No. 18-13592

UNITED STATES COURT OF APPEALS FOR THE ELEVENTH CIRCUIT

DREW ADAMS,

Plaintiff-Appellee,

v.

SCHOOL BOARD OF ST. JOHNS COUNTY, FLORIDA,

Defendant-Appellant.

Appeal from the United States District Court for the Middle District of Florida, Honorable Timothy J. Corrigan, Case No. 3:17-cv-00739-TJC-JBT

BRIEF OF *AMICI CURIAE* DRS. MIRIAM GROSSMAN, MICHAEL LAIDLAW, QUENTIN VAN METER, AND ANDRE VAN MOL IN SUPPORT OF DEFENDANT-APPELLANT SCHOOL BOARD OF ST. JOHNS COUNTY, FLORIDA

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CERTIFICATE OF INTERESTED PERSONS

Pursuant to Local Rules 26.1-1 through 26.1-3, the undersigned certifies that the name of each person, attorney, association of persons, firm, law firm, partnership, and corporation that has or may have an interest in the outcome of this action—including subsidiaries, conglomerates, affiliates, parent corporations, publicly-traded companies that own 10% or more of a party's stock, and all other identifiable legal entities related to any party in the case, in addition to those set forth in the Initial Brief of Appellant The School Board of St. Johns County, Florida, include:

1. Alliance Defending Freedom – Counsel for Amici Curiae
2. Campbell, James A. – Counsel for Amici Curiae
3. Grossman, Miriam – Amicus Curiae
4. Laidlaw, Michael K. – Amicus Curiae
5. McCaleb, Gary S. – Counsel for Amici Curiae
6. Van Meter, Quentin L. – Amicus Curiae
7. Van Mol, Andre – Amicus Curiae

The undersigned will enter this information in the Court's web-based CIP contemporaneously with filing this Certificate of Interested Persons. As the *Amici Curiae* appear as individuals, no corporate disclosure statement is required.

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STATEMENT OF THE ISSUE

Whether the district court was authorized to interpret "sex" to mean "gender identity" under Title IX and the Equal Protection Clause?

INTEREST OF *AMICI CURIAE*[1]

Amici curiae are individual medical professionals and scientists, well-versed in the issues surrounding gender identity ideology. The Appellants and Appellees have consented to the filing of this brief.

Amicus curiae Miriam Grossman holds an M.D. from New York University. She completed an internship in pediatrics, a residency in adult psychiatry, and a fellowship in child and adolescent psychiatry. Dr. Grossman worked at UCLA's Student Psychological Services for twelve years. In that capacity she evaluated and treated students who were conflicted about their gender identity. Dr. Grossman subsequently provided mental health treatment for children and adolescents at the Vista Del Mar clinic in Los Angeles. In that position and in her private

[1] Pursuant to Fed. R. App. P. 29(a) *amici curiae* state that this brief was not authored in whole or in part by counsel for any party, and no person or entity other than *amici curiae* and their counsel made a monetary contribution to the preparation or submission of this brief.

practice, she cared for patients who struggled with their identity as male or female. Dr. Grossman is the author of two books about the dangers of social ideology in education and health care, and has lectured extensively on the topic.

Amicus curiae Michael K. Laidlaw, M.D. is board-certified in Endocrinology, Diabetes, and Metabolism. He works in private practice and is a contributing member of gdworkinggroup.org, which is the international, professional work group on childhood and adolescent gender dysphoria.

Amicus curiae Quentin L. Van Meter, M.D. is a board-certified Pediatric Endocrinologist in private practice in Atlanta, Georgia, with extensive training in issues of transgender health over the past 40 years. Dr. Van Meter is currently President of the American College of Pediatricians, fellow of the Endocrine Society, member of the Pediatric Endocrine Society, and of the Endocrine Society. He has held positions as Associate Clinical/Adjunct Professor of Pediatrics at Emory University School of Medicine and the Morehouse Medical College.

Amicus curiae Andre Van Mol, M.D., is a board-certified Family Physician and Co-chair of the Committee on Adolescent Sexuality for

the American College of Pediatricians. Prior to establishing his distinguished family practice in Northern California, he served as a U.S. Navy family practice doctor and carrier air wing flight surgeon.

Amici critically evaluate, based on their clinical and scientific expertise, a central question in this case: whether "gender-affirming" policies and treatments for students who identify with a gender discordant from their sex is beneficial to those students. By "gender," *Amici* mean an individual's self-perception as male or female, which may be known to others only by the individual's statement. As medical professionals, *Amici* are profoundly concerned that youth are not being well-served by gender affirmation policies or treatments that are unmoored from sound science. *Amici* focus on the premise that students who are confused about their sex are necessarily best treated by gender-affirmation methods—a premise that has been broadly advanced by advocates of gender identity theory in recent years. But such gender-affirmation treatments have virtually no basis in science or fact, and are often harmful to the youth who are struggling with discordant perceptions of their sex.

SUMMARY OF THE ARGUMENT

Amici, as physician-scientists, observe that the legal issues in this lawsuit center upon the meaning of the term *sex*, and further observe that throughout their long professional careers, *sex* until very recently referred to a person being male or female in the objective, biological sense. *Amici* note too that the term *gender* came into use to indicate two things quite different from *sex*. One meaning is society's expectations for how males and females should behave—that is, sex stereotypes. The other meaning that is most pertinent to this case, is a person's inner experience of being male, female, or anywhere between those two "extremes" as they are called.

Thus, *sex* is innate, fixed, and binary; *gender* is a subjective, fluid continuum.

With that background in mind, *Amici* possess scientific expertise that may be of assistance to the Court in evaluating sex and gender.

Currently in the United States, *gender* is defined as a persistent identification with a set of norms promoted by society as the behaviors, attitudes, and preferences associated with each *sex*. The definition is grounded in culture and perceived identity, not biology. Choosing a

gender—i.e., deciding to live as one sex or the other—neither is caused by nor causes any biological changes. There is no credible scientific literature that suggests that a person's gender affects the objective biological reality that one is male or female. Nor is there any objective indicia of a person's gender: according to gender identity theory, a person's gender is what they claim it to be.

There is no doubt that some humans, including some youth in this case, experience disquiet with their sex. They struggle to identify with their sex. Some feel a distressing and persisting incongruity between their sex and their sense of themselves as male or female. But no matter how disturbing this condition of gender dysphoria may be, nothing about it affects the objective reality that all persons, dysphoric or not, remain the male or female persons that they were at conception, at birth, and thereafter.

Amici leave aside the questions of how best to treat gender dysphoria in adults, focusing instead on how to treat adolescents who suffer from this psychological disorder. To say this is an open question in medicine and science is understatement writ large: gender-affirmation policies such as those sought by Appellee Adams are

unsupported by any scientific evidence that such policies help the youths they aim to help. To the contrary, there is abundant scientific reason to believe that gender-affirmation efforts do no lasting good; rather, they may cause harm in many circumstances and lead to catastrophic outcomes for some youths.

Amici conclude based upon decades of academic study and clinical experience in psychiatry, psychology, and the biological bases of both of those fields, that obligating the School Board to adopt policies that amount to scientifically unwarranted, dangerous experiments upon our nation's youth would not be in the interest of the students that the School Board serves. *Amici* therefore urge that the lower court's decision be reversed.

ARGUMENT

I. A child's gender identity has no bearing on his or her sex.

Sex and *gender* represent two very distinct features of our world. While *sex* is binary and objective, determined by one's chromosomal constitution, and ultimately by clearly defined reproductive capacities, *gender* is a subjective sense of identity; a social role generated by

cultural norms.[2] The central underlying basis for sex is the distinction between the reproductive roles of males and females. *See* Lawrence S. Mayer & Paul R. McHugh, *Sexuality and Gender: Findings from the Biological, Psychological, and Social Sciences*, New Atlantis, Fall 2016 at 89-90. In biology, an organism is male or female if it is biologically and physiologically designed to perform one of the respective roles in sexual reproduction. This definition does not depend upon amorphous physical characteristics or behaviors; nor does it hinge upon what an organism considers its sex to be, as it simply requires and depends upon understanding the reproductive system and its processes.

Reproductive roles provide the conceptual basis for the differentiation of animals into the biological categories of male and female. There is no other widely accepted biological classification for the sexes. Sex is a physiological reality that permeates every cell of an organism containing a nucleus. Sex is thus innate and immutable; the

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[2] Gender identity advocates may cloud the question of interpreting "sex" by pointing to intersex conditions. But such conditions are rare, objectively diagnosable disorders of sexual development and are quite unlike the theory of a subjectively perceived gender continuum proposed by gender identity advocates. These objectively diagnosable disorders are not at issue in this case and do not undermine the desirability of using objective criteria of sex, rather than subjective gender, to provide privacy to students in privacy facilities.

genetic information directing development of male or female gonads and other primary sexual traits, which normally are encoded on chromosome pairs "XY" and "XX," are present immediately upon conception. As early as eight weeks' gestation, endogenously produced sex hormones cause prenatal brain imprinting that ultimately influences postnatal behaviors. *See* Francisco I. Reyes et al., *Studies on Human Sexual Development*, 37 J. of Clinical Endocrinology & Metabolism 74-78 (1973); Michael Lombardo, *Fetal Testosterone Influences Sexually Dimorphic Gray Matter in the Human Brain*, 32 J. of Neuroscience 674-80 (2012); P.C. Sizonenko, *Human Sexual Differentiation*, Geneva Foundation for Medical Education and Research (2017).[3] It is therefore not the reproductive system alone that carries one's sexual identity. *Every cell in the body containing a nucleus is marked with a sexual identity by its chromosomal constitution, XX or XY*. Thus, sex is not "assigned" at birth; rather, it is established at conception, "declares itself anatomically in utero and is acknowledged

[3] Available at http://bit.ly/2CrBDWE.

at birth." Michelle A. Cretella, *Gender Dysphoria in Children and Suppression of Debate*, 21 J. of Am. Physicians & Surgeons 51 (2016).

In contrast, gender has come to refer to "the socially constructed roles, behaviors, activities, and attributes that a given society considers appropriate for boys and men or girls and women," which "influence the ways that people act, interact, and feel about themselves." Am. Psychol. Ass'n, *Answers to Your Questions About Transgender People, Gender Identity and Gender Expression* (2011).[4] A child's *gender* reflects the extent to which he or she conforms to or deviates from socially normative behavior for young males or females.

By this definition, gender is mercurial. There is no objective definition for what it means to behave like a boy or a girl. Moreover, what is considered gender-typical behavior for boys and girls changes over time within a given culture and varies between cultures.[5] A girl who behaves like a "tomboy" may modify her behavior as she ages, and

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[4] Available at http://www.apa.org/topics/lgbt/transgender.pdf.

[5] Just a few decades ago, in the United States it would have been atypical for women to attend law school or medical school. It was projected that women would outnumber men in law schools in 2017. Debra Cassens Weiss, *Women Could Be a Majority of Law Students in 2017; These Schools Have 100-Plus Female Majorities*, ABA Journal, Mar. 16, 2016. Available at: http://www.abajournal.com/news/article/women_could_be_majority_of_law_students_in_2017_these_schools_have_100_plus.

a boy who prefers quiet play imitating domestic life may eventually develop an interest in adventure sports or hunting. Consequently, gender is a fluid concept with no truly objective meaning. Judith Butler, *Gender Trouble: Feminism and the Subversion of Identity* 6-7 (1990) (stating that "gender is neither the causal result of sex nor as seemingly fixed as sex," but rather "a free-floating artifice, with the consequence that *man* and *masculine* might just as easily signify a female body as a male one, and *woman* and *feminine* a male body as easily as a female one"). Thus, nouns possess a *gender*; people possess a given *sex*. *Id*. Gender is not simply a fluid perception; it also represents rules of grammar morphed onto false perceived categories of human beings. *See id*. And language may serve distinctly ideological purposes untethered from scientific empirical data, as described *infra* and *supra*.

II. *Gender Dysphoria* is a psychological disorder marked by confusion and distress about one's sex.

A gender-dysphoric youth experiences a sense of incongruity between the gender expectations linked to her or his biological sex and her or his biological sex itself. Tomer Shechner, *Gender Identity Disorder: A Literature Review from a Developmental Perspective*, 47 Isr.

J. of Psychiatry & Related Sci. 132-38 (2010). Gender-dysphoric boys may subjectively feel as if they are girls, and gender-dysphoric girls may subjectively feel as if they are boys, according to their sense of what that feeling of being a member of the opposite sex must be like. *See* Am. Psychol. Ass'n, *Diagnostic & Statistical Manual of Mental Disorders* [hereinafter, "DSM-V"] 452 (5th ed. 2013). So, too, dysphoria may manifest with males or females claiming an array of non-binary genders or no gender at all. *See* Am. Psychol. Ass'n, *Answers to Your Questions About Transgender People, Gender Identity, and Gender Expression* 2 (3rd ed. 2014) (explaining that some "[g]enderqueer" people "identify their gender as falling outside the binary constructs of 'male' and 'female,'" and indicating that other gender identities include "androgynous, multigendered, gender nonconforming, third gender, and two-spirit").[6]

Yet subjective feelings, strong as they may be, can neither constitute nor transform objective reality. Cretella, *supra*, at 51 ("[T]his 'alternate perspective' of an 'innate gender fluidity' arising from

[6] Available at http://bit.ly/1mZQCsH.

prenatally 'feminized' or 'masculinized' brains trapped in the wrong body is an ideological belief that has no basis in rigorous science."); J. Michael Bailey & Kiira Triea, *What Many Transsexual Activists Don't Want You to Know and Why You Should Know It Anyway*, 50 Perspectives in Biology & Med. 521-34 (2007) (finding little scientific basis for the belief that male-to-female transsexuals are women trapped in men's bodies). A gender-dysphoric girl is not a boy trapped in a girl's body, and a gender-dysphoric boy is not a girl trapped in a boy's body. Students in St. Johns County schools retain their sex irrespective of their beliefs about their gender.

Studies of brain structure and function have not demonstrated any conclusive biological basis for transgendered identity. *See* Giuseppina Rametti et al., *White Matter Microstructure in Female to Male Transsexuals Before Cross-sex Hormonal Treatment: A Diffusion Tensor Imaging Study*, 45 J. of Psychiatric Res. 199-204 (2011) (offering no evidence to support the hypothesis that transgenderism is caused by differences in the structure of the brain); Giuseppina Rametti et al., *The Microstructure of White Matter in Male to Female Transsexuals Before Cross-sex Hormonal Treatment: A DTI Study*, 45 J. of Psychiatric Res.

949-54 (2011) (same); Emiliano Santarnecchi et al., *Intrinsic Cerebral Connectivity Analysis in an Untreated Female-to-Male Transsexual Subject: A First Attempt Using Resting-State fMRI*, 96 Neuroendoctrinology 188-93 (2012) (in a study of brain activity, finding that a transsexual's brain profile was more closely related to his biological sex than his desired one); Hans Berglund et al., *Male-to-Female Transsexuals Show Sex-Atypical Hypothalamus Activation When Smelling Odorous Steroids*, 18 Cerebral Cortex 1900-08 (2008) (in a study of brain activity, finding no support for the hypothesis that transgenderism is caused by some innate, biological condition of the brain). Some researchers believe that transgenderism can be attributed to other biological causes, such as hormone exposure in utero. *See, e.g.*, Nancy Segal, *Two Monozygotic Twin Pairs Discordant for Female-to-Male Transsexualism*, 35 Archives of Sexual Behav. 347-58 (2006) (examining two sets of twins and hypothesizing, without evidence, that uneven prenatal androgen exposures led one twin in each set to be transsexual). Presently, no scientific evidence supports that conclusion. Medically speaking, "There are no laboratory, imaging, or other objective tests to diagnose a 'true transgender' child." Michael K.

Laidlaw et al, *Letter to the Editor: Endocrine Treatment of Gender-Dysphoria/Gender-Incongruent Persons: An Endocrine Society* Clinical Practice Guideline*, *JCEM*, Online, Nov. 23, 2018.

III. There is no scientific or medical support for treating gender dysphoric children in accordance with their gender identity rather than their sex.

In standard medical and psychological practice, a youth who has a persistent, mistaken belief that is inconsistent with reality is not encouraged in his or her belief. *See* Cretella, *supra*, at 51 (listing other similar such conditions); Anne Lawrence, *Clinical and Theoretical Parallels Between Desire for Limb Amputation and Gender Identity Disorder*, 35 Archives of Sexual Behav. 263-78 (2006) (finding similarities between body-integrity-identity disorder and gender dysphoria). For instance, an anorexic child who experiences herself as obese is *not* encouraged to lose weight. He or she is not treated with liposuction; nor would a school cafeteria be obligated to supply special weight-reduction meals to affirm the student's perception. Instead, he or she is encouraged to align his or her belief with reality—i.e., to see himself or herself as he or she really is. This approach is not just a good guide to sound medical practice. It is common sense.

Until quite recently, these considerations predominated in how gender-dysphoric children were treated. Dr. Kenneth Zucker, long acknowledged as one of the foremost authorities on gender dysphoria in children, spent years helping his patients align their subjective gender identity with their objective biological sex. He used psychosocial treatments (talk therapy, family counseling, etc.) to treat gender dysphoria and had much success. *See* Cretella, *supra*, at 50 (describing Zucker's work); Kenneth J. Zucker et al., *A Developmental, Biopsychosocial Model for the Treatment of Children with Gender Identity Disorder*, 59 J. of Homosexuality 369-97 (2012). And a systematic follow-up study by Dr. Zucker and his colleagues regarding the children they treated found that gender dysphoria persisted in only three of the twenty-five female patients. Kelley D. Drummond et al., *A Follow-up Study of Girls with Gender Identity Disorder*, 44 Developmental Psychology 34-45 (2008).

Dr. Zucker's eminently sound practice is anchored in recognizing the ineradicable reality that each child is immutably either male or female. It is also influenced by the universally recognized fact that gender dysphoria in children is almost always transient: the vast

majority of gender-dysphoric youth naturally reconcile their gender identity with their biological sex. Overwhelmingly, competent authorities agree that between 80 and 95 percent of children who say that they are transgender naturally come to accept their sex and enjoy emotional health by late adolescence. *See*, *e.g.*, Peggy Cohen-Kettenis et al., *The Treatment of Adolescent Transsexuals: Changing Insights*, 5 J. of Sexual Med. 1892, 1893 (2008). The American College of Pediatricians, for example, recently concluded that as many as 98 percent of gender-confused boys, and 88 percent of gender-confused girls, naturally resolve their dysphoria. Am. C. of Pediatricians, *Gender Ideology Harms Children*, Sept. 2016;[7] *see also* DSM-V, *supra*, at 455.

Traditional psychosocial treatments for gender dysphoria, such as those used by Dr. Zucker, are prudent; they work with and not against the facts of science and the predictable rhythms of children's psycho-sexual development. They allow gender-dysphoric children to reconcile their subjective gender identity with their objective biological sex without irreversible effects or using harmful medical treatments.

[7] Available at http://bit.ly/2QJ6hTR.

Although some researchers report that they have identified certain factors associated with the persistence of gender dysphoria into adulthood, there is *no* evidence that *any* clinician can identify with any certainty the perhaps one-in-twenty children for whom gender dysphoria will to some extent persist. *See, e.g.*, Thomas D. Steensma et al., *Factors Associated with Desistence and Persistence of Childhood Gender Dysphoria: A Quantitative Follow-up Study*, 52 J. of the Am. Acad. of Child & Adolescent Psychiatry 582-90 (2013). Because such a large majority of these children will naturally resolve their confusion, proper medical practice calls for a cautious "wait-and-see" approach for all gender-dysphoric children. This approach can be and often is rightly supplemented by family or individual psychotherapy to identify and treat the underlying problems that present as the belief that one belongs to the opposite sex.

Policies and protocols that treat children who experience gender-atypical thoughts or behavior as if they belong to the opposite sex, on the contrary, interfere with the natural progress of psycho-sexual development. Such treatments encourage a gender-dysphoric youth to adhere to his or her false belief that he or she is the opposite sex. These

treatments would help the child to maintain his or her dysphoria but with less distress by, among other things, obligating (sometimes by the force of law) others in the child's life to go along with it. Importantly, there are *no* long-term, longitudinal, controlled studies that support the use of gender-affirming policies and treatments for gender dysphoria. Cretella, *supra*, at 52. Not one.

This is particularly concerning as the treatment course moves from social and verbal affirmation to intrusive medical interventions. *See* Paul W. Hruz, Lawrence S. Mayer & Paul R. McHugh, *Growing Pains: Problems with Puberty Suppression in Treating Gender Dysphoria*, The New Atlantis, Spring 2017 at 6 (discussing the plasticity of youth gender identity and postulating that "[i]f the increasing use of gender-affirming care does cause children to persist with their identification as the opposite sex, then many children who would otherwise not need ongoing medical treatment would be exposed to hormonal and surgical interventions").

Thus, for schools to adopt gender-affirmation policies is a novel—and dangerous—experiment with no objective scientific basis to support such decisions. Considering all the existing scientific evidence—some

more of which we shall explore—it amounts to bad medicine based upon ideology rather than good medicine grounded in sound scientific evidence.

IV. Gender-affirming policies generally harm, rather than help, gender-dysphoric children.

When schools begin using their privacy facilities to affirm individual student's psychological perceptions, some may say that it is at most a harmless expedient, a bit of play-acting to help children to feel better about themselves during a difficult time in their lives.

There is substantial evidence, however, that this approach is harmful—even when it is viewed on its own terms as a way to help the afflicted youth get through a tough time. The American College of Pediatricians recently declared:

> There is an obvious self-fulfilling nature to encouraging young [gender-dysphoric] children to impersonate the opposite sex and then institute pubertal suppression. If a boy who questions whether or not he is a boy (who is meant to grow into a man) is treated as a girl, then has his natural pubertal progression to manhood suppressed, have we not set in motion an inevitable outcome? All of his same sex peers develop into young men, his opposite sex friends develop into young women, but he remains a pre-pubertal boy. He will be left psycho-socially isolated and alone.

Am. C. of Pediatricians, *supra*; *cf.* Hruz, *Growing Pains*, *supra*, at 23, 25 (noting that when puberty-suppressing hormones are withdrawn in girls who have been treated for a condition that causes the early onset of puberty, menstruation began at "essentially the average age as the general population"—age 13—but beginning to suppress puberty at age 12 for gender-dysphoric children may create physical or psychological challenges to "simply resum[ing] normal pubertal development down the road"). Indeed, the American Psychological Association Handbook on Sexuality and Psychology cautions against a rush to affirm that "runs the risk of neglecting individual problems the child might be experiencing and may involve an early gender role transition that might be challenging to reverse if cross-gender feelings do not persist." W. Bockting, *Ch. 24: Transgender Identity Development*, in 1 American Psychological Association Handbook on Sexuality and Psychology 744, 750 (D. Tolman & L. Diamond eds., 2014).

It is well-recognized, too, that repetition has some effect on the structure and function of a person's brain. This phenomenon, known as *neuroplasticity*, means that a child who is encouraged to impersonate the opposite sex may be less likely to reverse course later in life. One

study showed that the white matter microstructure of specific brain areas in female-to-male transsexuals was more similar to that of heterosexual males than to that of heterosexual females. *See* Giuseppina Rametti et al., *White Matter Microstructure in Female to Male Transsexuals Before Cross-sex Hormonal Treatment: A Diffusion Tensor Imaging Study*, 45 J. of Psychiatric Res. 199-204 (2011).

The results of that study may be explained by neuroplasticity. For instance, if a boy repeatedly behaves as a girl, his brain is likely to develop in such a way that eventual alignment with his biological sex is less likely to occur. Cretella, *supra*, at 53. Under this logic, then, some number of gender-dysphoric children who would naturally come to peacefully accept their sex are prevented from doing so when gender-affirming policies are imposed upon them by adults in their orbit who have bought into gender identity ideology.

Indeed, policies that compel social affirmation of gender-dysphoric children do not exist in an ideological vacuum. Gender-affirmation policies are typically nested within a larger ideology about how to help children who believe that they are trapped in the wrong bodies. Although school gender-affirming policies do not themselves require

medical procedures, puberty suppression, hormone therapy, and surgical interventions are almost invariably in the picture. The more that gender identity ideology is promoted to children, the more that children can be expected to accept, and even to pursue, drastic medical courses.

The gender-dysphoric youth surrounded by adults and peers who encourage his or her self-perception is likely to perceive his natural biological development as a source of distress. Puberty-suppressing hormones are often used as early as age eleven to prevent the natural development of unwanted sex characteristics. Henriette A. Delemarre-van de Waal & Peggy T. Cohen-Kettenis, *Clinical Management of Gender Identity Disorder in Adolescents: A Protocol on Psychological and Pediatric Endocrinology Aspects*, 155 Eur. J. of Endocrinology S131, S132 (2006). Then, starting at age sixteen, a *faux* puberty akin to that which would normally occur for the opposite sex is induced via a regimen of cross-sex hormones. *Id.* at S133.

Indeed, trans puberty is a misnomer, and "the abnormal, pathologic state of hypogonadotropic hypogonadism is induced by puberty blocking medications. Then dangerous high dose hormones of the opposite sex

are given to cause hirsutism (hair growth of the face, chest, back and abdomen) in females and gynecomastia (abnormal breast tissue growth) in males. The medications also atrophy and chemically degrade the sex organs." Michael K. Laidlaw, *The Gender Identity Phantom*, gdworkinggroup.org, Oct. 24, 2018 (footnotes omitted).

Importantly, these medical treatments are "neither fully reversible nor harmless." Cretella, *supra*, at 53; *see also* Hruz, *supra*, at 21-26 (analyzing claims of reversibility). And per Laidlaw, the "consequences of this gender affirmative therapy (GAT) are not trivial and include potential sterility, sexual dysfunction, thromboembolic and cardiovascular disease, and malignancy." Laidlaw, *Letter*, *supra* (footnotes omitted). Puberty suppression hormones prevent the development of secondary sex characteristics, arrest bone growth, prevent full organization and maturation of the brain, and inhibit fertility. Cretella, *supra*, at 53. Cross-sex hormones increase a child's risk for coronary disease and sterility. *Id*. at 50, 53. Oral estrogen, which is administered to gender-dysphoric boys, may cause thrombosis, cardiovascular disease, weight gain, hypertriglyceridemia, elevated blood pressure, decreased glucose tolerance, gallbladder disease,

prolactinoma, and breast cancer. *Id*. at 53 (citing Eva Moore et al., *Endocrine Treatment of Transsexual People: A Review of Treatment Regimens, Outcomes, and Adverse Effects*, 88 J. of Clinical Endocrinology & Metabolism 3467-73 (2003)).

Similarly, testosterone administered to gender-dysphoric girls may negatively affect their cholesterol; increase their homocysteine levels (a risk factor for heart disease); cause hepatotoxicity and polycythemia (an excess of red blood cells); increase their risk of sleep apnea; cause insulin resistance; and have unknown effects on breast, endometrial, and ovarian tissues. *Id*. (citing Moore, *supra*, at 3467-73). "The Endocrine Society's guidelines recommend elevating females' testosterone levels from a normal of 10 to 50 ng/dL to 300 to 1000 ng/dL, values typically found with androgen secreting tumors." Laidlaw, *Letter*, *supra*. Finally, girls may legally obtain a mastectomy at sixteen, which carries with it its own unique set of future problems, especially because it is irreversible. Should a change of mind later occur, no future procedure can replace functioning mammary glands, so lactation and breast feeding are rendered impossible. *Id*. (citing Lauren Schmidt, *Psychological Outcomes and Reproductive Issues Among Gender*

Dysphoric Individuals, 44 Endocrinology Metabolism Clinics of N. Am. 773-85 (2015)).

The Hayes Directory reviewed all relevant literature on these treatments in 2014 and gave it the lowest possible rating: the research findings were "too sparse" and "too limited" even to *suggest* conclusions. Hayes, Inc., *Hormone Therapy for the Treatment of Gender Dysphoria*, Hayes Medical Technology Directory (2014). Unsurprisingly, the FDA does not approve using cross-sex hormones and blocking agents for gender-affirmation treatments.

But such sparse, limited evidence has not inhibited gender identity advocates from proposing aggressive, risky, and, in some respects, irreversible treatments to affirm children in their perceptions about their gender. One of those advocates is Dr. Jason Rafferty. *See* Jason Rafferty, *Ensuring Comprehensive Care and Support for Transgender and Gender-Diverse Children and Adolescents* 142(4) Pediatrics (Oct. 2018).[8] He takes his position despite "almost all clinics and professional organizations in the world us[ing] … the watchful

[8] Available at http://bit.ly/2Ab8n4E.

waiting approach." James Cantor, *American Academy of Pediatrics Policy and Trans-kids: Fact-checking*, Sexology Today, Oct. 17, 2018.[9] Cantor—who is among Rafferty's critics—further explains: "Not only did [Dr. Rafferty's article] fail to provide *extraordinary* evidence, it failed to provide the evidence at all" for requiring the affirmative-therapy approach to the exclusion of all others. *Id.*

A recent Finnish study cautioned: "In such situations [of adolescent gender incongruence] appropriate treatment for psychiatric comorbidity may be warranted before conclusions regarding gender identity can be drawn." Kaltiala-R. Heino et al., *Gender dysphoria in adolescence: current perspectives*, 9 Adolescent Health, Med. and Therapeutics 31-41 (2018). Again, the American Psychological Association Handbook on Sexuality and Psychology also cautions against a rush to affirm that "runs the risk of neglecting individual problems the child might be experiencing and may involve an early gender role transition that might be challenging to reverse if cross-gender feelings do not persist." Bockting, *supra*, at 750. Indeed, children

[9] Available at https://bit.ly/2rT7RDR.

are not legally capable of assessing the severity of these risks or weighing the perceived benefits of gender affirmance (if any) against its many harms. Amanda C. Pustilnika & Leslie Meltzer Henry, *Adolescent Medical Decision Making and the Law of the Horse*. 15 J. Health Care L. & Pol'y 1 (2012). Neurologically, the adolescent brain is immature and lacks an adult capacity for risk assessment prior to the early to mid-20s. Cretella, *supra*, at 53.

Yet gender-affirming policies urge gender-dysphoric children to forgo their fertility and jeopardize their physical health.

Finally, gender-affirming policies aggressively promote the false notion that gender-dysphoria youths are "trapped in the wrong body." Consequently, many gender-dysphoric youths will seek at the earliest legal age to obtain the closest thing to their desired body that modern medicine can offer. Simply put: policies such as those at issue in this case will lead some young adults who would have realigned their perceptions with their sex to instead pursue surgery to transform their physical features to approximate the sex that they imagine.

Importantly, there is no sound evidence that such dramatic surgery produces lasting benefits in treating gender dysphoria.[10] Upon reviewing the evidence regarding sex-reassignment surgery, the Hayes Directory stated that "only weak conclusions" were possible due to "serious limitations" in the research to date. Hayes, Inc., *Sex Reassignment Surgery for the Treatment of Gender Dysphoria*, Hayes Medical Technology Directory (2014); Annette Kuhn et al., *Quality of Life 15 Years After Sex Reassignment Surgery for Transsexualism*, 92 Fertility & Sterility 1685-89 (2009) (finding considerably lower general life satisfaction in post-surgical transsexuals as compared with females who had at least one pelvic surgery in the past).

Equally telling is Cecilia Dhejne et al., *Long-Term Follow-up of Transsexual Persons Undergoing Sex Reassignment Surgery: Cohort Study in Sweden*, PLOS ONE, Feb. 22, 2011, which supplied some of the most worrisome data, derived from a survey of the entire population of Sweden. Despite the patients living within a sexually liberal, trans-

[10] One study (Annelou L.C. de Vries et al., *Young Adult Psychological Outcomes After Puberty Suppression and Gender Reassignment*, 134 Pediatrics 696-704 (2014)) reported some short-term benefits. But the authors made no effort to assess long-term effects, and their study was, in any event, not properly controlled.

affirming society, the study found that "[p]ersons with transsexualism, *after sex reassignment*, have considerably higher risks for mortality, suicidal behaviour, and psychiatric morbidity than the general population." This include a startling 1,900% increase in death from suicide, a 490% increase in attempted suicide, and a 280% increase in psychiatric inpatient care compared to the general population of Sweden.

It appears that the most radical of treatments with exceedingly powerful hormones and permanently disfiguring and risky surgeries are done because of the child's self-identification—effectively a self-diagnosis. *See* David Batty, *Mistaken Identity*, The Guardian, July 30, 2004 (in an assessment of more than 100 follow-up studies on post-operative transsexuals, concluding that none of the studies proved that sex reassignment is beneficial for patients and that none of those studies thoroughly investigated "[t]he potential complications of hormones and genital surgery, which include deep vein thrombosis and incontinence").[11] "The health consequences of [gender affirming

[11] Available at http://bit.ly/2EGBEYO.

therapy] are highly detrimental, the stated quality of evidence in the guidelines is low, and diagnostic certainty is poor. Furthermore, limited longterm outcome data fail to demonstrate longterm success in suicide prevention." Laidlaw, *Letter*, *supra* (footnotes omitted). One outcome is certain: anyone who goes through with "sex-change" surgery will never be able to engage in a reproductive sexual act. *See* Hruz, *supra*, at 25 ("[M]edical technology does not make it possible for a patient to actually grow the sex organs of the opposite sex . . . Infertility is therefore one of the major side effects of the course of treatment"). "Those started on PB [puberty blockade] at Tanner stage II, as recommended by current guidelines, will be blocked prior to sperm maturation and ovum release. They will have no prospect of biological offspring while on HDCS hormones and continuing on to gonadectomy." Laidlaw, *Letter*, *supra*.

What begins in school with a gender-affirmation policy is not likely to stay in school, but rather will bend the normative course of sexual and psychological development in ways that science does not support, and a young student cannot accurately evaluate. Courts and policy are roving far afield from sound science on this issue, and

reversing the lower court in this case is one way to allow science and medicine the time to progress and offer better solutions.

CONCLUSION

Gender-affirmation treatments and the related school policies such as those demanded here assume that treating gender-dysphoric children to affirm their self-proclaimed gender identity rather than their sex is ultimately beneficial to them. But there is no scientific evidence to support that assumption; on the contrary, the evidence shows that affirming the mistaken belief that a child is a prisoner of the wrong body is ultimately harmful to that child.

Amici agree with the American College of Pediatricians' conclusion that conditioning children to believe that a lifetime of impersonating someone of the opposite sex, achievable only through chemical and surgical interventions, is harmful to youths. This Court should reverse the lower court decision that gave legal weight to unfounded scientific conclusions. No judicial imprimatur ought to be given to such a harmful and scientifically unfounded policy.

Respectfully submitted this 27th day of December, 2018.

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CERTIFICATE OF COMPLIANCE

Pursuant to Fed. R. App. P. 32(g), the undersigned certifies that this brief complies with the type-volume limitations of Fed. R. App. P. 32(a)(7)(B). Exclusive of the sections exempted by Fed. R. App. P. 32(f), the brief contains 5,732 words, according to the word count feature of the software (Microsoft Word 2013) used to prepare the brief. The brief has been prepared in proportionately spaced typeface using Century Schoolbook 14 point.

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CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing was filed electronically with the Court's CM-ECF system on this 27th day of December, 2018. Service will be effectuated by the Court's electronic notification system upon all parties and counsel of record.

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