-05.00 PR	Barrackville
23.	8	Ryleigh Bills	23-04.00 PR	East Fairmont
24.	7	Olivia Reed	22-05.00 PR	Bridgeport
25.	7	Kyonna Marbury	22-04.00	West Fairmont
26.	8	Kierra Clay	22-03.00	West Fairmont
27.	6	Maggie O'Neill	21-11.00	Buckhannon-Upshur
28.	8	Lily Stark	21-11.00 PR	Barrackville
29.	7	Emmy Salerno	21-09.00	Lincoln
30.	7	Isabelle Ludwig	21-05.00 PR	Elkins
31.	6	Avery Cyrankowski	21-04.00 PR	Barrackville
32.	7	Abi Owens	21-03.00 PR	Lincoln
33.	7	Ella Carlson	21-01.00 PR	Bridgeport
34.	7	Lillian Plumley	20-11.00 PR	Elkins
35.	8	London Davis	20-03.00	Bridgeport
36.	8	Layla Frazer	19-11.00	West Fairmont
37.	8	Bristol Williams	18-10.00 PR	Summersville
38.	6	Brooklyn Weaver	18-09.00 PR	Buckhannon-Upshur
39.	8	Johanna Boone	18-07.00	Summersville
40.	7	Jayda Stone	18-04.00 PR	West Fairmont
41.	6	Riley Martin	17-09.00 PR	Tygarts Valley
42.	7	Alawna Powell	17-05.00 PR	Lincoln
43.	7	Mallory Ellison	16-02.00 PR	West Fairmont

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Team Results Management

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**Bobcat MS Meet** MS  
**OFFICIAL** Apr 20, 2023 📍 WV Wesleyan College

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[Show More Details...](#)

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## Womens Middle School Discus

### Finals – 1kg

1.	8	Isabella McCullough	75-00	Bridgeport
2.	7	Ava McGill	70-02	Lincoln
3.	8	Gracie Bail	69-07 <b>PR</b>	Summersville
4.	7	Katie Samples	67-02 <b>PR</b>	Buckhannon-Upshur
5.	8	Linsey Kramer	66-03 <b>PR</b>	East Fairmont
6.	7	<b>B.P.J.</b>	66-00	Bridgeport
7.	7	Emmy Salerno	60-10	Lincoln
8.	8	London Davis	57-02 <b>PR</b>	Bridgeport
9.	7	Aubrey Efaw	56-04 <b>PR</b>	Barrackville
10.	8	Adaleia Cross	55-02 <b>PR</b>	Bridgeport
11.	8	Elizabeth Sweeney	53-07	Summersville
12.	8	Aries Fragman	52-09	Lincoln
13.	8	McKenzie Egress	52-05	Buckhannon-Upshur
14.	7	Arianna Viglianco	51-09	Bridgeport
15.	7	Lily Burda	51-08 <b>PR</b>	Elkins
16.	8	Kaitlyn Woodland	51-03	East Fairmont
17.	7	Sabrina Shriver	50-11	Lincoln
18.	7	Kaylen Martin	50-08	Barrackville

19.	8	Kennedy Marsh	50-01	Bridgeport
20.	8	Lilly Anger	49-03	Elkins
21.	8	Brooke Donlin	49-03 <b>PR</b>	East Fairmont
22.	8	Breonna Plumley	47-10 <b>PR</b>	Elkins
23.	8	Lauren Stone	45-03	Bridgeport
24.	8	Izabella Freeman	44-11	Lincoln
25.	8	Baylee Millett	43-01 <b>PR</b>	Elkins
26.	8	Layla Frazer	43-00	West Fairmont
27.	7	Ella Carlson	42-02 <b>PR</b>	Bridgeport
28.	7	Kyonna Marbury	42-00 <b>PR</b>	West Fairmont
29.	7	Jillian Plumley	41-08 <b>PR</b>	Elkins
30.	7	Brooklyn Hymes	41-08	East Fairmont
31.	8	Johanna Boone	40-04 <b>PR</b>	Summersville
32.	6	Maggie O'Neill	40-03	Buckhannon-Upshur
33.	8	Juliann Harlan	39-06 <b>PR</b>	Elkins
34.	8	Jazzmyne Long	39-01 <b>PR</b>	Lincoln
35.	6	Carson Toothman	38-04	Barrackville
36.	6	Brooklyn Weaver	35-03	Buckhannon-Upshur
37.	8	Josey Urse	34-07 <b>PR</b>	West Fairmont
38.	7	Mackenzie Blaniar	32-10 <b>PR</b>	West Fairmont
39.	8	Savannah Moore	29-08	West Fairmont
40.	6	Emma Richardson	27-10	Barrackville
	6	Autumn Wratchford	DNS	Tygarts Valley
	8	Emilia Tenney	DNS	Elkins

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Team Results Management

## Mid Mountain 10 MS Championships MS

OFFICIAL Apr 29, 2023 📍 Mazzei Reaser Athletic ...

[Show More Details...](#)

### Womens Middle School Shot Put

#### Finals – 6lb

- |     |   |                     |                |                          |
|-----|---|---------------------|----------------|--------------------------|
| 1.  | 8 | Hannah Westfall     | 36-11.00       | Lincoln                  |
| 2.  | 8 | Isabella McCullough | 35-03.00<br>PR | Bridgeport               |
| 3.  | 8 | Ashtyn Hill         | 33-05.00       | Robert L. Bland          |
| 4.  | 8 | Emma Casto          | 32-01.00<br>SR | East Fairmont            |
| 5.  | 8 | Kasey Rogers        | 32-00.50<br>PR | East Fairmont            |
| 6.  | 7 | <b>B.P.J.</b>       | 28-10.00<br>PR | Bridgeport               |
| 7.  | 8 | Julia Martin        | 28-05.50       | Lincoln                  |
| 8.  | 8 | Gracie Devericks    | 28-02.50       | Mountaineer (Clarksburg) |
| 9.  | 8 | Cadence McDonald    | 27-02.50       | Robert L Bland           |
| 10. | 8 | Reese Lambert       | 26-09.00       | Taylor County            |
| 11. | 8 | Chelsea McPherson   | 26-06.50<br>PR | Mountaineer (Clarksburg) |
| 12. | 7 | Isabella Bowers     | 26-03.00<br>PR | Buckhannon-Upshur        |

12. 7 Bailey Fernatt	26-03.00 PR	Taylor County
14. 7 Katie Samples	25-10.50	Buckhannon-Upshur
15. 6 Lila Burgr	25-05.00 PR	Robert L Bland
16. 8 Lilly Anger	24-06.50	Elkins
17. 8 Aries Frag man	24-00.00	Lincoln
18. 8 Tiffany Pheasant	23-10.50	East Fairmont
19. 8 Breonna Plumley	23-05.50	Elkins
20. 7 Arianna Viglianco	23-01.00	Bridgeport
21. 8 Aubrey Cottrill	22-11.50	Mountaineer (Clarksburg)
22. 8 Juliann Harlan	22-05.00	Elkins
23. 6 Maggie O'Neill	22-02.00 PR	Buckhannon-Upshur
24. 8 Tessa Velazquez	22-01.50	Washington Irving
25. 8 Aubrey Roy	21-01.25	Taylor County
26. 6 Lillian Harnett	19-09.00	Washington Irving

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Team Results Management

## Mid Mountain 10 MS Championships MS

OFFICIAL Apr 29, 2023 📍 Mazzei Reaser Athletic ...

[Show More Details...](#)

### Womens Middle School Discus

#### Finals – 1kg

1.	7	Ava McGill	75-02 PR	Lincoln
2.	-	Sadie Jones	74-10 PR	Mountaineer (Clarksburg)
3.	8	Reese Lambert	72-03	Taylor County
4.	7	B.P.J.	66-00	Bridgeport
5.	7	Emmy Salerno	65-03	Lincoln
6.	7	Katie Samples	65-00	Buckhannon-Upshur
7.	8	Linsey Kramer	64-03	East Fairmont
8.	8	Aries Fragman	62-00 PR	Lincoln
9.	7	Bailey Fernatt	61-04	Taylor County
10.	8	Ashtyn Hill	54-09	Robert L Bland
11.	8	Maggie Posey	53-03	Mountaineer (Clarksburg)
11.	8	Chelsea McPherson	53-03	Mountaineer (Clarksburg)
13.	8	London Davis	53-00	Bridgeport
14.	8	Kaitlyn Woodland	51-06	East Fairmont
15.	8	Lilly Anger	49-06	Elkins
16.	7	Brooklyn Hymes	46-11 PR	East Fairmont
17.	8	Aubrey Roy	46-00 PR	Taylor County
18.	6	Maggie O'Neill	43-03	Buckhannon-Upshur



19.	8	Breonna Plumley	41-07	Elkins
20.	6	Brooklyn Weaver	40-09 PR	Buckhannon-Upshur
21.	7	Lily Burda	39-10	Elkins
22.	6	Lillian Harnett	36-05	Washington Irving
23.	7	Kenleigh Rittenhouse	33-06	Robert L Bland
	8	Tessa Velazquez	DNS	Washington Irving
	8	Isabella McCullough	DNS	Bridgeport



## Harry Green Statewide MS Invitational MS

**OFFICIAL** May 13, 2023 📍 Bridgeport HS

[Show More Details...](#)

### Womens Middle School Discus

#### Finals – 1kg

1.	8 Jenna Geter	101-05	Hurricane
2.	8 Mila Herscher	96-08 PR	Winfield
3.	8 Aliyah Bonnell	87-02	Doddridge County
4.	8 Ella Powers	81-03	Doddridge County
5.	7 Kaylee Robinson	80-02	Charles Town
6.	8 Raqi Thomas	80-01 PR	Suncrest
7.	8 Rylee Gurney	77-01	Winfield
8.	- Sadie Jones	73-11	Mountaineer (Clarksburg)
9.	7 Ava McGill	73-11	Lincoln
10.	8 Savannah Johnston	73-10 PR	Doddridge County
11.	7 Kenadie Duckworth	73-08	Monongah
12.	8 Bella Bowman	72-08	Hamilton
13.	8 Hydee Wykle	70-05	Eastern Greenbrier
14.	8 Reese Lambert	68-08	Taylor County
15.	7 <b>B.P.J.</b>	68-07 PR	Bridgeport
16.	8 Isabella McCullough	65-09	Bridgeport
17.	7 Emmy Salerno	65-07 PR	Lincoln
18.	8 Lakrista Buckingham	65-03	West Preston
19.	8 Aniya Brown	62-11	Mountaineer (Morgantown)

20.	8	Kayla DuVal	59-02	Wildwood
21.	7	Bailey Fernatt	58-02	Taylor County
22.	8	Marlee Graciano	Q1 58-00	Central Preston
23.	8	Mary Phillips	57-10 PR	Tucker Valley
24.	8	Piper Baldwin	57-09	Eastern Greenbrier
25.	7	Brooklyn Jones	56-04 PR	Hurricane
26.	8	Maggie Posey	55-04	Mountaineer (Clarksburg)
27.	8	Lilly Anger	54-04 PR	Elkins
28.	7	Ramona Persinger	52-10 PR	South (Morgantown)
29.	8	Camden Atwood	51-00	South (Morgantown)
30.	7	Gianna Petruzzello	50-03	Wildwood
31.	8	Allison Hawkins	47-02	St. Francis Catholic Central
32.	8	Lorelei Namsupak	46-11	Suncrest
33.	8	Jayden Stark	45-01	Milton
34.	8	Breonna Plumley	43-03	Elkins
35.	8	Shilah Jones	43-00 PR	Tucker Valley
36.	7	Sierra Cox	41-10 PR	Heritage Christian
37.	8	Charlotte LoPinto-Ludas	33-08	Mountaineer (Morgantown)
38.	6	Brooklyn Weaver	32-06	Buckhannon-Upshur
39.	6	Katilynn Downey	30-08	St. Francis Catholic Central
	6	Lillian Harnett	DNS	Washington Irving
	8	Brooklyn Leshner	DNS	Keyser
	8	Kayleigh Nelson	DNS	Keyser
	7	Katie Samples	DNS	Buckhannon-Upshur
	8	Brendelynn Minton	DNS	Milton
	8	Jaelynn Basely	DNS	Monongah

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HOME	TRACK & FIELD	CROSS COUNTRY	MEET REGISTRATION	HOSTED EVENTS	TEAM STORE
	MISCELLANEOUS	COACHES	MIDDLE SCHOOL	CONTACT US	

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### Meet Details



The Harry Green Invitational will be held at Bridgeport High School's Wayne Jamison Field on Saturday April 18, 2020. Field events will begin at 11:00am and running events will begin at approx. 12:00pm. All events will run on a rolling schedule for a [double session meet \(click here to view schedule\)](#).

The Harry Green Middle School Statewide Invitational will be held at Bridgeport High School's Wayne Jamison Field on Saturday May 16, 2020. Field events will begin at 11:00am and running events will begin at approx. 12:00pm. All events will run on a rolling schedule for a [double session meet \(click here to view schedule\)](#).

### ENTRY DEADLINES

For the Harry Green Invitational your entries should be emailed ([griff@bridgeporttrack.com](mailto:griff@bridgeporttrack.com)) by:

April 13th for the High School Meet

May 11th for the Middle School

The track at Wayne Jamison Field has a 6-lane polyurethane rubberized running surface. The field events have polyurethane rubberized runways and high jump apron along with concrete throwing circles. All running events will be timed with a FinishLynx automated timing system. Meet results and scores will be posted throughout the meet. All results will be posted on [RUNWV.com](http://RUNWV.com) and in various local newspapers.

For the High School meet each school will be allowed enter up to 3 athletes per individual event and 1 team per relay event.

For the Middle School meet each school will be allowed enter up to 3 athletes per individual event and 1 team per relay event.

School participating in the Pole Vault must have a weight verification for their vaulters. The PV Weight Verification form can be downloaded [here](#) and must have the signatures of the head coach, athletic director and principal.

There will be NO Entry Fee and you must use the Hy-Tek Team Manager Computerized Entry System.

Go to [www.BridggportTrack.com](http://www.BridggportTrack.com) to download the event file or click on the link above for the Harry Green Invitational to use with the Hy-Tek Team Manager Entry Software.

Trophies will be presented to the first and second place boys and girls teams and high point boy and girl. Medals will be presented to 1st place finishers in each event (including relays). Ribbons will be awarded for 2nd through 6th places.

The concession stand will be open and available throughout the meet.

Meet T-Shirts will be on sale while supplies last.

The Oliverio's Ristorante Hospitality Room will be available for coaches and meet workers during the break.

Additonal Information:

#### COACHES

1. Packets will be available starting at 9:00am at the Finish Line Building. Coaches meeting at 10:30am in the Bullpen at the Finish Line. I will collect Pre-Meet Meeting Forms at this time.
2. Scratches need to be completed by 10:15am. Please make relay changes at this time if you know them. No changes will be made after the meet has started (relay changes will be permitted on a relay card when the athletes check into the bullpen for their race). Coaches meeting will be at 10:30am.
3. Relay cards will only be needed if you make changes after turning in your scratch sheet Saturday morning. If needed, have the athletes turn them in at check-in.
4. Teams and tents must be set up on the visitors side of the field. Either in the visitors bleachers or behind them. The press box side bleachers are for spectators, not athletes.
5. The shot and discus are located behind the timing building near the finish line..
6. Coaches are not allowed inside the fenced and caution taped areas of the field.
7. The Hospitality Room is for Coaches, Officials and Meet Workers. We will exit the gate behind the visitors bleachers to go the High School Cafeteria following the

400m dash. The Hospitality Room will be catered by Oliverio's Ristorante.

8. Disrespectful behavior toward officials will be dealt with by removal of the coach from the meet and a report filed with your principal and the WVSSAC. If you have a complaint see Coach Griffith.

**9. No athletes electronic devices will be permitted inside the fenced area of the field, in the bullpen or any competition areas. If they are seen the athlete will be disqualified, the device confiscated and returned to their coach.**

10. Lots of information can be found on the meet website: [http://www.bridgeporttrack.com/harrygreeninv/Harry\\_Green\\_Statewide\\_Invitational/Main\\_Page.html](http://www.bridgeporttrack.com/harrygreeninv/Harry_Green_Statewide_Invitational/Main_Page.html)

11. All rules, including uniform rules, will be strictly enforced.

12. Tape is not permitted on the track or runways. Non-adhesive markers may be used (tennis ball halves, etc.). Tape is allowed on the black asphalt beside the PV and U runways, but not on the runway.

13. We will provide 6 sets of blocks at each corner of the field. They should remain on that corner of the field. You may use your own blocks if you prefer.

#### PARENTS

1. Remind your parents that parking is available behind the High School, in front of the Middle School, and at the City Park. All spectators must enter through the front gate of the field or behind the visitors side of the field gate. The Bridgeport City Park bridge gate will be locked. Do not climb over the gate.

2. Spectators will be charged \$5.00. If they don't like that, ask them not to come. Our administrators are dealing with an increasing number of unnecessarily rude people at the gate.

3. Parent tents are allowed on the home side bleachers, please place them at the top of the stands against the top railing.

4. Spectators are not allowed inside the fenced and caution taped areas of the field.

5. The shot and discus are located behind the timing building near the finish line.

**6. A limited number of T-Shirts will be available for sale.**

#### ATHLETES

1. Athletes will not be allowed to wear spikes on the football field. This will result in disqualification from the meet.

2. Athletes will not jump the fences. If caught, they will be disqualified from the meet. They must enter the track via the wooden steps by the finish line building.

3. Athletes need to report to the bullpen when their event is called, not earlier.

4. If an athlete must leave a field event for a running event, they must check out with the official and return as soon as possible when their running event completes.

5. Athletes must pay attention and listen to all instructions from meet officials. Remember your heat and lane assignments. Running in the wrong heat or lane will result in disqualification.



6. Following their event athletes need to collect their belongings and leave the bullpen area and return to the bleachers.

7. Athletes must be quiet and respectful in the bullpen.

**8. No electronic devices will be permitted inside the fenced area of the field, in the bullpen or any competition areas. If they are seen the athlete will be disqualified, the device confiscated and returned to their coach.**

9. Disrespectful behavior toward officials will be dealt with by disqualification from the meet.

**10. A limited number of T-Shirts will be available for sale.**

11. All rules, including uniform rules, will be strictly enforced.

12. Tape is not permitted on any of the rubberized surfaces. Non-adhesive markers may be used. Tape is allowed on the asphalt beside the PV and LJ runways, but not on the runway.

13. We will provide 6 sets of blocks at each corner of the field. They should remain on that corner of the field. You may use your own blocks if you prefer.

Thanks for your cooperation with these items. I am giving you this information with ample time to review it, so that there should be no misunderstandings. If you have questions feel free to ask me.

4400

We are hoping for a smooth and exciting day at the track.  
Best of luck to all the teams, athletes and coaches!

Jon Griffith

Bridgeport Track & Field


Team Results Management


**Bridgeport**  
 Graves MS Bridgeport, WV


**Isabella McCullough**
TF Bio
Compare
Profile

**Rankings**
2023 Outdoor

**Shot Put 6lb - 35' 3"**  
 Team: 1st West Virginia:  
 National:

**Discus 1kg - 101' 5"**  
 Team: 1st West Virginia:  
 National:

Upgrade to Athletic+ for Rankings

**Season Records**

**Shot Put - 4kg**  

Year	Rank	Result
2023 Outdoor	8	36' 6" PR

**Shot Put - 6lb**  

Year	Rank	Result
2021 Outdoor	6	22' 2.5"
2022 Outdoor	7	28' 2.5" *
2023 Outdoor	8	35' 3" PR *

**Discus - 1kg**  

Year	Rank	Result
2021 Outdoor	6	39' 5"
2022 Outdoor	7	68' 1" *
2023 Outdoor	8	101' 5" PR *

\*Improvement

**2023 Outdoor Season**  
**Bridgeport Middle School**
8

**Shot Put - 4kg**  

Rank	Result	Date	Event	MS
36' 6" PR	Apr 12	Harrison County Middle School Championships	MS F	

**Shot Put - 6lb**  

Rank	Result	Date	Event	MS
7 26' 9"	Mar 25	Connect Bridgeport Invitational - Middle School	MS F	
7 27' 4"	Apr 7	Buckhannon-Upshur Middle School Invitational	MS F	
2 32' 0.5"	Apr 12	Harrison County Middle School Championships	MS F	
3 31' 9.5"	Apr 15	Pioneer MS Inv.	MS F	
3 31' 7"	Apr 20	Bobcat MS Meet	MS F	
2 35' 3" PR	Apr 29	Mid Mountain 10 MS Championships	MS F	
5 33' 1"	May 8	McDonald's 8th Grade Invitational	MS F	
14 28' 8"	May 13	Harry Green Statewide MS Invitational	MS F	

**Discus - 1kg**  

Rank	Result	Date	Event	MS
7 64' 2"	Mar 25	Connect Bridgeport Invitational - Middle School	MS F	

3	65' 5"	Apr 7	Buckhannon-Upshur Middle School Invitational	MS F
2	66' 7"	Apr 12	Harrison County Middle School Championships	MS F
2	70' 9"	Apr 15	Pioneer MS Inv.	MS F
1	75' 0"	Apr 20	Bobcat MS Meet	MS F
	DNS	Apr 29	Mid Mountain 10 MS Championships	MS F
1	101' 5" PR	May 8	McDonald's 8th Grade Invitational	MS F
16	65' 9"	May 13	Harry Green Statewide MS Invitational	MS F

**2022 Outdoor Season**  
**Bridgeport Middle School** 7

**Shot Put - 6lb**

5	25' 8"	Mar 25	Connect-Bridgeport Middle School Invitational	MS F
3	28' 2.5" SR	May 10	2022 Harrison County Middle School Championships	MS F
19	27' 0"	May 14	Harry Green Middle School Invitational	MS F

**Discus - 1kg**

5	58' 11"	Mar 25	Connect-Bridgeport Middle School Invitational	MS F
2	64' 9"	May 10	2022 Harrison County Middle School Championships	MS F
13	68' 1" SR	May 14	Harry Green Middle School Invitational	MS F

**2021 Outdoor Season**  
**Bridgeport Middle School** 6

**Shot Put - 6lb**

14	20' 0.75"	Apr 29	Mountaineer Middle Invitational	V F
18	22' 2.5" SR	Jun 5	Harry Green MS Invitational	MS F

**Discus - 1kg**

14	34' 4.5"	Apr 29	Mountaineer Middle Invitational	V F
27	39' 5" SR	Jun 5	Harry Green MS Invitational	MS F



Bridgeport

Brewers MS Bridgeport, WV

Arianna Viglianco

TF Bio

Compare

Profile

## Rankings

2023 Outdoor

## Shot Put 6lb - 28' 6"

Team: 4th West Virginia:

National:

## Discus 1kg - 52' 8.5"

Team: 6th West Virginia:

National:

Upgrade to Athletic+ for Rankings.

## Training Log

3/25 Connect-Bridgeport ... 0.06 mi.

5/14 Harry Green Middle ... 0.19 mi.

## Season Records

## 100 Meters

2022 Outdoor 6 15.86 PR

## 200 Meters

2022 Outdoor 6 32.90 PR

## 4x100 Relay

2022 Outdoor 6 1:01.61

2023 Outdoor 7 1:03.46

## 4x200 Relay

## 4x400 Relay

## 2023 Outdoor Season

## Bridgeport Middle School

7

## 4x100 Relay

5	1:03.46	Apr 12	Harrison County Middle School Championships	MS F
Addison Minnix, London Davis, Aaliyah Reider, Arianna Viglianco				

7	1:01.15	Apr 15	Pioneer MS Inv.	MS F
Addison Minnix, Arianna Viglianco, Kennedy Marsh, Gabrielle Cvechko				

7	1:01.49	Apr 20	Bobcat MS Meet	MS F
Veena Rao, Addison Minnix, Bella Pritchard, Arianna Viglianco				

## 4x200 Relay

DQ	Mar 25	Connect Bridgeport Invitational - Middle School	MS F
Ellie Bongiorno, Lilli Southern, Colleen Metheney, Arianna Viglianco			

## 4x400 Relay

DNS	Mar 25	Connect Bridgeport Invitational - Middle School	MS F
Arianna Viglianco, Aaliyah			

**Shot Put – 6lb**

2023 Outdoor	7	28' 6" PR
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**Discus – 1kg**

2023 Outdoor	7	52' 8.5" PR
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\*Improvement

			Reider, Addison
			Daugherty, Ellie Bongiorno

**Shot Put – 6lb**

8	26' 1.5"	Apr 12	Harrison County Middle School Championships	MS F
11	26' 4.5"	Apr 15	Pioneer MS Inv.	MS F
7	28' 6" PR	Apr 20	Bobcat MS Meet	MS F
20	23' 1"	Apr 29	Mid Mountain 10 MS Championships	MS F

**Discus – 1kg**

16	52' 8.5" PR	Apr 15	Pioneer MS Inv.	MS F
14	51' 9"	Apr 20	Bobcat MS Meet	MS F

**2022 Outdoor Season**

<b>Bridgeport Middle School</b>	6
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**100 Meters**

27	16.27	Mar 25	Connect-Bridgeport Middle School Invitational	MS F
46	15.86 PR	May 14	Harry Green Middle School Invitational	MS P

**200 Meters**

44	32.90 PR	May 14	Harry Green Middle School Invitational	MS P
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**4x100 Relay**

4	1:01.61	Mar 25	Connect-Bridgeport Middle School Invitational Ellie McCall, Leah Rexroad, Katie Backus, Arianna Vigilanco	MS F
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Bridgeport

8th MS Bridgeport, WV

Ella Carlson

TF Bio

[Compare](#)
[Profile](#)

### Rankings

2023 Outdoor

 2023 Outdoor Season  
 Bridgeport Middle School

7

#### 100 Meters - 18.85

Team: 18th West Virginia:

National:

#### Shot Put 6lb - 21' 1"

Team: 8th West Virginia:

National:

#### Discus 1kg - 42' 2"

Team: 8th West Virginia:

National:

[Upgrade to Athletic+ for Rankings.](#)

### Training Log

4/12	Harrison County Mid...	0.06 mi.
4/15	Pioneer MS Inv.	0.06 mi.

#### 100 Meters

22	18.85 PR	Apr 12	Harrison County Middle School Championships	MS F
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37	19.49	Apr 15	Pioneer MS Inv.	MS F
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#### Shot Put - 6lb

26	20' 5.5"	Mar 25	Connect Bridgeport Invitational - Middle School	MS F
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26	18' 3.5"	Apr 15	Pioneer MS Inv.	MS F
----	----------	--------	-----------------	------

33	21' 1" PR	Apr 20	Bobcat MS Meet	MS F
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#### Discus - 1kg

28	38' 1"	Mar 25	Connect Bridgeport Invitational - Middle School	MS F
----	--------	--------	---	------

27	42' 2" PR	Apr 20	Bobcat MS Meet	MS F
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### Season Records

#### 100 Meters

 2023 Outdoor [7](#) 18.85 PR

#### Shot Put - 6lb

 2023 Outdoor [7](#) 21' 1" PR

#### Discus - 1kg

 2023 Outdoor [7](#) 42' 2" PR

\*Improvement

**DECLARATION OF HEATHER JACKSON**

I, Heather Jackson, pursuant to 28 U.S.C. § 1746, declare as follows:

1. I make this declaration of my own personal knowledge, and, if called as a witness, I could and would testify competently to the matters stated herein.

2. My daughter's name is B.P.J. My daughter is a bright and kind child who cares deeply about her family and friends and excels in school.

3. My daughter is also transgender.

4. B.P.J. was diagnosed with gender dysphoria in 2019. She has been on puberty delaying treatment for the past three years and started hormone therapy in June of 2022 under the care of Dr. Kacie Kidd and her multidisciplinary team at West Virginia University Children's Hospital. I take B.P.J. to see Dr. Kidd for routine check-ups where her hormone levels are monitored through blood work to ensure that her puberty delaying medication and hormone therapy are at the right dosages for her age and development. At each visit, including our last visit on July 13, 2023, Dr. Kidd has told us that B.P.J.'s hormone levels are within the normal range for cisgender girls, and that she can continue with the same treatment.

5. When B.P.J. began middle school, she was excited to try out for Bridgeport Middle School's girls' cross-country and track teams. The injunction granted in this case has allowed B.P.J. to participate on her middle school's cross-country and track teams for the past four seasons. B.P.J. has had the time of her life participating on these teams. She made close friends who she considers



her second family, and she has gained a sense of belonging.

6. B.P.J. told me that she learned a lot about teamwork, camaraderie, and the importance of practice through her participation in school sports. This past Spring, B.P.J. made her track team, but her participation was restricted to field events. She was told that she was too slow to make the team for running events, so she continued to participate in shotput and discus as she did Spring of 2022.

7. B.P.J. is hard-working. She does not take the opportunity to participate for granted, and she has been dedicated to improving her performance and trying her best at every practice and track meet. I am so proud of how hard B.P.J. has been training. For the past six months, B.P.J. has called on me numerous times to take her to practice shotput and discus after hours at the school and on the weekends. When I look outside my window at home, I often see B.P.J. in the backyard practicing her throwing form, by herself, for hours. It makes me so happy to witness this perseverance in my daughter.

8. Regardless of how B.P.J. performs at a meet, she always shows up with enthusiasm. Sometimes, she scored well enough at meets this past season to earn points for her school, and sometimes her performance was not strong enough to earn points. B.P.J. continued to work hard to be the best athlete she could, and had the opportunity to participate in the Mid Mountain 10 Championships, which were held on April 29, 2023. B.P.J. was selected to compete for shotput and discus. However, the only reason she qualified to compete in shotput is because her teammate, K.M., was on vacation during the meet and was unable to participate, bumping B.P.J. to be selected for shotput.

9. I am so grateful that B.P.J. is on a team led by a coach who values camaraderie and encourages B.P.J. and her teammates to do their best, above all else. As an example of that, during some of the meets this past season, there were not enough spots for every student on the team to participate. B.P.J.'s coach selected a roster of students to participate to ensure that everyone on the team had an opportunity to play, regardless of their performance at prior meets or practice.

10. B.P.J. is so excited to try out for the cross-country team this fall. Although B.P.J. is not the fastest runner by any means, she loves getting out on the field and doing her best. She is also an incredibly supportive teammate. When I watched B.P.J. at her track meets this Spring, although she was not fast enough to compete in the running events herself, she would stand at the finish line and cheer on her teammates and fellow competitors from other schools and motivate them to finish strong. She hopes to have the opportunity to run this fall and be that same encouraging teammate while also receiving support from her classmates.

11. My daughter is the happiest I have ever seen her when she is accepted for who she is and able to participate in school sports. B.P.J. was thrilled to be able to participate on her track team this Spring, but she lives in daily fear that the opportunity to play and compete with her friends will be taken away from her simply because of who she is. The thought of watching my thirteen-year-old girl be prevented from doing the thing she loves is heartbreaking. Forcing her to run with the boys (which is not an option for her) is a clear sign to her and others that the state refuses to see her and accept her for the girl that she is, and would further isolate, stigmatize, and erase her, causing her unimaginable harm.

4409

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I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on 07/19/23

/s/ Heather Jackson

Heather Jackson

FILED: August 4, 2023

UNITED STATES COURT OF APPEALS FOR THE  
FOURTH CIRCUIT

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No. 23-1078 (L)  
(2:21-cv-00316)

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

Plaintiffs - Appellants

v.

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

Defendants - Appellees

and

THE STATE OF WEST VIRGINIA; LAINEY  
ARMISTEAD

Intervenors - Appellees

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TREVOR PROJECT; TRANSGENDER WOMEN  
ATHLETES; UNITED STATES OF AMERICA;  
NATIONAL WOMEN'S LAW CENTER AND 51

ADDITIONAL ORGANIZATIONS; STATE OF NEW YORK; AMERICAN ACADEMY OF PEDIATRICS; AMERICAN MEDICAL ASSOCIATION; FOUR ADDITIONAL HEALTH CARE ORGANIZATIONS; ATHLETE ALLY; CURRENT AND FORMER PROFESSIONAL, OLYMPIC AND INTERNATIONAL ATHLETES IN WOMENS SPORTS; NATIONAL WOMEN'S SOCCER LEAGUE PLAYERS ASSOCIATION; WOMEN'S SPORTS FOUNDATION; DISTRICT OF COLUMBIA; STATE OF HAWAII; STATE OF CALIFORNIA; STATE OF COLORADO; STATE OF CONNECTICUT; STATE OF DELAWARE; STATE OF ILLINOIS; STATE OF MAINE; STATE OF MARYLAND; STATE OF MASSACHUSETTS; STATE OF MICHIGAN; STATE OF MINNESOTA; STATE OF NEW JERSEY; STATE OF OREGON; STATE OF RHODE ISLAND; STATE OF VERMONT; STATE OF WASHINGTON

Amici Supporting Appellants

and

THOMAS MORE SOCIETY; NATIONAL ASSOCIATION OF EVANGELICALS; CONCERNED WOMEN FOR AMERICA; INSTITUTE FOR FAITH AND FAMILY; SAMARITAN'S PURSE; WOMEN'S DECLARATION INTERNATIONAL USA; 25 ATHLETIC OFFICIALS AND COACHES OF FEMALE ATHLETES; FEMALE OLYMPIC ROWERS MARY I. O'CONNOR, CAROL BROWN, PATRICIA SPRATLEN ETEM, VALERIE MCCLAIN, AND JAN PALCHIKOFF; 22

BUSINESS EXECUTIVES; INTERNATIONAL  
CONSORTIUM ON FEMALE SPORT;  
INDEPENDENT COUNCIL ON WOMEN'S SPORT;  
DEFENSE OF FREEDOM INSTITUTE; 78  
FEMALE ATHLETES, COACHES, SPORTS  
OFFICIALS, AND PARENTS OF FEMALE  
ATHLETES; PUBLIC ADVOCATE OF THE  
UNITED STATES; AMERICA'S FUTURE; U.S.  
CONSTITUTIONAL RIGHTS LEGAL DEFENSE  
FUND; ONE NATION UNDER GOD  
FOUNDATION; FITZGERALD GRIFFIN  
FOUNDATION; CONSERVATIVE LEGAL  
DEFENSE AND EDUCATION FUND;  
INDEPENDENT WOMEN'S LAW CENTER;  
PARENTS DEFENDING EDUCATION;  
ALABAMA, ARKANSAS, AND 15 OTHER STATES

Amici Supporting Appellees

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ORDER

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Five months ago, this Court granted plaintiff an injunction pending appeal, allowing her to continue participating in her school's girls' track-and-field and cross-country teams. ECF 50. Two intervenors now move to suspend that injunction, asserting plaintiff's improvement in the shotput and discus events during the recent spring track-and-field season constitutes a "significant change in factual conditions" that "renders continued enforcement [of the injunction] detrimental to

the public interest.” ECF 142 at 7 (quoting *Horne v. Flores*, 557 U.S. 433, 447 (2009)).

We deny the motion. Much of the motion impermissibly attempts to relitigate issues that have already been submitted and considered. See *Multi-Channel TV Cable Co. v. Charlottesville Quality Cable Operating Co.*, No. 94–2569, 1995 WL 406612, at \*2 (4th Cir. July 11, 1995) (motion to modify an injunction “should not serve as an avenue of untimely review of that determination” (quotation marks omitted)).

To the extent the current motion presents new arguments tethered to the asserted change in circumstances, they are insufficient to warrant suspension of the injunction pending appeal. A court may modify or suspend an injunction when a party seeking relief can show “a *significant* change in either factual conditions or in law.” *Agostini v. Felton*, 521 U.S. 203, 215 (1997) (emphasis added). “The party seeking relief bears the burden of establishing that changed circumstances warrant relief,” which includes a showing that the changed circumstances “render[] continued enforcement detrimental to the public interest.” *Horne v. Flores*, 557 U.S. 433, 447 (2009) (quotation marks omitted).

Movants have failed to meet that burden. When the injunction pending appeal was granted, plaintiff was regularly ranking in the “back of the pack” in both track and field events. ECF 34 at 290 (citing JA 4286). Movants argue plaintiff’s improvement in the shotput and discus events during the recent spring track-and-field season should prohibit her from participating in her school’s upcoming cross-country season because she will displace cisgender girls in competition rankings. ECF 142 at 7. As an initial matter, we question whether a young athlete’s ordinary, year-over-year athletic improvement is the sort

of *significant* factual development bearing on the public interest that would warrant our review. But even if we accepted the premise that improvement in competition rankings could constitute a significant change in circumstances, movants still have not met their burden to warrant relief. Movants present little reason or evidence why plaintiff's improvement in field throwing events would generate similar improvement in cross-country running events. Indeed, the limited information before us indicates that plaintiff's improvement in shotput and discus was not matched by improvement in running events during the recent track-and-field season, when plaintiff was, for the second year in a row, deemed "too slow to compete in the track events." ECF 144 at 4. Movants thus fail, even on their own terms, to demonstrate that any changed circumstances would render plaintiff's participation in the fall cross-country season "detrimental to the public interest." *Horne*, 557 U.S. at 447.

The motion to suspend the injunction pending appeal is

*DENIED.*

For the Court

/s/ Patricia S. Connor, Clerk

AGEE, Circuit Judge, dissenting from the denial of the motion to suspend the injunction:

To protect biological females' opportunities in sports, West Virginia enacted § 18-2-25d (the "Act"), which



provides that competitive “[a]thletic teams or sports designated for females, women, or girls shall not be open” to biological males regardless of gender identity. B.P.J., a biological boy who identifies as a girl, challenged the Act because it prevents him from trying out for the middle school girls’ track-and-field and cross-country teams. After losing at summary judgment in the district court, B.P.J. appealed and filed a motion for an injunction, requesting that the Court enjoin West Virginia from enforcing the Act so that he could participate in girls’ sports pending the appeal.<sup>1</sup> B.P.J. contended that “not one child would be harmed” by his participation on the teams, in part, because he finished in the bottom of track-and-field and cross-country participants in the past. Appellant’s Mot. for Inj. at 6 (cleaned up). A majority of the panel voted to grant the injunction and B.P.J. made the girls’ Spring track-and-field team. Since then, B.P.J. has consistently finished at the top of track-and-field event participants, displacing numerous biological girls and taking away multiple opportunities for them to advance further. Relying on this significant change in the factual conditions, West Virginia argues that a lifting of the injunction is necessary to protect the public interest. I agree.

By way of background, when B.P.J. brought this suit in the district court, he filed a motion for a preliminary injunction that would enjoin the enforcement of the Act. The district court initially granted that motion, allowing B.P.J. to participate on the girls’ track-and-field and cross-country teams for three seasons; but that

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<sup>1</sup> B.P.J. captioned the appellate motion as a motion for stay pending appeal. The Court, however, construed the motion as one for an injunction pending appeal.

preliminary injunction was dissolved when B.P.J. lost at summary judgment. B.P.J. appealed to this Court and a majority of the panel granted the motion for an injunction pending resolution of that appeal. In support of that motion, B.P.J. stated that during those three seasons, he “regularly finish[ed] near the back of the pack” at the events. Appellant’s Mot. for Inj. at 2. And there was “no risk” of puberty significantly changing B.P.J.’s standings because he would be “going through a typically female puberty.” Appellant’s Reply to Mot. for Inj. at 10 n.10. In fact, B.P.J. argued that “not one child has been or is likely to be harmed by [his] continued participation on [his] middle school’s cross country and track teams.” Appellant’s Mot. for Inj. at 6 (cleaned up). Subsequent events show that claim to be false.

Circumstances have significantly changed since the injunction was granted, as West Virginia points out in the motion now before us. In the Spring track-and-field season, B.P.J. excelled at track meets over many biological girls. Rather than finishing near the back of the pack, B.P.J. consistently placed in the top fifteen participants and often placed in the top ten. This jump in placement necessarily meant that at least one hundred girls placed lower than they would have had B.P.J. not participated in the events. Stated differently, at least one hundred girls were harmed by B.P.J.’s inclusion on the girls’ track-and-field team. *McCormick ex rel McCormick v. Sch. Dist. of Mamaroneck*, 370 F.3d 275, 294–95 (2d Cir. 2004) (“A primary purpose of competitive athletics is to strive to be the best.”).

And those aren’t the only harms caused by B.P.J.’s participation in girls’ events. B.P.J. also took away girls’ opportunities to participate in the conference championships. To participate in a conference

championship event, athletes must place as a top three team member at their school, judged by their best performance that season. B.P.J. earned a spot at the conference championship in both shot put and discus thereby displacing two biological girls—one in each event—and causing them to be unable to participate in the conference championships because B.P.J. took their spots. Thus, it can no longer be said that B.P.J.’s participation in girls’ sports will not harm anyone—it clearly has. *See Clark ex rel Clark v. Ariz. Interscholastic Ass’n*, 886 F.2d 1191, 1193 (9th Cir. 1989) (“If males are permitted to displace females on the school volleyball team even to the extent of one player . . . the goal of equal participation by females in interscholastic athletics is set back, not advanced.”).

As a result, the injunction should be vacated because “a significant change . . . in factual conditions . . . renders continued enforcement, detrimental to the public interest.” *Horne v. Flores*, 557 U.S. 433, 447 (2009) (cleaned up). B.P.J.’s continued participation in girls’ sports will surely result in further lost opportunities for biological girls, as evidenced by his displacement of numerous girls already.<sup>2</sup> Accordingly, I would grant West Virginia’s motion to suspend the injunction.

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<sup>2</sup> Although B.P.J. asserts that success on the track-and-field team will not necessarily translate to similar success on the cross-country team, that argument is unconvincing. The fact of the matter is B.P.J.’s athletic abilities are rapidly increasing. B.P.J. used to finish at the bottom of track-and-field participants and now he’s at the top. There is no reason to believe the same would not be true if B.P.J. were to participate on the girls’ cross-country team. And we should not risk the displacement of many more biological girls on the off chance B.P.J.’s increased talents are limited to track-and-field events.

**IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF WEST  
VIRGINIA**

**CHARLESTON DIVISION**

B. P. J., et al.,

Plaintiffs,

v.

CIVIL ACTION NO. 2:21-cv-00316

WEST VIRGINIA STATE BOARD OF EDUCATION,  
et al.,

Defendants.

**ORDER**

On May 8, 2024, the Court of Appeals for the Fourth Circuit issued its formal mandate, [ECF No. 540], pursuant to Rule 41(a) of the Federal Rules of Appellate Procedure, directing that its judgment dated April 16, 2024, [ECF No. 537], take effect as of May 8, 2024. In that judgment, the Fourth Circuit concluded that this court erred in granting summary judgment to defendants on both B.P.J.'s equal protection and Title IX claims and denying B.P.J.'s own motion for summary judgment as to the Title IX claim. [ECF No. 537, at 32]. Therefore, the Fourth Circuit vacated my order as to the equal protection claim and reversed my order as to the Title IX claim, [ECF No. 512], remanding the case with instructions to enter summary judgment for B.P.J. as to her Title IX claim and conduct "remedial proceedings," [ECF No. 537, at 37].

In her First Amended Complaint, B.P.J. seeks declaratory and injunctive relief, as well as nominal damages, on both her Title IX and equal protection claims. [ECF No. 64, at 23-24]. She repeats this request for relief in her summary judgment motion. [ECF No. 289, at 1-2]. Because the Fourth Circuit judgment contains a lengthy reasoning for its holdings as to both claims, *see* [ECF No. 537], I need not reiterate that reasoning here. **I FIND** that, pursuant to the Fourth Circuit's judgment, summary judgment is warranted for B.P.J. as to her Title IX claim, and she is entitled to the relief requested for that claim. *See Grimm v. Gloucester Cty. Sch. Bd.*, 972 F.3d 586, 619 (4th Cir. 2020) (affirming a district court award of nominal damages for the defendant school's violation of Title IX as to the transgender student plaintiff).

Accordingly, the court **ORDERS** that the January 5, 2023, Order granting summary judgment to Defendants on both of B.P.J.'s claims, [ECF No. 512], be **VACATED**. The court further **ORDER** that B.P.J.'s motion for summary judgment, [ECF No. 289], is **GRANTED** only as to B.P.J.'s Title IX claim, and therefore:

(1) **DECLARES** that the provisions of and enforcement by Defendants of H.B. 3293 as applied to B.P.J. violate B.P.J.'s rights under Title IX;

(2) **PERMANENTLY ENJOINS** Defendants, their officials, agents, employees, assigns, and all persons acting in concert or participating with them from enforcing against B.P.J. either H.B. 3293 or any other law, custom, or policy that precludes B.P.J.'s participation on girls' school sports teams in West Virginia in violation of Title IX; and

(3) **AWARDS** B.P.J. the amount of \$1.00 as nominal damages with respect to her Title IX claim, payable by the

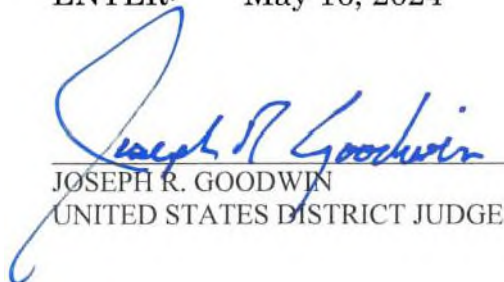
West Virginia Secondary School Activities Commission (“WVSSAC”).

Finally, the court **ORDERS** that the motions for summary judgment filed by the WVSSAC, [ECF No. 276], the State of West Virginia, [ECF No. 285], the Harrison County defendants, [ECF No. 278], the State Board defendants, [ECF No. 283], and Intervenor Lainey Armistead, [ECF No. 286], are **DENIED**.

Also pursuant to the Fourth Circuit’s instructions, B.P.J.’s equal protection claim remains pending. A determination of B.P.J.’s costs, expenses, and reasonable attorneys’ fees for her Title IX claim will be **HELD IN ABEYANCE** pending final adjudication of B.P.J.’s remaining claim.

The court **DIRECTS** the Clerk to send a copy of this Order to counsel of record and any unrepresented party.

**ENTER: May 16, 2024**



JOSEPH R. GOODWIN  
UNITED STATES DISTRICT JUDGE

**IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF WEST  
VIRGINIA**

**CHARLESTON DIVISION**

B. P. J., et al.,

Plaintiffs,

v. CIVIL ACTION NO. 2:21-cv-00316

WEST VIRGINIA STATE BOARD OF EDUCATION,  
et al.,

Defendants.

**SCHEDULING ORDER**

Pursuant to Rule 16(b) and Local Rule of Civil Procedure 16.1(e), it is **ORDERED** that this case shall proceed as follows:

Filing of dispositive motions.	7/22/2024
Responses to dispositive motions.	8/5/2024
Reply to response to dispositive motion	8/12/2024
Settlement meeting deadline.	9/23/2024
Filing of motions in limine.	9/30/2024

Responses to motions in limine.	10/7/2024	
Plaintiff draft of pretrial order to defendant.	9/26/2024	
Integrated pretrial order filed by defendant.	10/3/2024	
Pretrial conference.	10/28/2024	10:00 AM
Proposed findings of fact and conclusions of law	11/12/2024	
Bench Trial	11/19/2024	9:00 AM

Regarding the settlement meeting, the parties and their lead trial counsel, if any, shall meet and conduct negotiations looking toward the settlement of the action, and counsel and any unrepresented parties will be prepared at the pretrial conference to certify that they have done so. Counsel for the plaintiff(s) shall take the initiative in scheduling the settlement meeting, and all other counsel and unrepresented parties shall cooperate to effect such negotiations. If the action is not settled during the settlement meeting, and if there is no order or stipulation to the contrary, counsel and unrepresented parties shall make all Rule 26(a)(3) disclosures at the conclusion of the meeting or session.

The proposed integrated pretrial order, signed by all counsel and unrepresented parties, shall set forth the matters listed in Local Rule 16.7(b).

At the pretrial conference, lead trial counsel shall appear fully prepared to discuss all aspects of the case.



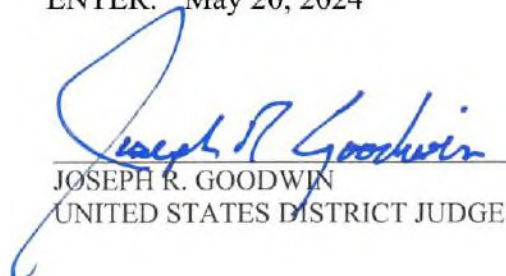
Individuals **with fall authority to settle the case for each party shall be present** in person or immediately available by telephone.

The original and one copy of proposed findings of fact and conclusions of law on substantive theories of recovery or defense and damages shall be exchanged and submitted to the presiding judicial officer. On that same date, the respective submissions shall also be provided to the undersigned on compact disc saved in Word compatible format or emailed to chambers according to instructions provided by the court's law clerk.

Should lead trial counsel fail to appear at any pre-trial conference or otherwise fail to meet and confer in good faith with opposing counsel as required herein, or should a party or his authorized representative fail to appear or be available at any conference or otherwise fail to meet and confer in good faith as required herein, appropriate sanctions may be imposed, including, but not limited to, sanctions by way of imposition of attorney fees against the attorney and/or his client pursuant to Rule 16(f).

The Clerk is directed to transmit copies of this order to all counsel of record and any unrepresented parties.

ENTER: May 20, 2024



JOSEPH R. GOODWIN  
UNITED STATES DISTRICT JUDGE

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

B. P. J., et al.,

Plaintiffs,

v.

CIVIL ACTION NO. 2:21-cv-00316

WEST VIRGINIA STATE BOARD OF EDUCATION,  
et al.,

Defendants,

and

LAINIEY ARMISTEAD,

Defendant-Intervenor.

**DEFENDANTS' MOTION TO STAY  
PROCEEDINGS PENDING RESOLUTION OF  
PETITION FOR WRIT OF CERTIORARI**

Defendants, State of West Virginia; Lainey Armistead; West Virginia Board of Education; Michele Blatt, in her capacity as State Superintendent of Schools; Harrison County Board of Education; Dora Stutler, in her official capacity as Harrison County Superintendent of Schools; and the West Virginia Secondary Schools Activities Commission, move for a stay of proceedings in this case

pending resolution by the United States Supreme Court of a petition for a writ of certiorari that will be filed regarding this case. Counsel for the State of West Virginia has informed Plaintiffs counsel that a petition for writ will be filed with the United States Supreme Court, and Plaintiff's counsel has advised that B.P.J. does not oppose the motion, but does not adopt all of the statements and arguments made by Defendants in the motion or the accompanying memorandum of law.

For the reasons set forth in the memorandum of law filed contemporaneously herewith, Defendants respectfully request that the Court stay any further proceedings in the District Court pending resolution of the petition for writ of certiorari by the United States Supreme Court.

**IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF WEST  
VIRGINIA**

**CHARLESTON DIVISION**

B. P. J., et al.,

Plaintiffs,

v. CIVIL ACTION NO. 2:21-cv-00316

WEST VIRGINIA STATE BOARD OF EDUCATION,  
et al.,

Defendants.

**MEMORANDUM OPINION AND ORDER**

Pending before the court is a Motion to Stay Proceedings Pending Resolution of Petition for Writ of Certiorari filed by Defendants State of West Virginia, Lainey Armistead, West Virginia Board of Education, Michele Blatt, Harrison County Board of Education, Dora Stutler, and the West Virginia Secondary Schools Activities Commission (“WVSSAC”), [ECF No. 543], as well as a Motion to Stay Execution of Payment of Monetary Award Pending Appeal and to Waive Bond filed by Defendant WVSSAC, [ECF No. 545]. For the reasons stated herein, both motions are **GRANTED**.

**I. Background**

This case concerns the lawfulness of West Virginia’s Save Women’s Sports Act (the “Act”), a law passed by the West Virginia Legislature in April 2021. The Act classifies

school athletic teams according to biological sex and prohibits biological males from participating on athletic teams designated for females. W. Va. Code § 18-2-25d(a)(5), (b), (c)(2). B.P.J., a transgender minor seeking to join her middle school's girls' cross country and track teams, filed a Complaint with this court, alleging that the Act violates the Equal Protection Clause of the Fourteenth Amendment to the United States Constitution and Title IX. [ECF No. a On July 21, 2021, I granted B.P.J. a preliminary injunction enjoining enforcement of the Act against her. [ECF No. 67]. Thus, B.P.J. was able to compete on the girls' cross country and track teams during the pendency of this case while it was active on this court's docket.

The parties filed cross-motions for summary judgment on April 21, 2022. [ECF Nos. 276, 278, 283, 285, 286, 289]. On January 5, 2023, I denied B.P.J.'s motion for summary judgment and granted summary judgment in favor of the State of West Virginia, the Harrison County defendants, the State Board defendants, and Intervenor Lainey Armistead. [ECF No. 512]. I also dissolved the preliminary injunction. *Id.* On January 23, 2023, B.P.J. filed a Notice of Appeal. [ECF No. 517]. Defendant WVSSAC, likewise, filed a Notice of Appeal of my orders on February 1, 2023. [ECF No. 522]. The Fourth Circuit consolidated the cross-appeals into a single case, Case No. 23-1078. *See* [ECF No. 526].

On April 16, 2024, the Fourth Circuit rendered its opinion in that case, [ECF No. 537], vacating in part and reversing in part my summary judgment order and remanding the case to this court with instructions for further proceedings, [ECF No. 538]. Specifically, the Fourth Circuit vacated my granting of summary judgment to Defendants on B.P.J.'s equal protection claim

and reversed my denial of B.P.J.'s motion for summary judgment as to her Title IX claim, further instructing me to grant summary judgment to B.P.J. on the latter claim. [ECF No. 537, at 31, 37]. On May 16, 2024, pursuant to the Fourth Circuit's directives, I ordered that (1) my prior order, [ECF No. 512], be vacated; (2) B.P.J.'s Motion for Summary Judgment, [ECF No. 289], be granted only as to her Title IX claim; (3) Defendants Motions for Summary Judgment, [ECF Nos. 276, 278, 283, 285, 286], be denied; (4) B.P.J.'s equal protection claim remain pending; and (5) a determination of B.P.J.'s costs, expenses, and reasonable attorney's fees for the Title IX claim be held in abeyance pending final adjudication of the remaining equal protection claim. *See* [ECF No. 541]. In granting B.P.J. summary judgment on her Title IX claim, I also ordered WVSSAC to pay to B.P.J. nominal damages in the amount of \$1.00. *Id.* at 3.

On May 21, 2024, Defendants State of West Virginia, West Virginia State Board of Education, Harrison County Board of Education, WVSSAC, Dora Stutler, and Lainey Armistead, together, filed their Motion to Stay Proceedings, as it is their intention to petition the Supreme Court of the United States for a writ of certiorari regarding the Fourth Circuit's decision in this case. [ECF No. 543]. The following day, May 22, 2024, WVSSAC filed its Motion to Stay Execution of Payment of Monetary Award Pending Appeal and to Waive Bond, seeking to delay payment of the nominal damages award pending a decision by the Supreme Court on the impending petition. [ECF No. 545]. B.P.J. filed no response to either motion, and the matter is now ripe for review.

## **II. Legal Standard**

### **A. Staying Proceedings**

A district court has inherent authority to manage its docket, including the authority to stay litigation pending the resolution by another court on an issue which would affect or control the outcome in that litigation. *See generally Ryan v. Gonzales*, 568 U.S. 57, 74 (2013); *Landis v. N Am. Co.*, 299 U.S. 248, 254 (1936) (“The power to stay proceedings is incidental to the power inherent in every court to control the disposition of the causes on its docket with economy of time and effort for itself, for counsel, and for litigants.”). “The determination by a district judge in granting or denying a motion to stay proceedings calls for an exercise of judgment to balance the various factors relevant to the expedition and comprehensive disposition of the causes of action on the court’s docket.” *United States v. Ga. Pac. Corp.*, 562 F.2d 294, 296 (4th Cir. 1977). Although a district court has broad discretion, the party seeking the stay must, nonetheless, “justify it by clear and convincing circumstances outweighing potential harm to the party against whom it is operative.” *Williford v. Armstrong World Indus., Inc.*, 715 F.2d 124, 127 (4th Cir. 1983). There are four factors that a district court generally considers with respect to a stay pending appeal: “(1) whether the stay applicant has made a strong showing that he is likely to succeed on the merits; (2) whether the applicant will be irreparably injured absent a stay; (3) whether issuance of the stay will substantially injure the other parties interested in the proceeding; and (4) where the public interest lies.” *Hilton v. Braunskill*, 481 U.S. 770, 776 (1987).

### **B. Staying Execution of Judgment and Waiver of Bond**

Along with the power to stay proceedings pending appeal, a federal district court can also stay the enforcement of a judgment pending the outcome of an

appeal “as part of its traditional equipment for the administration of justice.” *Nken v. Holder*, 556 U.S. 418, 421 (2009) (quoting *Scripps Howard Radio, Inc. v. FCC*, 316 U.S. 4, 910 (1942) (footnote omitted)). Federal Rule of Civil Procedure 62(b) governs the stay of a money judgment and provides that “[a]t any time after judgment is entered, a party may obtain a stay by providing a bond or other security.” Fed. R. Civ. P. 62(b).

However, courts have held that “a court may use its discretion to alter” Rule 62’s bond requirements. *Holland v. Law*, 35 F.Supp.2d 505, 506 (S.D. W. Va. 1999) (collecting cases); see *Moses Enters., LLC v. Lexington Ins. Co.*, No. 3:19-0477, 2022 WL 1132165, at \*1 (S.D. W. Va. Apr. 15, 2022) (granting the defendants’ motion to stay execution of monetary judgment and waiving the bond requirement under Rule 62(b)); *Denver Glob. Prods., Inc. v. Leon*, No. 5:17-cv-00102-MOC-DSC, 2019 WL 2057277, at \*2 (W.D.N.C. May 9, 2019) (outlining two circumstances in which a full bond may not be necessary); *Alexander v. Chesapeake, Potomac & Tidewater Books, Inc.*, 190 F.R.D. 190, 192 (E.D. Va. 1999) (stating that Rule 62 “does not preclude[ ] issuance of a stay on the basis of some lesser bond, or indeed, no bond”). “In considering stays with reduced bond requirements, district courts within the Fourth Circuit have referenced the standard adopted within the Fifth Circuit Court of Appeals” in *Poplar Grove Planting & Ref Co. v. Bache Halsey Stuart, Inc.*, 600 F.2d 1189 (5th Cir. 1979). *Daugherty v. Ocwen Loan Servicing*, 220 F.Supp.3d 728, 730-31 (S.D. W. Va. 2016). That standard provides that “[t]he purpose of a supersedeas bond is to preserve the status quo while protecting the non-appealing party’s rights pending appeal.” *Poplar Grove*, 600 F.2d at 1190-91. Additionally, courts have held that a full bond may not be necessary “when the judgment debtor can currently easily meet the judgment and



demonstrates that it will maintain the same level of solvency during appeal.” *Alexander*, 190 F.R.D. at 193 (quoting *Poplar Grove*, 600 F.2d at 1191).

### III. Discussion

I turn first to Defendants’ Motion to Stay Proceedings Pending Resolution of Petition for Writ of Certiorari. [ECF No. 543]. In that motion, Defendants move to stay these proceedings “pending resolution by the United States Supreme Court of a petition for a writ of certiorari being filed,” in which the Defendants seek review of the Fourth Circuit’s April 16, 2024, decision. [ECF No. 544, at 1-2]. Defendants claim that staying these proceedings will “best achieve an efficient resolution of this case” because “the anticipated petition will seek review . . . on both the Equal Protection Clause issue and Title IX question” and “could well resolve the entire case.” *Id.* at 2. Defendants also contend that the balance of harm favors a stay, arguing that “because the Fourth Circuit’s decision finds a duly enacted state statute unlawful (at least as applied to B.P.J.), the State should have the fullest opportunity to challenge that decision.” *Id.* at 3. Additionally, Defendants claim that granting the stay “will help the parties and the [c]ourt avoid needless expenditures of time and money,” *id.*, and **would** not prejudice B.P.J. because she will continue to compete on girls’ track and field sports teams during the pendency of the appeal, *id.* at 4. I agree.

Although Defendants did not discuss the first *Hilton* factor—their likelihood of success on the merits—the other *Hilton* factors favor granting the requested stay. 481 U.S. at 776. If I deny Defendants’ motion to stay these proceedings, it would, as Defendants argue, “compel the taxpayers of the State to fund district-court litigation that could ultimately prove moot and force counsel to divide their attention between two forums.” [ECF No. 544, at 31.

This would both injure Defendants and go against the public interest. Defendants would be forced to continue litigating this action, depleting time and resources, while also making arguments to the Supreme Court, who could ultimately render the actions of this court moot. Further, it is in the public interest to prevent taxpayers from funding litigation that may be rendered moot by pending appeal. Additionally, I agree with Defendants that B.P.J. would not be substantially injured if this proceeding were stayed pending appeal. B.P.J. is currently allowed to compete on her chosen sports team. Staying this case pending appeal will not change that, and B.P.J. offers no argument as to why Defendants' motion should be denied.<sup>1</sup> Therefore, this proceeding will be STAYED pending resolution of Defendants' petition for writ of certiorari to the Supreme Court of the United States.

Next, I turn to Defendant WVSSAC's Motion to Stay Execution of Payment of Monetary Award Pending Appeal and to Waive Bond. [ECF No. 545]. In that motion, WVSSAC argues that staying payment of the nominal damages award for B.P.J.'s Title IX claim will not substantially injure B.P.J. "due to the nominal nature of the monetary award." [ECF No. 546, at 3]. As to the requested waiver of bond pending appeal, "WVSSAC submits that the administrative cost of securing the bond would far outweigh the \$1.00 it is intended to preserve." *Id.* It argues that because the monetary award at issue here is for only \$1.00, "it is plain that WVSSAC has sufficient assets to cover payment of the award if such

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<sup>1</sup> Defendants assert that B.P.J. does not oppose the motion to stay but "does not adopt all of the statements and arguments made by Defendants in the motion or accompanying memorandum of law." [ECF No. 544, at 2].

payment is stayed pending an appeal of this matter.” *Id.* at 4. Here, too, I agree.

As discussed, “[t]he purpose of a supersedeas bond is to preserve the status quo while protecting the non-appelling party’s rights pending appeal.” *Poplar Grove*, 600 F.2d at 1190-91. In my May 16, 2024, order, I awarded B.P.J. nominal damages on her Title IX claim in the amount of \$1.00. [ECF No. 541, at 3]. No other monetary damages were awarded, and B.P.J. has not provided the court with any reason to believe that staying payment of the \$1.00 award would be harmful to her or the status quo. Additionally, because the amount is minimal, the cost to Defendant WVSSAC in obtaining a bond would exceed the amount of the monetary award. Defendant WVSSAC “can currently easily meet the judgment” and will continue to be able to do so pending resolution of the Defendants’ petition for a writ of certiorari. *Alexander*, 190 F.R.D. at 193 (quoting *Poplar Grove*, 600 F.2d at 1191). The circumstances, therefore, favor granting Defendant WVSSAC’s motion.

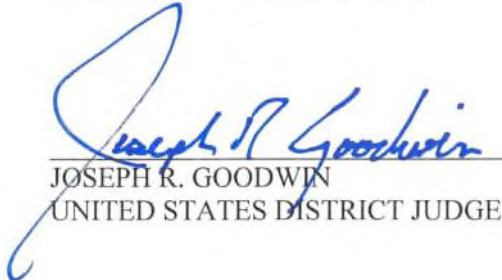
#### IV. Conclusion

Accordingly, both motions, [ECF Nos. 543, 5451, are **GRANTED**. This action is hereby **STAYED** in its entirety, including the execution of payment of the monetary award in the amount of \$1.00 to B.P.J. by Defendant WVSSAC, pending a decision by the Supreme Court of the United States on the petition for writ of certiorari to be filed by Defendants. Defendants shall notify the Court within five (5) days of the filing of a decision on its petition, and should the Supreme Court grant certiorari, the court will enter an order extending the stay pending a final decision by the Court. I further **ORDER** that the supersedeas bond requirement of Rule 62(b) of the Federal Rules of Civil Procedure is waived,

and Defendant WVSSAC is not required to secure a bond pending appeal.

The court **DIRECTS** the Clerk to send a copy of this Order to counsel of record and any unrepresented party.

**ENTER: June 7, 2024**



JOSEPH R. GOODWIN  
UNITED STATES DISTRICT JUDGE

**IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF WEST  
VIRGINIA**

**CHARLESTON DIVISION**

B. P. J., et al.,

Plaintiffs,

v. CIVIL ACTION NO. 2:21-cv-00316

WEST VIRGINIA STATE BOARD OF EDUCATION,  
et al.,

Defendants.

**ORDER**

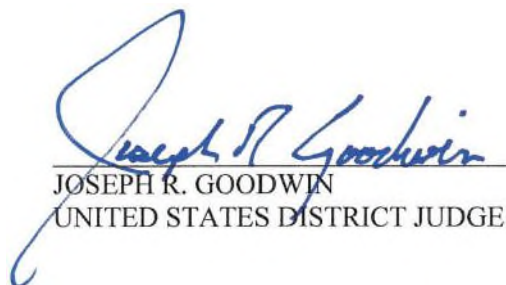
Pending before the court is defendants Harrison County Board of Education and Dora Stutler's Expedited Motion for Clarification, [ECF No. 554].

On May 21, 2024, movants and other defendants asked that this matter to be stayed pending resolution by the Supreme Court of the United States. [ECF No. 543]. On June 7, 2024, I granted that motion and ordered the matter stayed. This matter remains stayed. The Defendant's Expedited Motion for Clarification is **DENIED**.

The Clerk is directed to transmit copies of this order to all counsel of record and any unrepresented parties.

4436

ENTER: February 28, 2025



JOSEPH R. GOODWIN  
UNITED STATES DISTRICT JUDGE