No. 24-38

In the Supreme Court of the United States

BRADLEY LITTLE, GOVERNOR OF IDAHO, *et al.*,

Petitioners,

v.

LINDSEY HECOX, *et al.*,

Respondents.

On Petition for Writ of Certiorari to the United States Court of Appeals for the Ninth Circuit

BRIEF OF DO NO HARM AS AMICUS CURIAE IN SUPPORT OF PETITIONERS

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August 14, 2024

TABLE OF CONTENTS

TABLE OF AUTHORITIES

CASES Page

OTHER AUTHORITIES

INTEREST OF AMICUS CURIAE[1]

Do No Harm, Inc., is a nonprofit membership organization that includes over 10,000 physicians, nurses, medical students, patients, and policymakers. Do No Harm is committed to ensuring that the practice of medicine is driven by scientific evidence rather than ideology. In recent years, the practice of biology denying interventions, euphemistically known as "gender affirming care," has become more common despite the serious harm caused by those medical interventions and the complete lack of reliable evidence for any benefit caused by them. Part of Do No Harm's mission is to ensure that courts have a proper understanding of the danger of these medical interventions. Given the flaws in the decisions below, Do No Harm submits this brief so the Court may fully understand the scientific errors underpinning the decisions of the Fourth Circuit and the Ninth Circuit.

SUMMARY OF THE ARGUMENT

Scientific facts do not change with the shifting winds of cultural ideology. Human beings, like all other mammals, are divided into two sexes—male and female. This binary division is based not on outdated stereotypes but rather biological realities. Specifically, individuals' sex is determined by their body's role in reproduction as evidenced by their chromosomes, gonads, and anatomy. Sex is encoded in our

[1] Pursuant to SUP. CT. R. 37.6, amicus certifies that no counsel for any party authored this brief in whole or in part, no party or party's counsel made a monetary contribution to fund its preparation or submission, and no person other than amici or their counsel made such a monetary contribution. Counsel of record received timely notice of the intent to file this brief.

DNA and present in every cell of our body. Put simply, sex is biological and binary.

Gender identity, in contrast, is a *psychological* concept. It refers to an individual's perception of himself or herself. And it can be determined only by asking an individual about it.

Some people may experience a perceived inconsistency between their sex and their gender identity. This perception can lead to psychological distress, which may be clinically diagnosed as "gender dysphoria." Practitioners of biology denying interventions advocate treating this distress through drugs and surgeries to create the appearance of bodily characteristics associated with the sex that corresponds to the individual's "gender identity." For example, girls will take testosterone to make their body look like a boy's, and boys will take estrogen to make their body look like a girl's.

This practice is dangerous and wholly unproven. As researchers in the United Kingdom reported in the most comprehensive evaluation to date, there is no reliable evidence that suggests these medical and surgical interventions lead to any benefit. Meanwhile, there is indisputable evidence that they cause harm—including sterilization. And we know nothing about other potential long-term effects. For example, it is completely unknown how these interventions affect minors' neurological development.

The two decisions below contained numerous errors—both scientific and legal—that extend beyond just these cases. Both the Fourth Circuit and Ninth Circuit effectively assumed that biology denying interventions for minors are inevitably necessary and

appropriate. Next, they ignored or misunderstood that sex is distinct from gender identity. And they conflated "intersex conditions"—which are extremely rare *biological* disorders of sexual development—with a form of "transgender identity." Based in part on these errors (among others) the decisions below effectively eviscerated the entire concept of boys' and girls' sports teams. These decisions are wrong and will affect the application of Title IX and the Equal Protection Clause in other contexts as well. The Court should grant both petitions and reverse.

ARGUMENT

I. Sex and Gender Identity Are Fundamentally Distinct.

Sex and gender identity are fundamentally distinct concepts. While sex is biological and binary, "gender identity" is a psychological concept that turns on a person's feelings about himself or herself. Relatedly, intersex conditions—more properly termed "disorders of sexual development"—are biological conditions of atypical sexual development. Like typical sexual development, disorders of sexual development are determined based on an assessment of biology—generally, chromosomes, gonads, and anatomy. Thus, the *feeling* of gender identity is distinct from both the concept of sex and the presence of intersex conditions. Gender identity stands alone from these two biological facts as a psychological concept of a person's self-perception.

A. Sex Is Biological and Binary.

Sex is a biological classification that is encoded in our DNA. *See* Nat'l Insts. of Health, Off. of Rsch. on Women's Health, *How SEX and GENDER Influence*

Health and Disease, https://bit.ly/4flBDYp (last visited July 30, 2024). Sexual traits are "controlled by the presence of XX or XY chromosomes," which determine the "type of gonads" a person possesses. Aditi Bhargava et al., *Considering Sex as a Biological Variable in Basic and Clinical Studies: An Endocrine Society Scientific Statement*, 42 ENDOCRINE REVS. 219, 221 (2021), https://bit.ly/46tD82A. An individual's gonads, in turn, generate particular "secretions" that "regulate formation of female or male reproductive tissues." *Id.* Specifically, gonadal secretions determine sex characteristics such as "external genitalia," the presence of a "uterus and oviducts" or "sperm ducts," and even "facial hair and pitch of voice." *Id.* Given the nature of the human body, "sex differences exist at molecular and cellular levels." *Id.* at 245; Nat'l Inst. of Health, *supra* ("Every cell in your body has a sex—making up tissues and organs, like your skin, brain, heart, and stomach."). An individual's sex is thus a biological reality.

For humans, there are two sexes—male and female. Sex "is dichotomous because of the different roles of each sex in reproduction." Bhargava, *supra*, at 221. Specifically, the "classical biological definition of the 2 sexes is that females have ovaries and make larger female gametes (eggs), whereas males have testes and make smaller male gametes (sperm)." *Id.* These "2 gametes fertilize to form the zygote, which has the potential to become a new individual." *Id.* "Each cell" in an individual's body "is either male or female depending on whether" that person is "a man or a woman." Nat'l Inst. of Health, *supra*. Thus, sex is not only "biological," but also "dichotomous." Bhargava, *supra*, at 220.

B. Gender Identity Is a Psychological State.

In contrast to sex, "gender identity" is based on an individual's psychological state. While sex is a biological characteristic, gender identity "is a psychological concept that refers to an individual's self-perception." *Id.* at 226. As the Ninth Circuit defined it below, gender identity is "a person's *sense* of being male, female, neither, or some combination of both." Pet. App. No. 24-38 at 13a (quoting Joshua D. Safer & Vin Tangpricha, *Care of Transgender Persons*, 381 N. ENG. J. MED. 2451, 2451 (2019)) (emphasis added). For some, this "sense" may be strongly felt, but the strength of an individual's "self-perception" does not transform that feeling into a biological fact akin to sex.

One of plaintiffs' experts below, Dr. Jack Turban, recently took to the pages of the New York Times to underscore that "gender identity" is indeed a "feeling." Jack Turban, *I'm a Psychiatrist. Here's How I Talk to Transgender Youth and Their Families About Gender Identity*, N.Y. TIMES (July 8, 2024), https://nyti.ms/3LJRMcv; *see also* Pet. App. No. 24-38 at 44a (quoting "medical expert Dr. Jack Turban"). Dr. Turban sought to enlighten the Times' readership because "[y]ounger people" were "opening up" and "thinking about" gender identity "with more nuance and clarity than older generations." Turban, *supra*. Specifically, Turban explained that "the most basic part of gender identity" is an individual's "transcendent sense of gender." *Id.* Turban elaborated: "In a way that goes beyond language, people often just *feel* male or female, and some more strongly than others." *Id.* (emphasis in original). And although Turban believes "it's hard to describe this transcendent feeling in

words," he stressed that patients could express this feeling in other ways: he explained, for example, that some of his "young patients draw themselves as a certain gender and have a 'wow, this is me' feeling." *Id.*

The fact that "gender identity" is a psychological state rather than a biological condition is further demonstrated by the existence of "detransitioners": the growing number of people who have undergone biology denying interventions only to later regret receiving these treatments and resume identifying as their natal sex. *See L.W. ex rel Williams v. Skrmetti*, 83 F.4th 460, 487 (6th Cir. 2023) (Sutton, C.J. for the court). It is also demonstrated by evidence that the recent explosion in the number of young people diagnosed with gender dysphoria is the result of social contagion. *See id.* at 468 (noting that the percentage of youth identifying as transgender has doubled in the past few years).

Because "gender identity" is not a biological concept, there is no method to determine individuals' identity other than asking them. This explains why "gender identity" is an exclusively "human phenomenon" while "[s]ex is an essential part of vertebrate biology." Bhargava, *supra*, at 228. In sum, sex and gender identity are fundamentally distinct scientific concepts.

C. Intersex Conditions Are Rare Disorders of Sexual Development.

Some individuals will not experience the full process of sexual development described in Part I-A, *supra*. Specifically, individuals may have "congenital conditions within which the development of chromosomal, gonadal and anatomic sex is atypical." Peter A.

Lee et al., *Global Disorders of Sex Development Update Since 2006: Perceptions, Approach and Care*, HORMONE RSCH. IN PAEDIATRICS 159 (Jan. 28, 2016), https://bit.ly/46BakFB. "Given the complexities of the biology of sexual determination and differentiation, it is not surprising that there are dozens of examples of variations or errors" in the process of sexual development "associated with genetic mutations that are now well known to endocrinologists and geneticists." Bhargava, *supra*, at 225. These "situations are generally termed disorders of sexual development (DSD) or differences in sexual development." *Id.* (emphases omitted). The category of DSD "includes genetic disorders in the sexual determination pathway, disorders of steroidogenesis," and "disorders of steroid hormone action." *Id.*

Disorders of sexual development are incredibly rare. Although the diverse nature of DSD makes precise quantification difficult, the number of individuals who experience a disorder of sexual development "has been estimated to be approximately 1 in 4,500–5,500"—roughly two-hundredths of one percent (00.02%). Lee, *supra*, at 159.

Rarer still are situations where a disorder of sexual development makes classification of an individual's sex a challenge. In some exceedingly rare circumstances, it can be challenging to classify a particular child as male or female due to a disorder of sexual development: for example, a "genetically female child (*i.e.*, with XX chromosomes) may be born with external genitalia which appear to be those of a normal male," or "a genetically male child (XY chromosomes) may be born with female-appearing external genitalia." Leonard Sax, *How common is Intersex? A*

Response to Anne Fausto-Sterling, 39 J. SEX RSCH. 174, 174 (2002). But "only a small fraction of those with DSDs"—*i.e.*, a small fraction of an estimated .02% of the population—require detailed assessment to determine the individual's sex. *See* Lee, *supra*, at 159. "For individuals that possess a combination of male- and female-typical characteristics, these clusters of traits are sufficient to classify most individuals as either biologically male or female." Bhargava, *supra*, at 221. The presence of these extraordinarily rare disorders does not—indeed, could not—change the reality that "sex is dichotomous" based on "the different roles of each sex in reproduction." *Id.*

Although the "study of genes and factors underlying DSD" is "complex," *id.* at 225, it is easy to see that the phenomenon of intersex conditions is distinct from "gender identity." As explained, intersex conditions turn on assessments of biology: they are atypical conditions related to an individual's chromosomes, gonads, and anatomy. *See* Lee, *supra*, at 159 (DSD are "congenital conditions within which the development of chromosomal, gonadal and anatomic sex is atypical."). In contrast, "gender identity is a psychological concept that refers to an individual's self-perception," Bhargava, *supra*, at 226—or, in the words of plaintiffs' expert, gender identity is a "transcendent feeling," Turban, *supra*. Thus, the treatment of intersex conditions is fundamentally distinct from the treatment of "gender identity."

II. Biology Denying Interventions Are Dangerous and Unproven.

Some individuals report an inconsistency between their sex and their gender identity. This perceived

inconsistency can lead to psychological distress, resulting in a diagnosis of "gender dysphoria." AM. PSYCHIATRIC ASS'N, DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS 451–52 (5th ed. 2013). To treat gender dysphoria, some practitioners advocate using medical interventions to alter, or "transition," a patient's body to appear more like the patient's perceived identity in the hope that it will reduce the patient's psychological distress. *See, e.g.*, Eli Coleman et al., *Standards of Care for the Health of Transgender and Gender Diverse People*, 23 INT'L J. TRANSGENDER HEALTH S1, S50, S253 (2022), https://bit.ly/41c6sHl ("WPATH Standards of Care 8"). But there is no reliable scientific evidence justifying the use of these interventions. For example, after four years of investigation, researchers commissioned by England's National Health Service (NHS) released the most comprehensive evaluation of medical transition procedures to date—the Cass Review—which explained that there is a lack of high-quality evidence to support the use of these interventions given their known harms and serious unknown risks. *See* Hilary Cass, *Independent review of gender identity services for children and young people: Final Report*, THE CASS REV. (2024), https://bit.ly/3Yxw57r ("Cass Review").

A. Biology Denying Interventions Involve the Use of Puberty Blockers, Cross-Sex Hormones, and Surgeries to Change an Individual's Appearance.

For many children, the process for biology denying interventions begins when doctors block a child's natural puberty. *Id.* at 166 fig.34, 169 tbl.9, 172. To do so, practitioners use an off-label drug to stop "the

normal rise in hormones that should be occurring into teenage years, and which is essential for psychosexual and other developmental processes." *Id.* at 174; *see also Skrmetti*, 83 F.4th at 473–74, 478, 488 (Sutton, C.J. per curiam) (explaining that puberty blockers are not FDA approved for use in the medical transition of minors). Although this drug is used for other diagnoses, it has never been approved for this purpose—*i.e.*, blocking a child's natural progression into puberty in the hope of treating psychological distress. *See* Cass Review, *supra*, at 173–74 (noting that treatment of adult cancers, gynecological issues, and precocious puberty is "a very different indication from use in gender dysphoria").

Next, medical professionals use hormones to induce the development of physical characteristics that resemble the opposite sex. *See id.* at 166 fig.34, 172. Thus, boys take the female sex hormone (estrogen), and girls take the male sex hormone (testosterone). *See id.* at 241. For boys, the "feminizing" physical changes caused by estrogen include growth of breasts, redistribution of body fat, and decreased testicular volume. *See* WPATH Standards of Care 8, *supra*, at S254 tbl.1. For girls, the "masculinizing" physical changes caused by testosterone include growth of facial hair, a deeper voice, and clitoral enlargement. *See id.*

Finally, surgeons remove healthy body parts, often replacing them with artificial constructions designed to approximate the body parts of the opposite sex. *See* Cass Review, *supra*, at 166 fig.34. For example, to "feminize" a boy, surgeons will use the skin tissue from the boy's penis to construct a "neo-vagina" and "neo-vulva." *See id.* at 178. And to "masculinize"

a girl, surgeons will perform a hysterectomy and oophorectomy to remove the uterus and ovaries and then will create a "neo-penis" from the girl's clitoris. *See* WPATH Standards of Care 8, *supra*, at S64–65, S130. These complex surgeries can lead to surgical complications—for example, when children do not have sufficient skin tissue, surgeons are forced to use intestinal tissue to "create" the "neo" body parts, which raises the risk of possible infection. Cass Review, *supra*, at 178. As demonstrated in the next section, however, the risk of surgical complications is far from the only danger of biology denying interventions.

B. Biology Denying Interventions Are Known To Cause a Growing List of Serious Harms.

1. The Combination of These Interventions Sterilizes Minors.

Minors who undergo these interventions will be sterilized. The harm of sterilization underlies the Cass Review's official recommendation that all "children should be offered fertility counselling and preservation prior to going onto a medical pathway." *Id.* at 35; *Skrmetti*, 83 F.4th at 489 (recognizing evidence that administering "puberty blockers to prevent pubertal development can cause" "infertility, and sexual dysfunction").

Plaintiffs' amici below agree. *See* Br. of Amici Curiae Am. Acad. of Pediatrics et al. in Supp. of Appellees at 5–6, *Hecox v. Little*, 104 F.4th 1061 (9th Cir. 2024) (No. 20-35813), ECF No. 44 (listing the Endocrine Society and WPATH as amici); Br. of Amici Curiae Am. Acad. of Pediatrics et al. in Supp. of Plaintiffs-Appellants & Reversal at 2–3, *B.P.J. ex rel.*

Jackson v. West Virginia, 98 F.4th 542 (4th Cir. 2024) (No. 23-1078), ECF No. 71 (same). For example, the Endocrine Society—a group focused on the study of hormones—explains in its treatment guidelines for gender dysphoria that "if puberty is suppressed at an early stage and the individual completes phenotypic transition with the use of sex hormones," such an individual "may want to preserve fertility, which may be otherwise compromised." Wylie C. Hembree et al., *Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons: An Endocrine Society Clinical Practice Guideline*, 102 J. CLINICAL ENDOCRINOLOGY & METABOLISM 3869, 3882–83 (2017), https://bit.ly/4fuBty9 ("Endocrine Society guidelines"); *see also id.* at 3882 (admitting that one of the "primary risks of pubertal suppression" may include "compromised fertility if the person subsequently is treated with sex hormones"). And of course, surgery "that affects fertility"—*e.g.*, removal of the penis or uterus and testes or ovaries—"is irreversible." *Id.* at 3893.

WPATH—another amicus below and a group that advocates for biology denying interventions—offers the same warning. WPATH's Guidelines stress that the loss of fertility is something that must be discussed with children and adolescents who are seeking to medically transition. *See, e.g.*, WPATH Standards of Care 8, *supra*, at S57. Relatedly, the organization's leadership seconds the Endocrine Society's concerns about adult sexual function. For example, WPATH's president acknowledged "that 'really about zero' biological males who block puberty" will "ever achieve an orgasm." David Larson, *Duke Health emerges as Southern hub for youth gender transition*, THE

CAROLINA J. (Aug. 31, 2022), https://bit.ly/3JvXuOy (discussing video of WPATH President Marci Bowers).

2. The Effect of Pubertal Suppression on an Individual's Brain Development Is Entirely Unknown.

As England's experts explained in the Cass Review, there are "very complex events that take place in the adolescent brain during puberty." Cass Review, *supra*, at 178. Specifically, "there may be a 'critical period' in adolescence for the development of more complex thinking and analytical processes." *Id.* at 104; *see also id.* at 178. And these changes are likely "driven by a combination of chronological age and sex hormones." *Id.* at 178. Thus, "[b]locking the release of these sex hormones could have a range of unintended and as yet unidentified consequences." *Id.* For example, "brain maturation may be temporarily or permanently disrupted by the use of puberty blockers, which could have a significant impact on the young person's ability to make complex risk-laden decisions, as well as having possible longer-term neuropsychological consequences." *Id.* The neurological harms that potentially result from pubertal suppression also complicate the ability of the child or adolescent to consent to further treatments, like cross-sex hormones, since minor patients who are "already on puberty blockers" will need to make that decision "when their psychosexual development has been paused, and possibly with little experience of their biological puberty." *Id.* at 196.

3. These Interventions Also Lead to Known Physical Harms.

The use of these high-powered drugs to alter natural human development unsurprisingly causes serious physical harms. Start with puberty blockers. The Cass Review highlights the risk of "detrimental impact to bone density," *id.* at 170, referencing studies that "found that bone density is compromised during puberty suppression, and height gain may lag behind that seen in other adolescents," *id.* at 178. England's experts also note negative effects "on metabolic health and weight." Cass Review, *supra*, at 179. And because the use of puberty blockers for this purpose is so novel, there is no data regarding other potential long-term effects. *See id.* at 170 (warning that the "impact of use over an extended period of time is unknown"); *id.* at 196 (underscoring "potential risks to neurocognitive development, psychosexual development and longer-term bone health"); *id.* at 196 ("There are no good studies on the psychological, psychosexual and developmental impact of this period of divergence from peers.").

Cross-sex hormones likewise cause serious harm. For males, the use of cross-sex hormones is associated with numerous health risks, such as thromboembolic disease, including blood clots; cholelithiasis, including gallstones; coronary artery disease, including heart attacks; macroprolactinoma, which is a tumor of the pituitary gland; cerebrovascular disease, including strokes; hypertriglyceridemia, which is an elevated level of triglycerides in the blood; infertility; and breast cancer. *See* Endocrine Society guidelines, *supra*, at 3886–87 & tbl.10; WPATH Standards of Care 8, *supra*, at S119–23, S254. For females, the use of

cross-sex hormones is associated with risks of erythrocytosis, which is an increase in red blood cells; severe liver dysfunction; coronary artery disease, including heart attacks; hypertension; infertility; and increased risk of breast, cervical, and uterine cancers. *See* Endocrine Society guidelines, *supra*, at 3886–87 & tbl.10; WPATH Standards of Care 8, *supra*, at S117–18, S254. Moreover, as England's experts cautioned in the Cass Review, taking these drugs will become a "life-long" commitment because a patient must continually take the hormones to maintain the physical changes they cause. *See* Cass Review, *supra*, at 195. And as with puberty blockers, there are many unknown harms of hormones, *id.* at 33, 184, 194, in part because of the lack of long-term studies, *id.* at 33, 189.

Finally, transitioning surgeries also carry serious risks. For males, surgical complications include hair growth inside a surgically constructed "neo-vagina," and fistulae, including improper connections between the intestines and the "neo-vagina." *See* WPATH Standards of Care 8, *supra*, at S132, S134. Also, most seriously, surgical complications associated with this surgery have previously led to death. *See* Michael Biggs, *The Dutch Protocol for Juvenile Transsexuals: Origins and Evidence*, 49 J. SEX & MARITAL THERAPY 348, 355 (2022), https://bit.ly/3Kgax6p; Vera L. Negenborn et al., *Lethal Necrotizing Cellulitis Caused by ESBL-Producing E. Coli after Laparoscopic Intestinal Vaginoplasty*, 30 J. PEDIATRIC & ADOLESCENT GYNECOLOGY (2017). For females, surgical complications include urethral strictures, which is a narrowing of the urethra; urethral fistulae, including improper leaking of urine; hair growth within the "neo-urethra"; lack of sensation; and anorgasmia, including an inability to

orgasm. *See* WPATH Standards of Care 8, *supra*, at S133. And again, complications can lead to "morbidity." *Id.* at S134.

Crucially, the sequential nature of these treatments—puberty blockers to cross-sex hormones to surgery—means that the harms and risks of the later treatments (like surgery) cannot be dissociated from the earlier treatments (like puberty blockers). This is because, as England's experts state in the Cass Review, "given that the vast majority of young people" who take puberty blockers "proceed from puberty blockers to masculinising/feminising hormones," there is concern that puberty blockers "may change the trajectory of psychosexual and gender identity development"—meaning that, rather than "buy time to think," puberty blockers may instead alter a minor's perception of himself or herself. Cass Review, *supra*, at 32. Thus, the use of puberty blockers could actually *prevent* a child from ever becoming comfortable with his or her sex.

One final harm is important to highlight: there are many people who suffered from gender dysphoria, underwent biology denying interventions, and then later engaged in the "process of discontinuing or reversing" that process. *Id.* at 187, 239; *see also Skrmetti*, 83 F.4th at 487. These individuals are known as detransitioners. Cass Review, *supra*, at 187, 239. Many detransitioners revert to living as their biological sex. *See id.* at 187–88. As the Cass Review cautions, "the percentage of people treated with hormones who subsequently detransition remains unknown due to the lack of long-term follow-up studies." *Id.* at 33. And as England's experts also observe, "there is suggestion that numbers are increasing." *Id.*

Thus, whatever justification is offered for these interventions, it must outweigh the risks of detransition and regret. But as discussed below, the evidence establishes no such justification.

C. No Reliable Evidence Establishes the Psychological Benefit of Using These Interventions for Gender Dysphoria.

Contrary to some narratives, "there is no evidence that" biology denying interventions reduce "deaths by suicide in trans people." *Id.* at 195. Indeed, the benefits of biology denying interventions are "unproven" and "unknown" because of "poor study design, inadequate follow-up periods and a lack of objectivity in reporting of results." *Id.* at 194. This is true of both puberty blockers and cross-sex hormones. And the lack of evidence is further complicated by changes in the current patient profile.

Begin with the benefits allegedly associated with puberty blockers. There are three common claims about puberty blockers: they buy time to explore gender identity, reduce gender dysphoria, and improve mental health. *Id.* at 176. According to the Cass Review, all three claims are meritless. First, with respect to the claim that puberty blockers provide time for gender identity exploration, "data suggest that puberty blockers are not buying time to think." *Id.* In fact, as mentioned above, because so many children on puberty blockers go on to use cross-sex hormones, the data instead suggest that puberty blockers may cement the decision to pursue biology denying interventions. *See id.* at 32, 176. Second, with respect to the claim that puberty blockers reduce gender dysphoria, the Cass Review found "[o]nly two moderate quality

studies" that "looked at gender dysphoria and body satisfaction," and "[n]either reported any change before or after receiving puberty suppression." *Id.* at 176. Third, with respect to the alleged psychological and mental health benefits of puberty blockers, a systematic review commissioned by the Cass Review "concluded that there is insufficient and/or inconsistent evidence." *Id.* "[W]ithout a control group," any existing evidence "could be due to placebo effect" or could be the result of non-medical interventions, like "psychological support" that might be simultaneously provided to a patient. *Id.* at 179.

Treating gender dysphoria with cross-sex hormones also lacks an evidentiary foundation. The Cass Review explains that "[t]here is a lack of high-quality research assessing the outcomes of hormone interventions in adolescents with gender dysphoria/incongruence, and few studies that undertake long-term follow up." *Id.* at 33 (cleaned up). The Cass Review affirms the call for "robust research with long-term follow up," *id.*, and states that "the evidence found did not support" the conclusion "that hormone treatment reduces the elevated risk of death by suicide in this population," *id.* Moreover, one of the systematic reviews commissioned by the Cass Review makes clear that "[n]o conclusions can be drawn about the effect on" risks and alleged benefits, including "body satisfaction" and "psychosocial health." *Id.*

Complicating this lack of research is the fact that practitioners poorly understand the current patient population, which is growing, changing, and suffering from conditions other than gender dysphoria. First, the Cass Review notes an "exponential" increase in the number of referrals to gender clinics over the last

ten years. *Id.* at 85–89. Second, with that growth has come a change from a patient population that was predominantly male to one that is now predominantly female. *Id.* at 85, 89. And many of these females do not simply identify as boys but instead as something that is neither a boy nor a girl—*i.e.*, a 'non-binary' gender identity. *See id.* at 90. Third, this patient population has "greater mental health and psychosocial needs," as well as "additional diagnoses of [autism spectrum disorder] and/or attention deficit hyperactivity disorder." *Id.*; *see also id.* at 93. Indeed, "rates of depression, anxiety and eating disorders" are "higher in the gender clinic referred population than in the general population." *Id.* at 91. The Cass Review also calls attention to concerning rates of adverse childhood experiences, *id.* at 94, use of pornography, *id.* at 110, and the overall increase in mental health problems among children since the COVID-19 pandemic, *id.* at 111. The upshot is that the limited existing research is based on prior generations of patients and is thus of even less relevance now since "[t]oday's population is different from that for which clinical practice was developed." *Id.* at 97.

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In sum, the use of medical interventions to treat the psychological condition of gender dysphoria is dangerous and unproven. There is no reliable evidence showing any benefit from these interventions. Meanwhile, they cause serious harms—including sterilization—and carry additional unknowns such as their effect on neurodevelopment. Thus, these interventions cause harm with no proof of any offsetting benefit.

III. The Decisions Below Rest on False Premises Regarding These Interventions.

The decisions below contain numerous scientific and legal errors. The Fourth and Ninth Circuits wrongly assumed that biology denying interventions are inevitably necessary and appropriate. They ignored or misunderstood the nature of sex as distinct from gender identity. And they mischaracterized the prevalence and relevance of intersex conditions to the dispute before them. These errors—which go beyond these two decisions—underscore the need for this Court's review.

A. Taking Puberty Blockers and Cross-Sex Hormones Is Not an Immutable Characteristic.

As explained in Part II-A, *supra*, some proponents of biology denying interventions advocate for using puberty blockers and cross-sex hormones to change the appearance of an individual's body. The purpose of this change is to make the individual's body look like what the individual *feels* his or her body should look like: a boy whose "gender identity" is female takes drugs to make his body look like a girl's body; a girl whose "gender identity" is male takes drugs to make her body look like a boy's body. But according to WPATH, these drugs are necessary only so long as they are needed to accomplish the patient's "embodiment goals." WPATH Standards of Care 8, *supra*, at S110, S112, S126. For example, if a teenage boy identifies as "non-binary," his particular "embodiment goals" may not require the same amount or duration of estrogen as a boy who identifies as a girl. Thus, the

degree to which hormones are used turns exclusively on the individual's "gender identity"—*i.e.*, his or her "feeling" of "being male, female, neither, or some combination of both," Pet. App. No. 24-38 at 13a.

In addition, as explained in Part II-B, *supra*, there is no reliable data that justifies using these drugs to change an individual's body as a treatment for the psychological distress resulting from gender dysphoria. The use of these drugs causes known harms (including sterilization) and has serious unknown side effects (including the effect on an individual's brain development). *See* Part II-B, *supra*. And no reliable evidence shows that these interventions actually cause improvement in an individual's gender dysphoria that outweighs the known and unknown harms. *See* Part II-C, *supra*. Thus, practitioners are not justified in using these interventions over less intrusive means of treating gender dysphoria such as psychotherapy.

The decisions below, however, treated administration of puberty blockers and cross-sex hormones as inevitable. For example, the Ninth Circuit discussed biology denying interventions as though they were the undisputed and only method for treating gender dysphoria. The court stated that "medical professionals" (apparently all of them) have used "the protocols" created by WPATH to treat gender dysphoria "[f]or over thirty years." Pet. App. No. 24-38 at 14a. *But see Skrmetti*, 83 F.4th at 467–68 (explaining how these guidelines have changed in the past three decades and, among other differences, did not permit use of puberty blockers thirty years ago). The court's unquestioning acceptance of WPATH's "protocols"—*i.e.*, puberty blockers, cross-sex hormones, and surgeries—

seemingly elevated *the use* of these drugs and surgeries to some form of constitutionally protected quasi-identity.

The Fourth Circuit made a similar error. The court concluded B.P.J. had been "harmed" by the West Virginia statute because "offering B.P.J. a 'choice' between not participating in sports and participating only on boys teams is no real choice at all." Pet. App. No. 24-43 at 40a–41a. Like the Ninth Circuit, the Fourth Circuit's conclusion was based on "the treatment protocols for gender dysphoria," *id.* at 41a. The court thus assumed that the use of puberty blockers and cross-sex hormones effectively sets a *baseline* for States' ability to regulate sports.

These errors also go to the question of tailoring (to the extent tailoring is constitutionally required). As Judge Agee explained in his dissent, an individual can stop taking puberty blockers or cross-sex hormones at any point. *Id.* at 54a n.7. And since this "status" of taking drugs "can be so easily modified," States should be permitted to regulate at a higher level of generality—*i.e.*, boys "generally have a physiological advantage" over girls—rather than have to ensure that boys "who *currently* take puberty suppressants remain on them" for the duration of the sports season. *Id.* In sum, the analysis in the decisions below elevated the experimental use of drugs to some form of immutable characteristic when the scientific evidence provides no justification for administering these dangerous treatments.

B. Gender Identity Does Not Alter a Person's Sex.

As explained, sex and gender identity are distinct. *See* Part I, *supra*. Sex is biological, and gender identity is psychological. The Ninth Circuit below, however, attempted to conflate these two concepts. Specifically, the court sought to lump in "gender identity" *as part of* "sex." As the Ninth Circuit saw it, deeming "sex" a biological concept "is likely an oversimplification." Pet. App. No. 24-38 at 29a–30a. But whatever enlightened nuance the three-judge panel wished to add, the evolutionary and biological fact of sex—present in literally every mammal—is not "an oversimplification." An individual's gender identity does not alter his or her sex.

C. Intersex Conditions Are Both Extremely Rare and Irrelevant.

The legal issues here do not implicate intersex conditions—*i.e.*, disorders of sexual development. The plaintiffs' claims are based on their gender identity, not on any sort of congenital condition of atypical chromosomal, gonadal, and anatomic sex development. That neither case presents issues related to disorders of sexual development is unsurprising given how rare disorders of sexual development are. *See* Part I-C, *supra*.

The Ninth Circuit decision below badly misunderstood disorders of sexual development. First, the Ninth Circuit inexplicably said "two percent of the population are born 'intersex.'" Pet. App. No. 24-38 at 83a. That number is off by *two* orders of magnitude. *See* Part I-C, *supra* (explaining that the correct estimate is roughly .02%). Second, the Ninth Circuit

seemed to think that the Idaho law's application to gender identity somehow also implicated the law's application to intersex conditions. But as explained above, intersex conditions turn on assessments of biology while gender identity is a psychological concept that turns on an individual's self-perception. The factual and legal issues associated with intersex conditions are thus fundamentally distinct from the factual and legal issues associated "gender identity." And the Ninth Circuit was wrong to conflate these distinct concepts.

*

In sum, the decisions below erred on both the science and the law. Most significantly, both decisions reflexively assumed that using puberty blockers and cross-sex hormones to treat gender dysphoria is beyond debate. As demonstrated above, that is far from the truth. In making this error, these courts effectively elevated the use of drugs for this experimental purpose to some form of quasi-identity insulated from any state regulation that seeks to create fair athletic opportunities for boys and girls. The result is an evisceration of the entire idea of boys' and girls' sports teams. In addition, the courts below made other glaring errors—such as suggesting that "gender identity" is part of an individual's sex or that disorders of sexual development are relevant to these legal challenges. All these errors infected the courts' legal analysis, and the decisions below should be reversed.

CONCLUSION

For these reasons, the Court should grant the petitions and reverse the decisions below.

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