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Still Unconstitutional: Our Nation’s Experiment With State-Sponsored Sex Segregation in Education

David S. Cohen & Nancy Levit***

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I. INTRODUCTION

The United States is seven years into an experiment with segregation in public education. This experiment, unlike the race segregation the Supreme Court found unconstitutional in *Brown v.*

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Board of Education,¹ is based on sex segregation. The experiment has benefitted from a peculiar alliance of political forces: conservatives, who have long believed that separation of the sexes is natural and appropriate, and some liberal groups, who see separatism either as a tool of liberation or as the lesser of bad alternatives compared to a flawed coeducational system. It resonates with a society that believes that men and women (and thus boys and girls), though equal, are inherently different.

After seven years of experience with federally sanctioned sex-segregated public education under the country's belt, however, the arguments against sex segregation in public schools are even stronger than they were before the experiment began. Like the inherently unjust system of de jure race segregation that existed in this country, the current experiment is also unconstitutional.

In this Article, we argue that this experiment must come to an end because it is educationally unsound, fundamentally discriminatory, and patently unconstitutional. We reach these conclusions by first reviewing the events that have led to state-endorsed sex segregation in this country, the resulting expansion of such educational opportunities, and the legal developments since then. We break down buzzword justifications such as "choice" and "diversity" and highlight new research into brain differences (or lack thereof), educational outcomes, and sex stereotyping. In the process, we hold this expansion to the rigorous heightened scrutiny test employed by the Supreme Court for sex classifications and find that, like segregation based on race, segregating students based on sex violates the Equal Protection Clause.

This Article is organized as follows: in Part II, we trace the rise of single-sex schools and classes since the new Department of Education (ED) regulations in 2006. This section depicts the political cauldron in which these regulations arose and are being implemented. On one side, several prominent organizations are promoting single-sex education throughout the country; on the other side, some national women's rights organizations are working to bring the empirical literature on the harms of single-sex education to light and to lobby for rescission of the ED regulations. The section also introduces the three recent cases that federal courts have decided regarding the constitutionality of single-sex schools pursuant to the new ED regulations and situates them within the constitutional doctrine of

¹ *Brown v. Bd. of Educ.*, 347 U.S. 483 (1954).

sex classifications.

Parts III and IV take their cue from that doctrine by first analyzing the asserted purposes behind sex-segregated education and then exposing the ways that separating boys and girls reinforces stereotypes and perpetuates hierarchy. In particular, in Part III, we dissect the four main arguments used by supporters of sex segregation: (1) that sex segregation creates a diversity of educational offerings and that parents deserve to have choice among these options; (2) that brain research supports separating boys and girls; (3) that sex segregation improves educational outcomes; and (4) that sex segregation allows boys and girls to break out of sex-based stereotypes. Because it is the most commonly articulated, we spend the most time on the first argument about choice and diversity, demonstrating that the constitutional concept of “diversity” was never intended to allow segregation and that choice does not wash away the constitutional problem of state-sponsored segregation. Addressing this argument as well as the other three, we demonstrate that there is at best insignificant support for sex segregation and, at worst, no support whatsoever.

In Part IV, we move to an evaluation of the harms that sex-segregated education causes, an important part of the Supreme Court’s consideration of sex classifications. We argue that sex-segregated education promotes an essentialized view of what it means to be a boy or girl, something the Court has consistently cautioned against in its warnings about “outmoded stereotypes.” Moreover, sex segregation perpetuates existing sex-based hierarchies, another concern within the Supreme Court’s jurisprudence. Ultimately, we conclude that sex segregation is a form of sex essentialism, something the Constitution prohibits when based on the flimsy justifications offered here.

II. REVIEW OF DEVELOPMENTS

Ten years ago, only “about a dozen public schools” in the United States offered single-sex classrooms.² According to the National Association for Single-Sex Public Education, during the 2011–12 school year, 116 public schools across the country were completely single-sex and 390 more had single-sex classes for some subjects.³

² *Single-Sex Schools/Schools with Single-Sex Classrooms/What’s the Difference?*, NAT’L ASS’N FOR SINGLE SEX PUB. EDUC., <http://www.singlesexschools.org/schools-schools.htm> (last visited Feb. 10, 2014).

³ *Id.*

The number, however, may be much higher than that. The Feminist Majority Foundation's own data indicate that over 1,000 public schools in the United States had sex-segregated classes between 2007 and 2010,⁴ and the United States Department of Education counts over 5,000.⁵

Regardless of the specific number, it is clear that by all counts single-sex education in the United States has seen a huge increase over the past decade. There are many reasons for the increase, but part of the reason is that the federal government gave single-sex education its blessing in 2006. That year, after first being prompted by a provision in President Bush's signature No Child Left Behind Act,⁶ the Department of Education created regulations allowing single-sex schools and classes if student enrollment is "completely voluntary," "substantially equal" coeducational classes are available in the same subject, and the single-sex classes are "substantially related" to an important educational objective.⁷

Many organizations have worked to spread single-sex education throughout the country. Foremost among them are Leonard Sax's National Association for Choice in Education (which had been the National Association for Single-Sex Public Education until November 2011) and Michael Gurian's Gurian Institute. Both work with schools and school districts to expand and then implement single-sex education. The National Association for Choice in Education explains that its mission is to "promote and support girls' schools and boys' schools, whether in the public sector, private sector, or Catholic sector."⁸ The Gurian Institute promotes single-sex schools and classrooms by "providing professional development that increases

⁴ Sue Klein, *State of Public School Sex Segregation in the United States 2007-2010: Part I: Patterns of K-12 Single-sex Public Education in the U.S.*, FEMINIST MAJORITY FOUNDATION 14 (2012), http://www.feminist.org/education/pdfs/sex_segregation_study_part1.pdf.

⁵ The Feminist Majority Foundation questions the legitimacy of this number because of unusually large numbers from Florida and New York in the Department of Education data. *Id.* at 14-15.

⁶ Pub. L. No. 107-110, § 1112(c)(1)(G), 115 Stat. 1425,1465 (codified at 20 U.S.C. § 6312(c)(1)(g) (2006)).

⁷ Nondiscrimination on the Basis of Sex in Education Programs or Activities Receiving Federal Financial Assistance, 71 Fed. Reg. 62,530 (Oct. 25, 2006) (codified as amended at 34 C.F.R. § 106.34(b)(4) (2008)). For a more in depth review of the 2006 regulatory change, see Diane Heckman, *Title IX Marks Its 35th Anniversary by Opening the Doors to Single-Sex Public Elementary and Secondary Schools*, 237 EDUC. L. REP. 1, 20-25 (Nov. 27, 2008).

⁸ NAT'L ASS'N FOR CHOICE IN EDUC., <http://www.4schoolchoice.org/> (last visited Feb. 10, 2014).

student achievement, teacher effectiveness, and parent involvement.”⁹

The expansion of single-sex education since the 2006 regulations has not gone unchallenged. Several women’s rights organizations have worked tirelessly to oppose the expansion of single-sex education and to convince the Department of Education to rescind its regulations. The American Civil Liberties Union (ACLU) and the Feminist Majority Foundation have taken the lead in this area.¹⁰ Beyond the litigation that it has brought (described in more detail below), the ACLU launched its “Teach Kids, Not Stereotypes” campaign in May 2012. As part of that campaign, fifteen ACLU state affiliates sent letters to discern exactly what states and local school districts were doing with respect to single-sex education.¹¹ From that effort, the ACLU issued a report later in 2012 detailing how “single-sex education programs within coeducational schools are widely out of compliance with the stringent legal requirements governing separation of students on the basis of sex, mandated by the United States Constitution, Title IX of the Education Amendments of 1972, and the Department of Education’s (ED) Title IX regulations.”¹² In particular, the ACLU found that the programs were premised on a belief in the innate differences between boys and girls, that sex-based stereotypes drove the educational models used, that schools did not have any justification for segregating the sexes, that some programs were not voluntary (as required by law), and that schools were neither assessing the efficacy of their programs nor ensuring that the programs were not based on stereotypes.¹³ From these findings, the ACLU took action against several programs, including sending letters, filing administrative complaints, and instituting one lawsuit.¹⁴

⁹ GURIAN INST., <http://www.michaelgurian.com/education.html> (last visited Feb. 10, 2014).

¹⁰ This is not to diminish the roles that other organizations have played in the fight against single-sex education. The Women’s Law Project, the National Women’s Law Center, the National Organization for Women, and others have worked on this issue as well.

¹¹ *Teach Kids, Not Stereotypes*, ACLU (Mar. 28 2013), <http://www.aclu.org/womens-rights/teach-kids-not-stereotypes> (stating that ACLU affiliates in Alabama, Florida, Idaho, Illinois, Indiana, Massachusetts, Maine, Missouri, Mississippi, North Carolina, South Carolina, Virginia, Washington, West Virginia, and Wisconsin “sent public records requests to states, school districts, and individual schools seeking documents related to the implementation of single-sex education programs”).

¹² *Preliminary Findings of ACLU “Teach Kids, Not Stereotypes” Campaign*, ACLU 3 (2012), http://www.aclu.org/files/assets/doe_ocr_report2_0.pdf.

¹³ *Id.* at 3–4.

¹⁴ Details about the various complaints can be found at the ACLU’s website. *See*

The Feminist Majority Foundation's approach focused more in the areas of lobbying and educational reform. It has worked to try to get the ED to rescind its 2006 regulations. The Feminist Majority Foundation also has done a comprehensive study of sex segregation in public schools across the country. Not only did the report compile the data above, but it also analyzed patterns in sex-segregated education, considered state involvement in single-sex programs, and developed recommendations for eliminating single-sex education and creating more gender equity in schooling.¹⁵

So far, this advocacy has resulted in some schools voluntarily changing plans as well as some litigation. Three cases have reached the federal courts and resulted in decisions. One of the cases arose out of Vermilion Parish, Louisiana. In that case, the mother of two students objected to her daughters attending "core classes in which only girls were allowed."¹⁶ At first, the classes were mandatory, but the school changed to voluntary classes upon being told that mandatory single-sex classes were against the law.¹⁷ The mother of the two students continued to object, however, because the co-ed classes had students of inferior quality in them and used educational strategies designed to "tailor learning toward the strengths and needs of boys or girls."¹⁸

The mother filed suit based on these differences and initially lost in federal district court. The court reasoned that the school district did not intend to discriminate against girls, so there was no violation of the Equal Protection Clause.¹⁹ As a result, the district court denied the mother's request for a preliminary injunction halting single-sex education during the pendency of the lawsuit. On appeal, the Fifth Circuit affirmed the denial of the preliminary injunction for procedural reasons,²⁰ but disagreed about the legal reasoning. The court correctly explained that when a school segregates based on sex, there is no requirement of proof of discriminatory intent and the

Teach Kids, *supra* note 11.

¹⁵ *State of Public School Sex Segregation in the United States*, FEMINIST MAJORITY FOUNDATION (2012), <http://www.feminist.org/education/SexSegregation.asp>.

¹⁶ *Doe v. Vermilion Parish Sch. Bd.*, 421 Fed. App'x 366, 368 (5th Cir. 2011).

¹⁷ *Id.* at 369.

¹⁸ *Id.* at 371.

¹⁹ *Doe v. Vermilion Parish Sch. Bd.*, No. 10-30378, 2010 WL 440637 at *5 (W.D. La. Apr. 19, 2010) (denying the plaintiff's motion for a temporary restraining order).

²⁰ *Vermilion Parish Sch. Bd.*, 421 Fed. App'x at 376 (explaining that the potential mootness of injunctive relief necessitated denying the preliminary injunction).

court must apply intermediate scrutiny.²¹ The court remanded the case to the district court for further proceedings in light of its ruling, but a month after the Fifth Circuit decision, the school district voted to end single-sex education, citing lack of parental interest.²²

Although the Vermilion Parish case resulted in no decision on the merits, two other cases did. Breckinridge, Kentucky began sex segregation in the classroom in 2007.²³ Several students objected to the mere fact of sex segregation.²⁴ After some initial procedural decisions, the district court certified a class action but then dismissed the case because it found there was no constitutionally cognizable injury in separating classes based on sex. The court concluded that “[t]he Supreme Court has never held that separating students by sex in a public school—unlike separating students by race—or offering a single-sex public institution is per se unconstitutional.”²⁵ For unknown reasons, the ACLU did not appeal this case.

The other decision came out of West Virginia. In that case, the Wood County Board of Education adopted a single-sex educational program in their middle schools in which students were placed in single-sex classes but parents could opt out of the classes.²⁶ A parent of three girls challenged the program for not being “completely voluntary,” as required by the 2006 regulations.²⁷ The district court agreed, finding that in order for there to be “voluntary” participation, there must be “clear and affirmative assent” by the child’s parent or guardian.²⁸ Accordingly, the court granted the plaintiffs’ request for a preliminary injunction prohibiting the school from having opt-out single-sex education. The court, however, did not grant the plaintiffs’ request for an injunction prohibiting all single-sex education. It concluded that a single-sex educational program could comply with the Constitution and Title IX “if the school meets the heightened scrutiny set forth” in Supreme Court precedent about sex

²¹ *Id.* at 372.

²² *Vermilion Parish School to Halt Single Sex Program*, FEMINIST MAJORITY FOUNDATION BLOG (Oct. 18, 2011), <http://feminist.org/blog/index.php/2011/10/18/vermilion-parish-school-to-halt-single-sex-program/>.

²³ *A.N.A. v. Breckinridge Cnty. Bd. of Educ.*, 833 F. Supp. 2d 673, 675 (W.D. Ky. 2011).

²⁴ *Id.* at 675–76.

²⁵ *Id.* at 678.

²⁶ *Doe v. Wood Cnty. Bd. of Educ.*, 888 F. Supp. 2d 771, 777 (S.D. W. Va. 2012).

²⁷ 34 C.F.R. § 106.34(b)(1)(ii) (requiring “student enrollment in a single-sex class” to be “completely voluntary”).

²⁸ *Wood Cnty. Bd. of Educ.*, 888 F. Supp. 2d at 776.

discrimination.²⁹

With the Louisiana case settled, the Kentucky case not appealed, and the West Virginia case limited to its particular circumstances, no federal court case is poised to reach the Supreme Court and decide the issue in the near future. As these three decisions indicate, however, cases regarding the constitutionality of single-sex education under the new ED regulations are beginning to percolate through the federal courts. The matter will inevitably reach the U.S. Supreme Court to finally address the issue it has left open for almost four decades.

Despite the recent increase in single-sex education and the litigation it has spawned, we still face the legal landscape we have been in for a while now—without an authoritative statement about the constitutionality of single-sex education. The Supreme Court has not previously answered whether the Constitution allows for single-sex public education. In 1977, the Supreme Court heard a case that squarely presented the issue, but with Justice Rehnquist sitting out of the case because of a back problem, the Court evenly divided, which meant there was no opinion and no precedent created by the case.³⁰ Since then, the Court has twice struck down public sex-segregated education, but the cases were both unique and hard to generalize. The first case involved an all-female graduate nursing school in Mississippi, which the Court found unconstitutional because it relied on stereotypes about men's and women's employment.³¹ The second case involved an all-male military college in Virginia, which the Court found unconstitutional because the state also relied on stereotypes in assuming that no women would be interested in or able to complete the training.³²

Proponents of single-sex education point to language in the Virginia case to support their view that single-sex education can be constitutional. In that case, writing for herself and six other justices, Justice Ginsburg explained that the Court does “not question the Commonwealth's prerogative evenhandedly to support diverse educational opportunities.”³³ She also seemed to endorse the view that single-sex education “affords pedagogical benefits to at least

²⁹ *Id.* at 779.

³⁰ *Vorchheimer v. Sch. Dist.*, 430 U.S. 703 (1977) (affirming by an evenly divided Court the Third Circuit's decision).

³¹ *Miss. Univ. for Women v. Hogan*, 458 U.S. 718, 725–31 (1982).

³² *United States v. Virginia (VMI)*, 518 U.S. 515, 527–28 (1996).

³³ *Id.* at 533 n.7.

some students” and that “diversity among public educational institutions can serve the public good.”³⁴ Moreover, she explained in the opinion that “inherent differences” between men and women “remain cause for celebration” and can be the basis for sex-based classifications that compensate women for past discrimination, promote equal opportunity, or “advance full development of the talent and capacities of our Nation’s people.”³⁵ What is prohibited, Justice Ginsburg further explained, is when sex-based classifications “create or perpetuate the legal, social, and economic inferiority of women.”

Given the standard of review for sex classifications that *United States v. Virginia* (*VMI*) established, however, single-sex education cannot pass constitutional muster. As the Court has clearly articulated over the course of almost four decades now, in order for a sex classification to survive constitutional scrutiny, the government must show “at least that the [challenged] classification serves ‘important governmental objectives and that the discriminatory means employed’ are ‘substantially related to the achievement of those objectives.’”³⁶

Breaking down this test makes clear that a sex classification must have a strong enough justification and the means used must be closely related to that justification. As the next two sections will set forth, sex-segregated education fails both prongs of this test. With respect to the objective, the Court wrote that the government must have an “exceedingly persuasive justification” for a sex classification.³⁷ The government’s justifications must be “genuine” rather than “invented *post hoc* in response to litigation.”³⁸ With respect to the means used, the Court warned about the harms that sex classification can inflict when not properly tailored to exceedingly persuasive goals. It explained that the sex classification cannot use or further “overbroad generalizations about the different talents, capacities, or preferences of males and females,”³⁹ nor can it “create or perpetuate the legal, social, and economic inferiority of women.”⁴⁰ These admonitions establish a straightforward framework with which to

³⁴ *Id.* at 535.

³⁵ *Id.* at 533.

³⁶ *Id.* (quoting *Wengler v. Druggists Mut. Ins. Co.*, 446 U.S. 142, 150 (1980)).

³⁷ *Id.*

³⁸ *VMI*, 518 U.S. at 533.

³⁹ *Id.*

⁴⁰ *Id.* at 534.

analyze sex-segregated education, which the next two sections follow.

III. NO EXCEEDINGLY PERSUASIVE JUSTIFICATION EXISTS FOR SINGLE-SEX EDUCATION

Single-sex education does not meet the standards set forth in *VMI*.⁴¹ First, as this section will make clear, there is no “exceedingly persuasive justification” for single-sex education. Each of the arguments that supporters advance in favor of single-sex education is flawed, which we demonstrate below. We will then show in Part IV that single-sex education also fails with respect to Justice Ginsburg’s two other concerns. It relies on stereotypes of boys and girls that try to fit them into an essentialist view of gender and sex, and it perpetuates male dominance over women and girls.

A. *Diversity, Choice, and the Equal Protection Limits on Liberty*

1. Single-sex Programs Encourage Homogeneity, Not Diversity

Proponents originally promoted single-sex education as a measure to encourage educational diversity.⁴² In *United States v. Virginia*, the Commonwealth argued that “the option of single-sex education contributes to ‘diversity in educational approaches.’”⁴³ Diversity was an argument that the U.S. Supreme Court rejected in the *VMI* case in part because the justification was a post hoc rationalization “invented . . . in response to litigation” and not one of Virginia’s initial objectives,⁴⁴ but also because both “recent” and “distant history” tied such education to the larger social separation of the sexes, impediments to advancement for women, and sexual

⁴¹ By breaking up the constitutional standard this way, we are not claiming that the constitutional standard always has these three separate elements: 1) sufficient justification; 2) no stereotyping; 3) no perpetuation of inferiority of women. As the Court looks at sex classifications, each of these aspects is a different part of analyzing the basic intermediate scrutiny standard that a classification must be substantially related to an exceedingly persuasive government purpose. We organize the analysis in this way because Justice Ginsburg’s opinion in *VMI* focuses on these different aspects of how a government classification can fail intermediate scrutiny.

⁴² See, e.g., Brief of Twenty-Six Private Women’s Colleges as Amici Curiae in Support of Petitioner at *5, *VMI*, 518 U.S. 515 (Nos. 94-1941, 94-2107), 1995 WL 702837 (arguing that single-sex schools can promote diversity by “dissipat[ing], rather than perpetuat[ing], traditional gender classifications”).

⁴³ *VMI*, 518 U.S. at 535.

⁴⁴ *Id.* at 533; see also *id.* at 535 (“Virginia has not shown that VMI was established, or has been maintained, with a view to diversifying, by its categorical exclusion of women, educational opportunities within the Commonwealth.”).

stereotyping.⁴⁵ Although the Court left open the question of states' "prerogative evenhandedly to support diverse educational opportunities," including single-sex education,⁴⁶ it recognized that diversity could not be a trump card to escape equal protection scrutiny.⁴⁷

The 2006 ED regulations picked up on the diversity theme in authorizing schools to implement single-sex classes or extracurricular activities to "provide diverse educational opportunities" for students.⁴⁸ Yet, as Professor Juliet Williams points out, the diversity provision of the regulations is self-justifying:

Some commenters stated that there is not an important governmental interest in a sex-based educational option as a diverse option without a requirement that the recipient demonstrate that the single-sex option advances educational goals, because otherwise the single-sex nature of the class would always be justified as substantially related to achievement of the objective, which is circular.⁴⁹

While there is no question that single-sex schools or classes would increase the array of available public educational offerings, programmatic diversity or increased educational options for parents is not the same thing as the concept of diversity that has been recognized in other constitutional contexts. In the context of race-based affirmative action, the U.S. Supreme Court has been careful to delimit what constitutionally permissible diversity means. Starting in 1978 with *Regents of the University of California v. Bakke*⁵⁰ and continuing through the most recent case of *Fisher v. University of Texas*, the U.S.

⁴⁵ *Id.* at 535–40.

⁴⁶ *Id.* at 533 n.7.

⁴⁷ *Id.* at 529 ("The [appeals] court recognized that, as it analyzed the case, means merged into end," effectively "bypass[ing] any equal protection scrutiny.").

⁴⁸ 34 C.F.R. § 106.34(b)(1)(i)(A), (B) (2007).

(A) To improve educational achievement of its students, through a recipient's overall established policy to provide diverse educational opportunities, provided that the single-sex nature of the class or extracurricular activity is substantially related to achieving that objective; or (B) To meet the particular, identified educational needs of its students, provided that the single-sex nature of the class or extracurricular activity is substantially related to achieving that objective.

Id.

⁴⁹ Juliet A. Williams, *Learning Differences: Sex-Role Stereotyping in Single-Sex Public Education*, 33 HARV. J. L. & GENDER 555, 570 n.82 (2010) (quoting Single-Sex Rules Final Notice, 71 Fed. Reg. 62,529, 62,534 (Oct. 25, 2006)).

⁵⁰ *Regents of the Univ. of Cal. v. Bakke*, 438 U.S. 265 (1978).

Supreme Court has approved the idea of educational institutions admitting students with diverse backgrounds to promote the educational experience of students.⁵¹ But in each of these cases, this concept of diversity was premised on inclusion, not exclusion,⁵² and it looked at the different cultural, racial, ethnic, and other experiences of students who would then bring a wide variety of perspectives into the classroom.⁵³ The point was to encourage students to become aware of other people who are not like themselves.

In 2003, in *Grutter v. Bollinger*, the U.S. Supreme Court recognized that viewpoint diversity could be a compelling interest for an educational institution.⁵⁴ The *Grutter* Court, however, insisted that admissions processes not reduce applicants to single dimensions of their identity and instead “ensure that each applicant is evaluated as an individual and not in a way that makes an applicant’s race or ethnicity the defining feature of his or her application.”⁵⁵ In 2007 in *Parents Involved in Community Schools v. Seattle School Dist. No. 1*, the Court warned that a simple label of “diversity” does not excuse a “patently unconstitutional” program of “racial balancing.”⁵⁶ Finally, last year in *Fisher v. University of Texas*, in the affirmative action context, the Court held that to the extent that obtaining a diverse student body remains a compelling state interest, the educational institution must first demonstrate that “no workable race-neutral alternatives would produce the educational benefits of diversity.”⁵⁷

Although the standard for diversity in the context of sex-based

⁵¹ *Id.* at 315 (approving the medical school’s concept of trying to obtain a student body that “encompasses a . . . broa[d] array of qualifications and characteristics of which racial or ethnic origin is but a single though important element”); see also *Grutter v. Bollinger*, 539 U.S. 306, 325 (2003) (recognizing that viewpoint diversity could be a compelling interest); *Fisher v. Univ. of Tex. at Austin*, 133 S. Ct. 2411, 2414 (2013) (holding that diversity can be a compelling interest but that the university must first demonstrate that “no workable race-neutral alternatives would produce the educational benefits of diversity”).

⁵² See Mary M. Cheh, *An Essay on VMI and Military Service: Yes, We Do Have to Be Equal Together*, 50 WASH. & LEE L. REV. 49, 60–61 (1993).

⁵³ See Robert N. Davis, *Diversity: The Emerging Modern Separate But Equal Doctrine*, 1 WM. & MARY J. WOMEN & L. 11, 28 (1994).

⁵⁴ *Grutter*, 539 U.S. at 325.

⁵⁵ *Id.* at 337.

⁵⁶ *Parents Involved in Cmty. Sch. v. Seattle Sch. Dist. No. 1*, 551 U.S. 701, 732 (2007). *Parents Involved* mandated that diversity be considered only as a means toward pedagogic ends and demanded evidence that the district could not produce about the effect of various different minority group percentages on educational outcomes. *Id.* at 727–28.

⁵⁷ *Fisher v. Univ. of Tex. at Austin*, 133 S. Ct. 2411, 2414 (2013).

affirmative action may differ,⁵⁸ the guiding principles regarding diversity should not be markedly different. “Diversity,” as it is used in the context of single-sex education, attempts to ride the coattails of a permissible educational objective, but it violates all of the precepts on which the constitutional concept rests. Unlike in the race-based affirmative action cases, such as *Parents Involved in Community Schools*,⁵⁹ diversity in the single-sex education context is merely a label. Unlike in *Grutter*, single-sex education focuses on only one dimension of identity—sex—and that dimension becomes the defining feature of the individual. Unlike in *Bakke*, single-sex education does not emphasize ensuring a variety of fellow travelers who would enrich the classroom with different perspectives and experiences, but instead is used to promote the exclusion of one sex, which is precisely the opposite of diversity.⁶⁰

If a school district creates single-sex classes or schools, the students experience no gender diversity within the individual school or classroom. In fact, it is precisely homogeneity that is sought. The diversity interest is simply an interest in segregation [A] student body that is absolutely the same on the basis of sex does not promote diversity.

⁵⁸ See *Califano v. Webster*, 430 U.S. 313 (1977) (per curiam). This is the odd byproduct of affirmative action doctrine that Justice Stevens points out in his *Adarand Constructors, Inc. v. Peña* dissent:

[A]s the law currently stands, the Court will apply ‘intermediate scrutiny’ to cases of invidious gender discrimination and ‘strict scrutiny’ to cases of invidious race discrimination, while applying the same standard for benign classifications as for invidious ones. If this remains the law, then today’s lecture about “consistency” will produce the anomalous result that the Government can more easily enact affirmative action programs to remedy discrimination against women than it can enact affirmative action programs to remedy discrimination against African-Americans—even though the primary purpose of the Equal Protection Clause was to end discrimination against the former slaves.

515 U.S. 200, 247 (1995) (Stevens, J., dissenting).

⁵⁹ *Parents Involved in Cmty. Sch.*, 551 U.S. 701 (2007).

⁶⁰ Interestingly, as Australia moves away from single sex schools toward a majority of students attending co-ed secondary schools, the diversity argument is used the other way. Dr. Peter Lennox, the headmaster of a premier secondary school in Australia, says, “Co-education prepares students for real life . . . unless parents have ambitions for their children to end up in a single-sex environment, such as a monastery or jail.” Melinda Hamm, *The Great Gender Debate*, SUN-HERALD (Austl.), Feb. 24, 2013, at 1. He added that in co-ed schools, “girls and boys learn and work in an environment where they face a diversity of ideas and perceptions that they would tend not to get in a single-sex school.” *Id.*

....
Nor is the same-sex educational choice diverse in the sense of larger social experiences, given the pervasiveness of sex segregation in society. Diversity in the single-sex education debate, then, refers not to genuine diversity on an experiential level (within the classroom) or the broader societal level, but only to diversity at a narrow level of middle management. Diversity in this context means only sameness along the only dimension (gender) that is examined. The logic of the diversity argument becomes Orwellian in its implicit contradictions: sameness is diversity.⁶¹

In short, it is preposterous, almost insulting, to argue that segregation and exclusion fit under the mantle of diversity. Unpacked, the diversity argument essentially collapses into what is now the school choice argument—that parents should be able to choose among a “diverse” array of educational options for their children. It is to this argument that we turn next.

2. Choice Does Not Cure the Constitutional Violation

Given that state-sponsored segregation by sex would be a violation of equal protection if it were the exclusive and mandatory educational option, proponents nonetheless argue that parents should be able to choose single-sex classes or schools for their children.⁶² “Parental choice,” though, is not an answer to the equal protection problem posed by state-sponsored sex segregation. For equal protection analysis, choice does not answer the pre-existing constitutional question: whether there is “an exceedingly persuasive justification” for public funds to be used in support of sex segregation in the first place.⁶³ Whether that justification exists depends on the empirical evidence of the efficacy of single-sex education.⁶⁴

Equal protection jurisprudence draws a clear distinction

⁶¹ Nancy Levit, *Separating Equals: Educational Research and the Long Term Consequences of Sex Segregation*, 67 GEO. WASH. L. REV. 451, 520 (1999).

⁶² See Nondiscrimination on the Basis of Sex in Education Programs or Activities Receiving Federal Financial Assistance, 67 Fed. Reg. 31,098 (proposed May 8, 2002) (codified at 34 C.F.R. pt. 106) (noting the Department of Education’s intent “to expand the choices parents have for their children’s education”); Marcia Sills, *Same-Sex Classes Argued*, BATON ROUGE ADVOC., Nov. 9, 2009, at A1 (quoting the founder of the National Association for Single Sex Public Education, now called the National Association for Choice in Education, Dr. Leonard Sax, as saying: “We think parents should have a choice of a coeducational or single-sex classroom.”).

⁶³ *United States v. Virginia*, 518 U.S. 515, 531 (1996).

⁶⁴ See *infra* notes 138–193 and accompanying text.

between schooling choices that may be created in the private sphere and those that can be offered in public schools. Consider Roman Catholic catechism drills. Offering them in public school violates freedom of religion. Offering them in a private school, which does not receive state funds, does not. The constitutional issue in public schools is not eliminated by allowing parents to choose to enroll their child in the catechism classes, rather than mandating them. Indeed, the constitutional problem is not eliminated by offering a menu of options, including Atheism Rituals alongside the Tao. As we demonstrate below, single-sex education violates the Equal Protection Clause, and given that, parental choice does not immunize the consequences.

i. The History of Parental Choice

The “choice” argument is seductive and superficially quite appealing. There is such a strong tradition in this country of respecting parental choices—in, among other areas, medical treatment, vaccinations, religious inculcation, homeschooling, and grandparent visitation⁶⁵—that on the surface this answer seems sensible. Most Americans probably believe parents should have a large say in steering the education of their children. Parents know a lot about their children and what their children need, and the government should respect differences in child-rearing choices. While the Supreme Court has recognized a liberty interest in giving parents some educational options for their children, the reasoning underlying these decisions does not support allowing parents to choose publicly funded schools segregated on the basis of sex.

Parents may comply with compulsory education laws by choosing private schools.⁶⁶ The 1920s cases permitting this, *Meyer v. Nebraska*⁶⁷ and *Pierce v. Society of Sisters*,⁶⁸ are often cited for the sweeping proposition that parents have unfettered authority to direct their children’s education.⁶⁹ But the factual contexts in which these cases arose are important. *Meyer* held that a state, acting out of prejudice

⁶⁵ See, e.g., *Troxel v. Granville*, 530 U.S. 57 (2000); *Parham v. J.R.*, 442 U.S. 584 (1979); *Wisconsin v. Yoder*, 406 U.S. 205 (1972); *Meyer v. Nebraska*, 262 U.S. 390 (1923).

⁶⁶ See *Pierce v. Soc’y of Sisters*, 268 U.S. 510 (1925).

⁶⁷ *Meyer v. Nebraska*, 262 U.S. 390 (1923).

⁶⁸ *Pierce v. Soc’y of Sisters*, 268 U.S. 510 (1925).

⁶⁹ See, e.g., Denise C. Morgan, *Anti-Subordination Analysis After United States v. Virginia: Evaluating the Constitutionality of K-12 Public Single-Sex Schools*, 1999 U. CHI. LEGAL F. 381, 444 n.253.

and ignorance, could not prohibit private Lutheran schools from teaching German.⁷⁰ *Pierce* held that a state could not compel parents to send their children to public instead of private schools.⁷¹ Importantly, neither case dealt with a constitutional obstacle to offering a particular type of education; the Equal Protection Clause presents that obstacle to sex-based classifications. The difficulty with using *Meyer* and *Pierce* as precedent to support state-funded single-sex schools is that neither case is about parents having an interest in the state offering a discriminatory option.⁷² After all, the religious schools in *Meyer* and *Pierce* were purely private.

The other Supreme Court cases about school choice also arose from completely different factual circumstances. Both *Wisconsin v. Yoder*⁷³ and *Zelman v. Simmons-Harris*⁷⁴ show the Court endorsing private religious education, not the state directly endorsing or supporting specific forms of religious education.⁷⁵ This does not mean that parents have a constitutionally valued interest in the state offering educational opportunities that violate the Constitution.

⁷⁰ The state passed the statute during a wave of anti-German sentiment following the first World War: “[T]he adoption of the statute was animated by fears that children raised in foreign households speaking another language as their mother tongue would develop into unreliable citizens.” Alice Ristroph & Melissa Murray, *Disestablishing the Family*, 119 YALE L.J. 1236, 1264 (2010); *Meyer*, 262 U.S. at 403 (“No emergency has arisen which renders knowledge by a child of some language other than English so clearly harmful as to justify its inhibition with the consequent infringement of rights long freely enjoyed.”); see also Susan E. Lawrence, *Substantive Due Process and Parental Rights: From Meyer v. Nebraska to Troxel v. Granville*, 8 J. L. & FAM. STUD. 71, 77 (2006) (“[T]he problem in *Meyer* is not state interference in the intimacies of home and family, but, rather the state’s attempt to limit the acquisition of knowledge and homogenize its populace.”).

⁷¹ *Pierce*, 268 U.S. at 534–35 (holding unconstitutional an Oregon law that compelled parents to send their children to public instead of private schools).

⁷² *Pierce* simply says that the state cannot stop a family from going to Catholic school, *id.*; but of course the state cannot on its own offer a Catholic public education in the name of individual liberty because that would violate the Establishment Clause. The parallel to single-sex education is that the state cannot prohibit students from attending a sex-segregated private school, but it also can’t offer one itself.

⁷³ *Wisconsin v. Yoder*, 406 U.S. 205 (1972).

⁷⁴ *Zelman v. Simmons-Harris*, 536 U.S. 639 (2002); see Verna L. Williams, *Private Choices, Public Consequences: Public Education Reform and Feminist Legal Theory*, 12 WM. & MARY J. WOMEN & L. 563, 570 (2006) (“Underlying the Court’s opinion, however, is the notion that the program and private choice were necessary for the educational benefit of poor minority children. More specifically, accepting the hyperbolic question presented by petitioners at face value, it appears that on a certain level the Court approved the voucher program because it was ‘designed to rescue economically disadvantaged children from a failing public school system.’”).

⁷⁵ *Zelman*, 536 U.S. at 652–53.

The single-sex schools issue counterpoises the liberty interests of parents against the equality interests implicated when public funds directly support segregation based on identity characteristics. In the Establishment Clause arena, providing parent choice keeps the wall of separation between church and state intact, as parents are allowed to take their children out of the public school system and enroll them in schools in the private sphere to make choices among religious schools. In contrast, in the equal protection context, the question is whether public funds can directly establish sex-segregated alternatives. We argue that public funding of sex segregation is wrong, and parents should not be allowed to choose an option that is not demonstrably constitutional.

ii. The Difficulties With Choice in Operation

Moving from the abstract idea of “choice” to the ways in which choices play out in the single-sex schools context emphasizes the constitutional problem of allowing parental choices to control. Dean Martha Minow observed that one of the difficulties of choice is that it can imply neutrality, all while “effectively tilting in particular directions.”⁷⁶

Choice may seem to put all options on the table, yet it is not neutral. It converts schooling to private desires. It obscures continuing inequalities in access and need; it invites self-separation unless collectively controlled. It treats the aggregation of separate decisions as free when the result so often impedes freedom and equality.⁷⁷

The U.S. Supreme Court has already addressed the value of parental choice when it serves segregative purposes in education. In 1968, the U.S. Supreme Court rejected a “freedom of choice” plan in *Green v. County School Board for New Kent County*.⁷⁸ The school board had implemented a desegregation plan that permitted parents to choose the school their children would attend; these parental choices resulted in all-black and all-white schools. The personal liberty trope was a huge part of the segregationists’ argument in the 1950s and 1960s, but the *Green* Court recognized that the “freedom of choice” plan was a mockery, because no white parents ever chose to send their children to a “Negro” school. Thus, the Court recognized that

⁷⁶ Martha Minow, *Confronting the Seduction of Choice: Law, Education, and American Pluralism*, 120 YALE L.J. 814, 817 (2011).

⁷⁷ *Id.* at 848.

⁷⁸ *Green v. Cnty. Sch. Bd. for New Kent Cnty.*, 391 U.S. 430 (1968).

permitting parental choice would undermine the integration mandate of *Brown*.⁷⁹ The importance of *Green* to the constitutional questions raised by single-sex schools is that the decision makes clear that choice is really a means, not an end in itself.⁸⁰ The central consideration is the end to which choice is directed, and if choice is being used in the service of government-sponsored segregation, the equal protection parameters control. Personal liberty has limits that are dictated by other constitutional provisions, and personal liberty is constrained when it violates equal protection guarantees.

All three of the federal cases evaluating the constitutionality of sex segregation after the ED regulations have considered the issue of parental choice. The most recent, and perhaps least controversial of these decisions, is *Doe v. Wood County Board of Education*.⁸¹ There, a federal district court in West Virginia enjoined Van Devender Middle School's program of creating single-sex classes for math, reading, science, and social studies under an opt-out system.⁸² The court emphasized repeatedly that the particular opt-out system was not truly voluntary, as required by the ED regulations.⁸³ Complicating the voluntariness inquiry in *Wood County Board of Education* were both the timing of the opt-out notice and the consequences for individual students of a decision to opt out.⁸⁴

The school's notices gave parents little time to reflect on or to consider the opt-out option, so the court concluded that "[t]he close proximity of the notices to the beginning of the school year, after students have already enrolled, suggest that their choice was not fully voluntary."⁸⁵ If a particular student did choose to opt out, that

⁷⁹ *Id.* at 432–39.

⁸⁰ *Id.* at 440 (“Freedom of choice’ is not a sacred talisman; it is only a means to a constitutionally required end—the abolition of the system of segregation and its effects.”).

⁸¹ *Doe v. Wood Cnty. Bd. of Educ.*, 888 F. Supp. 2d 771 (S.D. W. Va. 2012).

⁸² *Id.* at 780.

⁸³ *Id.* at 775–77 (citing 20 U.S.C. § 1681 (2006); 34 C.F.R. § 106.34(b)(1)(iii) (2006)).

⁸⁴ *Id.* at 777. The decision to opt out cannot be an easy one for students. By segregating based on sex in order to achieve better educational outcomes, the school is sending a clear message that the segregated classrooms are better than the status quo. A student opting out would be saying that she does not want to participate in these better classrooms. This dynamic would place intense pressure on students not to opt out, even if they are not personally interested in the sex-segregated class.

⁸⁵ *Id.* at 777.

For the 2012–13 school year, the record establishes that a meeting was held on August 16, 2012 with a form giving parents the option to opt-out. A phone recording was sent to parents the night before school

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student “would be sent to a different school if not enough students at VDMS opted to take a coeducational class.”⁸⁶ Ultimately, neither the timing nor the punitive nature of the opt-out structure was determinative for the court, because the court found that the opt-out provision was essentially the opposite of a “completely voluntary program,” which required, according to the court, “unequivocal assent to participation given by parents of all students involved.”⁸⁷

The second of the three federal decisions entailed a federal district court that wholeheartedly embraced the choice rationale. In *A.N.A. v. Breckinridge*,⁸⁸ the U.S. District Court for the Western District of Kentucky reasoned that “optional single-sex programs in public schools” were constitutional because students had a “choice.”⁸⁹ Essentially, the *A.N.A.* court accepted the same “freedom of choice” argument that the U.S. Supreme Court rejected more than forty years ago in *Green*.⁹⁰ Ostensibly, the students at Breckinridge had a choice of single-sex or coeducational classes, yet the court overlooked the coercive aspects of the single-sex program. The *A.N.A.* court provided no good answers to the plaintiffs’ complaints about the nuances of the choices they were offered or not offered: the initial random assignments into single-sex classes,⁹¹ the pressure of school officials,⁹²

began, and a letter was sent on the day that school began on August 23, 2012. For the 2011–12 school year, the record shows that forms were mailed out on or about August 18, 2011, while the school year was scheduled to begin approximately a week later.

Id.

⁸⁶ *Id.*

⁸⁷ *Id.* at 780. The court held that the ED “regulations require an affirmative assent by parents or guardians before placing children in single-sex classrooms.” *Id.* at 776.

⁸⁸ *A.N.A. v. Breckinridge Cnty. Bd. of Educ.*, 833 F. Supp. 2d 673 (W.D. Ky. 2011).

⁸⁹ *Id.* at 676 n.7.

⁹⁰ See *supra* notes 78–80 and accompanying text.

⁹¹ For one of the school years, 2007–08, the students were simply assigned to either a single-sex or coeducational classroom. It took repeated parental objections for students to be switched out of single-sex classes and into coed classes, and those changes were only permitted after the semester had been underway for several weeks. Brief for Plaintiffs at 7, *A.N.A. v. Breckinridge Cnty. Bd. of Educ.*, 833 F. Supp. 2d 673 (W.D. Ky. 2011) (No. 3:08-cv-00004-CRS), available at http://www.aclu.org/files/assets/Memorandum_of_Law_2.pdf. Because those students “chose” not to opt out of the assigned classes after three weeks of school, the court thought that the principle of choice remained intact. *A.N.A.*, 833 F. Supp. 2d at 683.

⁹² The court completely ignored the fact that middle school administrators steered students toward the single-sex classes and made opting out extremely difficult. The school sent letters to parents encouraging them to select the single-sex

the later trade-offs in class size,⁹³ or the choices students were forced to make between single-sex classes and educational quality in coeducational classes.⁹⁴ The court handled these sophisticated arguments—arguments that asked the court to drill down into the meaning of the choices the students were given—with the very simplistic and thrice-repeated answer that coeducational classes were available at Breckinridge County Middle School.⁹⁵

Even more disturbing, the *A.N.A.* court misapplied the constitutional standard from *United States v. Virginia*. The court interpreted the *VMI* holding as meaning *only* that “barring students from educational opportunities based on their sex without an exceedingly persuasive justification constitutes an invasion of a legally protected interest.”⁹⁶ *VMI* was in fact a case of completely precluding an opportunity. The *A.N.A.* court tried to examine the single-sex classes issue as a matter of educational preclusion. In other words, the court framed the single-sex education issue as one of completely precluding girls from all-boys classes and completely precluding boys from all-girls classes. It then reasoned that students were not barred from educational opportunities because they could choose

option and the principal counseled parents to enroll their children in single-sex classes, touting the benefits and omitting any disadvantages. Brief for Plaintiffs at 4, *A.N.A. v. Breckinridge Cnty. Bd. of Educ.*, 833 F. Supp. 2d 673 (W.D. Ky. 2011) (No. 3:08-cv-00004-CRS), *available at* http://www.aclu.org/files/assets/Memorandum_of_Law_2.pdf.

⁹³ *A.N.A.*, 833 F. Supp. 2d at 681 n.9. Tucked away in a footnote is the clear differential in class size between single-sex and coed classes: “[T]he class sizes for eighth grade classes during the 2008-2009 school year ranged from 10–12 students in the all-boys classes, 24–28 students in the all-girls classes, and 20–31 students in the coeducational classes.” *Id.* The court rejected the plaintiffs’ arguments that this was a less satisfactory educational environment because the plaintiffs did not demonstrate that their grades had suffered. *Id.* at 681. The court concluded that “[e]quivalent educational opportunities do not mandate identical classroom experiences” and implicitly decided that the offerings were “substantially equivalent.” *Id.* at 681, 679.

⁹⁴ *Id.* at 681. For one of the plaintiffs, the timing of the only higher-level math class necessitated his enrollment in a single-sex science class—a forced choice. He suffered bullying and teasing in this class and later requested reassignment back to a coeducational classroom. The *A.N.A.* court seemed unwilling to recognize that choice should imply freedom from coercion. *See* Minow, *supra* note 76, at 817.

⁹⁵ *A.N.A.*, 833 F. Supp. 2d at 679 (“All BCMS students could choose to participate in coeducational classes.”); *id.* (“Coeducational classes (and thus the opportunity to learn alongside students of both the same and opposite sex) were clearly available to all students at BCMS.”); *id.* at 681–82 (“BCMS afforded parents the option of selecting a single-sex or coeducational classroom environment for their children.”).

⁹⁶ *Id.* at 678.

coeducation.⁹⁷ Choice, for the court, was the facile answer to any equal protection problem.

This framing ignores the central constitutional question: If the state is creating opportunities for sex-segregated classrooms, is there an exceedingly persuasive justification supporting the segregated alternatives in the first place? It is no answer to say that students are offered a choice of attending a class of questionable constitutionality or a coed class. The mere existence of choice does not eliminate the constitutional problem—that there is public funding of sex segregation. Think about it in the context of race. What would people say if the state paid for an all-white class, an all-black class, and a racially mixed class?⁹⁸ Nobody would have difficulty seeing that the constitutional justification must come first if the issue were transplanted into the race context.⁹⁹ The *A.N.A.* court should have required the state to justify offering a segregative alternative in the first place, to substantiate with empirical evidence that single-sex education produced substantial academic and social benefits, and to demonstrate that those benefits outweighed any disadvantages caused by stereotyping from state-sponsored segregation.¹⁰⁰

A.N.A. is particularly appalling in its nonchalant dismissal of *Brown v. Board of Education*: “Unlike the separation of public school students by race, the separation of students by sex does not give rise to a finding of constitutional injury as a matter of law.”¹⁰¹ The court assumes that race is so different from sex that the messages sent by state-sponsored segregation do not apply. This assumption flies in the face of contemporary understandings about what children learn when they are separated based on identity characteristics.¹⁰² Separate

⁹⁷ *Id.* at 678–79.

⁹⁸ This thought experiment has an obvious answer without even considering the complicating factor that race is a social construct and that, even accepting that construct, there are more than just white and black people. The same issues arise in the context of single-sex education, though those issues are beyond the scope of this particular Article. David S. Cohen, *Sex Segregation, Masculinities, and Gender-Variant Individuals*, in *MASCULINITIES AND THE LAW: A MULTIDIMENSIONAL APPROACH* 167 (Frank Rudy Cooper & Ann C. McGinley eds., NYU Press 2012).

⁹⁹ See *supra* notes 78–80 and accompanying text.

¹⁰⁰ See, e.g., *United States v. Virginia*, 518 U.S. 515, 522–46 (1996) (conducting a searching inquiry into the claimed educational advantages of single-sex paramilitary education and balancing actual advantages against potential risks of fostering gender stereotypes).

¹⁰¹ *A.N.A.*, 833 F. Supp. 2d at 678.

¹⁰² See *infra* notes 200–2093 and accompanying text; see also WILLIAM PETERS, *A CLASS DIVIDED: THEN AND NOW* (1971) (discussing the classic “blue eyes, brown eyes” study in which elementary school children are taught to create hierarchies and

but equal is inherently unequal.¹⁰³

The reasons why both inequality and coercion are likely to be repeated, even under opt-in systems, are illuminated by the Fifth Circuit's decision in *Doe v. Vermilion Parish*.¹⁰⁴ In that case, the principal of Rost Middle School requested that the Vermilion Parish School Board permit him to "conduct an experiment for his doctoral dissertation" by assigning some eighth graders to single-sex classes during part of the 2008–2009 school year.¹⁰⁵ At the end of this experiment, he showed the School Board data that seemed to indicate academic and behavioral advantages from the single-sex classes and requested Board approval for a much broader program of single-sex assignment during the 2009–2010 school year. The Board, which heard only the principal's inaccurate data¹⁰⁶ and supportive statements from proponents of single-sex education, approved the request for expansion of single-sex classes to two all-girls classes, two all-boys classes, and one coeducational class.

The initial assignment of students was mandatory, but the Board, after researching the ED regulations, later tried to make sure that enrollment in the single-sex classes was voluntary by sending out consent forms. Principal David Dupuis followed up the mailing of these consent forms by calling only parents who had initially chosen coed classes and convincing more than thirty "families to move their children into single-sex classes."¹⁰⁷ There is also evidence that the principal approached individual children to talk them into switching

ingroups and outgroups based on eye color); *A Class Divided* (Frontline television broadcast Mar. 26, 1985), available at <http://www.pbs.org/wgbh/pages/frontline/shows/divided>.

¹⁰³ Even if it were theoretically possible to have absolute equality, the choices toward segregated education are being coerced, see *supra* notes 81–95 and accompanying text, and the teaching methods are demonstrably unequal. See *infra* notes 200–209 and accompanying text.

¹⁰⁴ *Doe v. Vermilion Parish Sch. Bd.*, 421 Fed. App'x 366 (5th Cir. 2011).

¹⁰⁵ *Id.* at 368.

¹⁰⁶

The district court said "it sure looks like he fudged a bunch of the numbers" in order to support his conclusion that single-sex education improved academic performance. Doe's expert analyzed the school's grading records and testified that grades actually declined during the period of single-sex education. Dupuis's analysis of the behavioral data was also inaccurate. He admitted in court that the introduction of a state-mandated "positive behavior support" system had improved student behavior, not single-sex education.

Id.

¹⁰⁷ *Id.* at 370 ("There is no evidence that he called a parent who initially chose single-sex to discuss the possibility of switching to coed.").

into or staying in single-sex classes because the coeducational class was going to be a “special needs” class.¹⁰⁸ The resulting composition of the remaining coed classes for the 2009–2010 year “were 73 percent boys and 27 percent girls, when the population of the school was closer to 55 percent boys and 45 percent girls,” and these “coed classes were disproportionately filled with students with special needs and Individual Education Plans (‘IEPs’).”¹⁰⁹ Thirty-seven out of the thirty-eight students at Rost Middle School who had IEPs for “more severe impairments” were assigned to the coeducational classes, while all of the students identified as “talented and gifted” were placed in single-sex classrooms.¹¹⁰

The *Vermilion Parish* court recognized that one of the problems of choice is that coercion can occur at multiple levels: importuning school boards to make changes based on tilted, or factually inaccurate, presentations of evidence; steering of parents and students; and assignments based on ability that sort higher-performing students into single-sex classes and lower-performing or special needs students into the coed class. The most basic interpretation of *Vermilion Parish* is that the court held that students suffer a constitutional injury if a school creates single-sex classes and the coeducational classes that remain are not substantially equivalent. The court certainly looked at whether a single-sex program hurt students who had not opted for the single-sex offering. This is a problem that is likely to recur in any scenario—one parent’s choices will affect educational outcomes for other students.

The skimming of students into single-sex classes is a concern portended by the American Association of University Women, whose Separated by Sex roundtable warned fifteen years ago that single-sex programs would “have effects on other classrooms . . . by siphoning off students from coed classes and skewing the sex ratio in those classes.”¹¹¹ The *Vermilion Parish* experience attests to several types of skewing effects that can result: dramatically altering sex ratios for the students left behind, sorting students based on special needs, and

¹⁰⁸ Declaration of Jane Doe, *Doe v. Vermilion Parish Sch. Bd.* at ¶¶ 21–22 (Sept. 8, 2009) (No. 09–1565), available at http://www.aclu.org/files/pdfs/womensrights/janedoevermillionparish_declaration.pdf.

¹⁰⁹ *Vermilion Parish Sch. Bd.*, 421 Fed. App’x at 370.

¹¹⁰ *Id.*

¹¹¹ AM. ASS’N OF UNIV. WOMEN, SEPARATED BY SEX: A CRITICAL LOOK AT SINGLE-SEX EDUCATION FOR GIRLS 9 (1998). The American Association of University Women created a roundtable of gender researchers to evaluate two decades’ worth of single-sex research regarding K-12 education. *Id.* at 1.

siphoning off high performers. The skimming problems dramatically undermine whatever liberty value exists in parental choice.¹¹² With respect to the cascade effect that single-sex “choices” have on other students left behind, litigators would be wise to consider Dean Martha Minow’s argument that one avenue to constitutionally evaluate segregation should be under the liberty deprivation jurisprudence of the Due Process Clause rather than as an equal protection violation. As Minow framed it, this inquiry would focus on the individuals affected by “the deprivation of the liberty to learn in a co-educational environment.”¹¹³

The *Vermilion Parish* court delved further and also examined what was occurring within the single-sex classes. The school intentionally used different pedagogical strategies to teach the boys’ classes—“action techniques”—and the girls’ classes—“a more quiet environment.”¹¹⁴ This is the problem of flawed brain research influencing the adoption of single-sex programs and then subsequently compelling sex-specific and dramatically different curricular and teaching strategies.

Outside the particulars of individual situations, what is happening analytically in these cases involving choice arguments is not what ought to occur in equal protection analysis: schools should have the burden of demonstrating the exceedingly persuasive justification for segregation in the first place. Beyond that, courts need to examine not only any perceived benefits of choice, but also disadvantages: the effects of differential teaching methods, whether segregation itself will damage the ability of children to deal with the opposite sex as comrades and colleagues, and the key question unresolved in *Vermilion Parish* of whether “both the co-ed and the same-sex classes are inferior to what would be available were this program not in place.”¹¹⁵

Even if “choice” could inoculate sex segregation in principle, such choices are rarely equal in practice in ways that eliminate

¹¹² JOHN STUART MILL, THREE ESSAYS: ON LIBERTY 92–93 (Oxford University Press 1975) (1859) (“As soon as any part of a person’s conduct affects prejudicially the interests of others, society has jurisdiction over it, and the question whether the general welfare will or will not be promoted by interfering with it, becomes open to discussion.”).

¹¹³ Martha Minow, “A Proper Objective”: *Constitutional Commitment and Educational Opportunity After Bolling v. Sharpe and Parents Involved in Community Schools*, 55 HOW. L.J. 575, 603 (2012).

¹¹⁴ *Vermilion Parish Sch. Bd.*, 421 Fed. App’x at 371.

¹¹⁵ *Id.* at 374.

coercion because of the push in the single-sex education community toward spurious brain research and consequent adoption of sex-specific teaching methods. We now turn to the topic of brain research and its effect on education policies.

B. Brain Research

A relatively new set of arguments is being used to support single-sex education. Some supporters draw on very dubious “brain research,” which purports to show that boys’ and girls’ brains are so different that they need separate classrooms and male- or female-tailored curricula.¹¹⁶ Sex-segregation advocates like Leonard Sax and Michael Gurian say that “[t]he different regions [of boys’ and girls’ brains] develop in different sequence,”¹¹⁷ so boys have more energy, will be impulsive, and will not sit still, and that the different sexes need separate classrooms and different pedagogy to learn.¹¹⁸ But even if most academics agree that bad brain science evidence should be off the table, this research is prompting school boards, principals,

¹¹⁶ See, e.g., MICHAEL GURIAN ET AL., *BOYS AND GIRLS LEARN DIFFERENTLY!: A GUIDE FOR TEACHERS AND PARENTS* 13–70 (rev. ed. 2011); MICHAEL GURIAN ET AL., *SUCCESSFUL SINGLE-SEX CLASSROOMS: A PRACTICAL GUIDE TO TEACHING BOYS AND GIRLS SEPARATELY* 21–39 (2009); LEONARD SAX, *WHY GENDER MATTERS: WHAT PARENTS AND TEACHERS NEED TO KNOW ABOUT THE EMERGING SCIENCE OF SEX DIFFERENCES* 11–38 (2005) (“[F]emale brain tissue is ‘intrinsically different’ from male brain tissue . . .”); see also Elaine Ekpo, *Is “Different But Equal” the New “Separate But Equal?” NCLB’s Single-Sex Schooling Option Signals New Horizons for Some While Challenging Equal Education Convictions for Others*, 31 J. NAT’L ASS’N ADMIN. L. JUDICIARY 315, 355 (2011) (“[A]dvocates frequently assert the oft-cited, overly broad declaration that ‘boys and girls learn[sic] differently.’”). Other proponents of single-sex education, such as Rosemary Salomone, have been careful to distance their support for single-sex programs from those arguing about hard-wired sex differences. Elizabeth Weil, *Teaching Boys and Girls Separately*, N.Y. TIMES MAG., Mar. 2, 2008, at 38, 41 (quoting Salomone as saying, “What kind of message does it give when you tell a group of kids that boys and girls need to be separated because they don’t even see or hear alike? . . . Every time I hear of school officials selling single-sex programs to parents based on brain research, my heart sinks.”).

¹¹⁷ *Single-Sex vs. Coed: The Evidence*, NAT’L ASS’N FOR SINGLE SEX PUB. EDUC., <http://web.archive.org/web/20130520091050/http://www.singlesexschools.org/research-brain.htm> (last visited Feb. 10, 2014). As one of us noted elsewhere, “[b]oth Sax and Gurian run organizations with the mission of taking the emerging science of sex differences and translating that to public policy reform in the form of increased sex-segregated education.” David S. Cohen, *The Stubborn Persistence of Sex Segregation*, 20 COLUM. J. GENDER & L. 51, 73 (2011); see also Peg Tyre, *Boy Brains, Girl Brains: Are Separate Classrooms the Best Way to Teach Kids?*, NEWSWEEK, Sept. 19, 2005, at 59 (“Gurian has trained more than 15,000 teachers through his institute in Colorado Springs.”).

¹¹⁸ MICHAEL GURIAN & KATHY STEVENS, *THE MINDS OF BOYS: SAVING OUR SONS FROM FALLING BEHIND IN SCHOOL AND LIFE* 46–52 (2005).

and teachers to get on the single-sex bandwagon.¹¹⁹ These arguments are being enthusiastically embraced by schools across the country, which are setting up “often highly gender-stereotypic learning environments,” with girls learning about fashion and boys throwing balls during math lessons.¹²⁰ The description offered by the principal of a Kentucky elementary school illustrates the extent to which administrators are revamping the curriculum in light of these beliefs:

Because males have less serotonin in their brains, which . . . may cause them to fidget more, desks were removed from the boys’ classrooms and they got short exercise periods throughout the day. Because females have more oxytocin, a hormone linked to bonding, girls were given a carpeted area where they sit and discuss their feelings. Because boys have higher levels of testosterone and are theoretically more competitive, they were given timed, multiple-choice tests. The girls were given multiple-choice tests, too, but got more time to complete them.¹²¹

Theorists in disciplines ranging from applied psychology to neuroscience have debunked these essentialist explanations for behavioral differences between the sexes,¹²² so we will limit this section to a brief recap of the flaws in the argument that biological

¹¹⁹ Nancy Chi Cantalupo points out that “people tend to believe scientific—particularly neuroscientific—explanations that they would otherwise identify as specious and are therefore less likely to be skeptical of the accuracy of the sex-based brain differences research.” Nancy Chi Cantalupo, *Comparing Single-Sex and Reformed Coeducation: A Constitutional Analysis*, 49 SAN DIEGO L. REV. 725, 769 (2012).

¹²⁰ Rebecca Bigler & Lise Eliot, *The Feminist Case Against Single-Sex Schools*, SLATE (Oct. 11, 2011), http://www.slate.com/articles/double_x/doublex/2011/10/the_single_sex_school_myth_an_overwhelming_body_of_research_show.html.

¹²¹ Tyre, *supra* note 117, at 59.

¹²² See, e.g., CORDELIA FINE, DELUSIONS OF GENDER: HOW OUR MINDS, SOCIETY, AND NEUROSEXISM CREATE DIFFERENCE 15–17, 112–17 (2010) (criticizing studies trying to show that gender differences have strong biological determinants, and demonstrating strong cultural influences on gender); Janet Shibley Hyde, *The Gender Similarities Hypothesis*, 60 AM. PSYCHOL. 581, 581–90 (2005) (collecting data from 46 meta-analyses (aggregated research findings from numerous studies) about gender differences and concluding that “[e]xtensive evidence” supports the gender similarities hypothesis “that males and females are alike on most—but not all—psychological variables”); REBECCA M. JORDAN-YOUNG, BRAIN STORM: THE FLAWS IN THE SCIENCE OF SEX DIFFERENCES 2 (2010) (detailing deep methodological flaws in the research purporting to support that “human brains are ‘hardwired’ for sex-typed preferences and skills by early hormone exposures”); see also Cantalupo, *supra* note 119, at 767 (noting that “much of what has been presented as scientific research showing sex-based brain differences is not only problematic to begin with but also has gone through an additional process of distortion on its way to consumption by the general public”).

sex differences necessitate segregated educational approaches. Most reputable neuroscientists and child development experts consider the references to brain-based sex differences in support of single-sex education to be an exercise in “pseudoscience.”¹²³

While there are some subtle brain differences between boys and girls on average—slight differences in auditory processing or frontal lobe development—none “are substantial enough to justify different educational methods.”¹²⁴ Neuroscientists have explained that the “brain differences” arguments used to support single-sex schools are a misuse of research in structural and functional neurobiology.¹²⁵ Lise Eliot, an Associate Professor of Neuroscience at the Chicago Medical School, says: “Ignoring the fundamental plasticity by which the brain learns anything, several popular authors . . . promot[e] the view that differences between the sexes are fixed, hard-wired, and predetermined biological facts.”¹²⁶ She concludes that “overall, boys’ and girls’ brains are remarkably alike.”¹²⁷

Even where sex-based brain or hormonal differences do exist, these may not have any significance in terms of performance.¹²⁸ Performance differences between members of the same sex are much larger than behavioral differences between boys and girls.¹²⁹ The conclusion that sex-differentiated behavior is primarily learned and not biologically hard-wired is robust and is supported not only by findings in neuroscience,¹³⁰ but also by psychosocial studies of the family:

[S]tudies of children with older, opposite-sex siblings have shown that the younger siblings have more balanced masculine and feminine traits, with corresponding benefits for their cognitive and emotional skills. As the younger

¹²³ See Diane F. Halpern et al., *The Pseudoscience of Single-Sex Schooling*, SCIENCE, Sept. 23, 2011, at 1706; see also Margaret Talbot, *Sexed Ed*, N.Y. TIMES, Sept. 22, 2002, at 17.

¹²⁴ Halpern et al., *supra* note 123, at 1706.

¹²⁵ LISE ELIOT, PINK BRAIN BLUE BRAIN: HOW SMALL DIFFERENCES CAN GROW INTO TROUBLESOME GAPS—AND WHAT WE CAN DO ABOUT IT 9 (2009).

¹²⁶ *Id.* at 9.

¹²⁷ *Id.* at 5.

¹²⁸ See Cohen, *supra* note 117, at 72 (citing COLIN HAMILTON, COGNITION AND SEX DIFFERENCES 181 (2008)) (“[I]nteresting individual [brain] differences can occur in the absence of performance differences.”).

¹²⁹ ELIOT, *supra* note 125, at 11.

¹³⁰ *Id.* at 6–7 (“[T]he male-female differences that have the most impact—cognitive skills, such as speaking, reading, math, and mechanical ability; and interpersonal skills, such as aggression, empathy, risk taking, and competitiveness—are heavily shaped by learning.”).

siblings seek to imitate their older, opposite-sex siblings, the younger siblings tend to develop interests and activities in less gender-stereotypic ways, and their abilities become more well-rounded.¹³¹

There is no good research to support the efficacy of sex-differentiated teaching strategies. While it is difficult to prove the null hypothesis, the most recent research from the best theorists in the area of gender differences and cognition indicates that the underlying neurobiology of learning is the same for boys and girls.¹³² Cognitive sex differences—average or group differences in scores—exist on some measures, but these do not imply that girls have “different learning styles” from boys. For example, boys and girls both benefit from visual displays of spatial information and from verbal lessons with verbal materials.¹³³ There is no evidence that girls benefit more from cooperative learning environments and boys from competitive ones. Indeed, the learning-styles hypothesis has come under sharp criticism.¹³⁴

In addition, cross-cultural studies of sex differences in reading, mathematics, and science literacy demonstrate that those differences are more or less marked in different cultures, indicating a strong role for socio-cultural influences on gendered behaviors.¹³⁵ One recent examination of test results from sixty-five nations participating in the Programme for International Student Assessment concluded that “cross-culturally . . . evidence for the gender similarities hypothesis is stronger.”¹³⁶

¹³¹ Cantalupo, *supra* note 119, at 769.

¹³² See, e.g., Report of Diane F. Halpern, *A.N.A. v. Breckinridge Cnty. Bd. of Educ.* (W.D. Ky. Nov. 15, 2009) (No. 3:08-cv-00004), Exhibit 3, p. 8 (reviewing comprehensively the largest and best-controlled national and international studies, and concluding that “[t]he data do not support the idea that girls and boys differ in how they learn”).

¹³³ Harold Pashler et al., *Learning Styles: Concepts and Evidence*, 9 PSYCHOL. SCI. PUB. INTEREST 105, 116 (Dec. 2008).

¹³⁴ *Id.* at 117 (“The contrast between the enormous popularity of the learning-styles approach within education and the lack of credible evidence for its utility is, in our opinion, striking and disturbing.”).

¹³⁵ See David I. Miller & Diane F. Halpern, *The New Science of Cognitive Sex Differences*, 18 TRENDS IN COGNITIVE SCI. 37, 37 (Nov. 2013) (finding that “[c]ognitive sex differences are changing, decreasing for some tasks while remaining stable or increasing for other tasks” and noting the early “effects of family and culture” on what initially were thought to be biological sex differences).

¹³⁶ David Reilly, *Gender, Culture, and Sex-Typed Cognitive Abilities*, 7 PUB. LIB. SCI. 1, 15 (July 2012).

The plasticity idea is important in terms of how gendered behaviors are learned. We return in Part III.D. of this Article to the role of sex segregation itself in the formation of gendered behaviors and attitudes.¹³⁷ We first examine recent studies evaluating the operation of single-sex schools and classes.

C. Educational Outcomes

1. Earlier Conclusions—When Conflating Variables Are Controlled, Differences Disappear

In 1999, one of us reviewed studies and meta-analyses of studies of single-sex education at elementary, secondary, and college levels and found “no significant differences between the impact of coeducational and of single-sex schools on student performance and achievement.”¹³⁸ Numerous studies, over time, demonstrated that when studies control for conflating variables—such as pre-existing student background characteristics (intelligence, educational attainment, class, attitudes, and performance predictors), small class sizes, a focus on core academic subjects, parental involvement, school selectivity, qualified and engaged teachers who use individually tailored strategies and offer feedback, and economic resources—the effects of single-sex environments are insignificant.¹³⁹

¹³⁷ See *infra* notes 203–213 and accompanying text; see also *Boys’ Brains vs. Girls’ Brains: What Sex Segregation Teaches Students*, AMERICAN CIVIL LIBERTIES UNION (May 19, 2008), <http://www.aclu.org/womens-rights/boys-brains-vs-girls-brains-what-sex-segregation-teaches-students-0>.

[T]eachers around the country are being encouraged to treat girls and boys differently, based on overgeneralizations about the differences between boys and girls. The proponents of these theories use lots of language about brain structures and hormones that sounds scientific, but in the end, they are simply arguing that the old stereotypes about what boys are good at and what girls are good at are accurate Sex segregation based on theories of gender differences is the wrong approach because it encourages educators to oversimplify the issue of learning style differences, and to ignore the more nuanced needs of both girls and boys. The better solution is to give all teachers the training and resources to reach students with a variety of learning styles, regardless of students’ gender, and to discourage teachers from relying on imprecise stereotypes about how boys and girls learn.

Id.

¹³⁸ Levit, *supra* note 61, at 489; see also Valerie E. Lee, *Is Single-Sex Secondary Schooling a Solution to the Problem of Gender Inequity*, in *SEPARATED BY SEX*, *supra* note 111, at 41, 43 (offering a meta-analysis of research on private schools and finding that it demonstrates “no consistent pattern of effects for attending either single-sex or coeducational independent schools for either boys or girls”).

¹³⁹ See, e.g., Herbert W. Marsh, *Effects of Attending Single-Sex and Coeducational High*

One of the larger patterns that emerges from a review of the research over the past several decades is that studies in the late 1970s and the early 1980s showing educational achievement and attitude effects favoring single-sex schools and classes are being revised and disputed by more sophisticated studies in the late 1990s that include better controls for confounding variables. Earlier studies, those conducted in the 1970s and the 1980s, are more likely to find correlations between a single-sex environment for girls and positive achievement results. Later studies, from the mid 1980s to the present, and those with more sophisticated methodology (controlling for conflating variables), are more likely to find that the effects of institutional gender type are insignificant and to show that other variables, such as prior individual student factors or institutional selectivity factors, matter much more to student satisfaction and performance. These later studies are more likely to favor mixed-sex over single-sex education.¹⁴⁰

When appropriate controls are instituted, differences between schools or classes based on sex literally “disappear.”¹⁴¹

Older reports did find some slight attitudinal advantages for females at the secondary level. Some girls liked being in an all-girl environment and thought this placement gave them more confidence.¹⁴² These correlations were attested to mostly by

Schools on Achievement, Attitudes, Behaviors, and Sex Differences, 81 J. EDUC. PSYCHOL. 70, 71 (1989); Judith L. Stoecker & Ernest T. Pascarella, *Women's Colleges and Women's Career Attainments Revisited*, 62 J. HIGHER EDUC. 394, 395 (1991); see also Sara Mandelbaum, *Constitutional, Statutory, and Policy Issues Raised by All-Female Public Education*, 14 N.Y.L. SCH. J. HUM. RTS. 81, 83–85 (1997).

¹⁴⁰ Levit, *supra* note 61, at 500–01.

¹⁴¹ See Richard Harker & Roy Nash, *School Type and the Education of Girls: Co-ed or Girls Only?*, 2, 17 (Mar. 1997), <http://files.eric.ed.gov/fulltext/ED410633.pdf> (paper presented at the annual meeting of the American Educational Research Association).

¹⁴² Gilah C. Leder & Helen J. Forgasz, *Single-Sex Mathematics Classes in a Co-educational Setting: A Case Study*, 2, 22 (1994), <http://files.eric.ed.gov/fulltext/ED372946.pdf> (paper presented at the annual meeting of the American Educational Research Association) (reporting on a high school in Melbourne, Australia that experimented with single-sex math classes for all tenth graders). Although both the boys and the girls thought that they had benefitted from single-sex classes, test results showed that “performance levels for males and females were not significantly different throughout the project year.” *Id.* at 23; see also Ursula Kessels & Bettina Hannover, *When Being a Girl Matters Less: Accessibility of Gender-related Self-knowledge in Single-sex and Coeducational Classes and Its Impact on Students' Physics-related Self-concept of Ability*, 78 BRIT. J. EDUC. PSYCHOL. 273, 274 (2008) (reviewing the mixed literature on whether single-sex schooling promoted a positive self-concept in girls); Lucian K. Tambo et al., *Influence of Type of*

anecdotal stories,¹⁴³ but did not translate into academic attainments.¹⁴⁴ One study found that girls, but not boys, in single-sex Catholic schools expressed higher educational aspirations than those in coeducational schools, and those researchers cautioned that their study could not control for the confounding effect of the religious environment and did not control for parental involvement (choosing single-sex schools because of purported quality benefits).¹⁴⁵ The database for that study also failed to control for “preexisting differences in academic achievement, prior course work, self-concept, locus of control or other school-related behaviors and attitudes that were considered as outcomes.”¹⁴⁶ Ultimately, one of the original researchers, Valerie Lee, concluded after many years of research on single-sex education that “separating adolescents by gender for secondary schooling is not an appropriate solution to the problem of gender inequity in educational outcomes, either in the short or the long run.”¹⁴⁷

This conclusion was echoed by the American Association of University Women, which convened a national roundtable of prominent researchers in psychology and education to evaluate two decades’ worth of single-sex research regarding K–12 education. The researchers determined, “[t]here is no evidence that single-sex

School on Self-Perception of Mathematical Ability and Achievement Among Girls in Secondary Schools in Harare, 9 GENDER & BEHAV. 3897 (2011) (finding that among 90 students at one all-girls school in Zimbabwe, the girls’ self-perception of their math abilities was higher than that of girls in coeducational schools, but finding no performance differences).

¹⁴³ See, e.g., ROSEMARY C. SALOMONE, SAME, DIFFERENT, EQUAL: RETHINKING SINGLE-SEX SCHOOLING 35 (2003) (describing three all-girls schools as “safe harbors where girls can securely weather the storms of adolescence while nurturing their spirit and intellect”).

¹⁴⁴ See, e.g., Paul C. LePore & John Robert Warren, *A Comparison of Single-Sex and Coeducational Catholic Secondary Schooling: Evidence from the National Educational Longitudinal Study of 1988*, 34 AM. EDUC. RES. J. 485 (1997); see also Kenneth J. Rowe, *Single-Sex and Mixed-Sex Classes: The Effects of Class Type on Student Achievement, Confidence and Participation in Mathematics*, 32 AUSTL. J. EDUC. 180, 195–96 (1988) (finding initially that students in single-sex mathematics classes demonstrated greater confidence, but noting that “higher achievers had initially been allocated, albeit inadvertently, to single-sex classes”); SEPARATED BY SEX, *supra* note 111, at 22 (concluding, after reviewing twenty years’ worth of studies, that single-sex classes do not improve girls’ academic achievements).

¹⁴⁵ Valerie E. Lee & Anthony S. Bryk, *Effects of Single-Sex Secondary Schools on Student Achievement and Attitudes*, 78 J. EDUC. PSYCHOL. 381, 382, 391 (1986).

¹⁴⁶ Marsh, *supra* note 139, at 72.

¹⁴⁷ Lee, *supra* note 138, at 46.

education in general ‘works’ or is ‘better’ than coeducation.”¹⁴⁸ There was also a dark side to these attitudinal studies: numerous researchers found that single-sex education reinforced gender stereotypes and fostered traditional and sexist attitudes.¹⁴⁹ We discuss this problem in much more depth in Part III.D below.

2. Recent Research Is Inconclusive at Best, With Controlled Studies Showing No Benefits

In the past decade, the empirical literature in the sociology of education has confirmed these earlier conclusions. Again, the same pattern has played out: studies with appropriate methodological controls on potentially conflating variables show that school sex type, whether a school is a boys’ school, a girls’ school, or a coeducational school, has minimal effect on academic outcome, and that other variables matter much more.

In 2005, the National Center for Education Statistics (NCES) commissioned a review by the American Institutes for Research (AIR) of the studies about single-sex education.¹⁵⁰ Of the 2,221 quantitative studies examined, the NCES review found only forty to be methodologically adequate. Studies were eliminated from consideration based on a variety of factors, including absent or weak methodological controls and studies conducted in a non-Westernized country or reported in a foreign language. Also omitted from the review were any studies regarding single-sex classes within otherwise coeducational schools. The researchers noted at the outset that almost all of the forty remaining studies would have been eliminated from consideration if the researchers had followed What Works Clearinghouse guidelines of randomized controlled trials, so the AIR

¹⁴⁸ SEPARATED BY SEX, *supra* note 111, at 2.

¹⁴⁹ See, e.g., AMANDA DATNOW ET AL., IS SINGLE GENDER SCHOOLING VIABLE IN THE PUBLIC SECTOR?: LESSONS FROM CALIFORNIA’S PILOT PROGRAM, 2, 7 (2001), <http://files.eric.ed.gov/ezproxy.shu.edu/fulltext/ED471051.pdf>; Carolyn Jackson, *Can Single-Sex Classes in Co-Educational Schools Enhance the Learning Experiences of Girls and/or Boys? An Exploration of Pupils’ Perceptions*, 28 BRIT. EDUC. RES. J. 37, 44–46 (2002); Valerie E. Lee et al., *Sexism in Single-Sex and Coeducational Independent Secondary School Classrooms*, 67 SOC. EDUC. 92, 99–100 (1994).

¹⁵⁰ AMERICAN INSTITUTES FOR RESEARCH, SINGLE-SEX VERSUS COEDUCATIONAL SCHOOLING: A SYSTEMATIC REVIEW, 2005, *available at* <http://www2.ed.gov/rschstat/eval/other/single-sex/index.html>; U.S. DEPARTMENT OF EDUCATION, EARLY IMPLEMENTATION OF PUBLIC SINGLE-SEX SCHOOLS: PERCEPTIONS AND CHARACTERISTICS (2008), *available at* <http://ed.gov/rschstat/eval/other/single-sex/characteristics/index.html> (relying on the statistical data contained in the AIR report).

researchers consciously “relax[ed] these standards and include[d] all correlational studies that employed statistical controls.”¹⁵¹

This review of studies shows extremely mixed results. For concurrent academic accomplishment, more than half (53%) of the studies showed no differences between single-sex and coeducation, while 35% reported some findings that favored single-sex schools, 2% favored coeducational schools, and 10% had findings going in both directions.¹⁵² In other words, more than half (53%) of the concurrent academic outcomes from the systematic review were null (showing no differences), and cumulatively, almost two-thirds of the results (the 53% plus the 2% favoring coeducation plus the 10% mixed results, or 65% total) *did not support single-sex education*. With respect to socio-emotional outcomes, less than half (45%) favored single-sex schooling, while the majority of outcomes, cumulatively (54%), showed no differences (39%), the superiority of coeducation (10%), or mixed results (6%).¹⁵³ Yet, the ED interpretation was that the AIR review “lends some empirical support to the hypothesis that single-sex schools may be helpful in terms of academic achievement and socio-emotional development.”¹⁵⁴

With respect to long-term academic accomplishment, the AIR found that the null set was even larger: 75% of the studies resulted in no differences in “postsecondary test scores, college graduation rates, or graduate school attendance rates.”¹⁵⁵ Only two studies gave measurable data regarding subjective satisfaction with the school environment, one of which favored coeducation and the other of which favored single-sex education. Of the four studies addressing school culture (matters such as learning climate and opportunities for leadership roles), two of the studies gave some support to single-sex environments, while two others showed no differences.¹⁵⁶ A number of studies touched on socio-emotional development: “Regarding self-concept and locus of control, the studies are split between those showing positive effects for [single-sex] schooling and those showing no differences. In the case of self-esteem, a third of the studies supported [coeducational] schooling while half found no

¹⁵¹ AMERICAN INSTITUTES FOR RESEARCH, *supra* note 150, at xi.

¹⁵² *Id.* at xii, xv.

¹⁵³ U.S. DEPARTMENT OF EDUCATION, *supra* note 150, at ix–x.

¹⁵⁴ *Id.* at xv.

¹⁵⁵ AMERICAN INSTITUTES FOR RESEARCH, *supra* note 150, at xv.

¹⁵⁶ *Id.* at iv.

difference.”¹⁵⁷

The AIR authors warned that generalizations from the accumulated long-term adaptation and socio-emotional development studies should be viewed with caution, because the outcomes on different indicators appeared only in one or two studies.¹⁵⁸ So, for example, one of two studies about sex-role stereotyping favored coeducational schools, while the other favored single-sex schools.¹⁵⁹ In the assessment of eating disorders, the researchers found that more students in a single-sex environment developed eating disorders than in a coeducational environment, but this is based on only one study.¹⁶⁰ In the cumulative grouping of ten studies in this category—on matters ranging from postsecondary unemployment to political involvement to percent married to first spouse—five of the studies (50%) favored single-sex schooling, two (20%) favored coeducation, and three (30%) found no significant differences.¹⁶¹ The researchers concluded, despite their own cautions, that these several studies “still suggest the potential that [single-sex] schooling could be associated with a number of post-high school, long-term positive outcomes.”¹⁶²

While the researchers insisted that the studies on which they reported did control for individual differences such as student ability, they acknowledged that “many studies that included at least one covariate lacked other important covariates such as ethnic[]or racial minority status, socioeconomic status, and grade level or age.”¹⁶³ A significant difficulty with the AIR report is that its results are based on studies that simply could not control for some all-important variables, such as race or even “the effects of religious values.”¹⁶⁴ Finally, the AIR researchers ended on an appropriately cautionary note by recognizing that if studies are conducted or observations made about

¹⁵⁷ *Id.* at xv. There are some troubling later studies showing self-perception of improvements in ability, but no achievement outcomes. *See, e.g.,* Tambo et al., *supra* note 142.

¹⁵⁸ AMERICAN INSTITUTES FOR RESEARCH, *supra* note 150, at xvi.

¹⁵⁹ *Id.* at xiv.

¹⁶⁰ *Id.* at xvi.

¹⁶¹ *Id.* at xiv.

¹⁶² *Id.* at xvi.

¹⁶³ *Id.* at xi.

¹⁶⁴ AMERICAN INSTITUTES FOR RESEARCH, *supra* note 150, at xi. The researchers noted the importance of trying to control for these variables, yet cited to a number of studies conducted at Catholic schools. *See id.* at 93 (citing, for example, Cornelius Riordan, *Public and Catholic Schooling: The Effects of Gender Context Policy*, 93 AM. J. EDUC. 518 (1985)).

a relatively new single-sex program, that any conclusions drawn need to take into account “the possibility of a Hawthorne effect, which can be manifested by an increase in student performance produced by the psychological stimulus of being singled out and made to feel important.”¹⁶⁵

This idea of a Hawthorne effect seems borne out by a number of the individual, smaller studies published since the AIR report.¹⁶⁶ Moreover, it is becoming increasingly impossible to disentangle assessment of outcomes from single-sex environments from the resources pumped into them:

Of course, there are some terrific single-sex schools out there. However, research finds that their success is not explained by gender composition, but by the characteristics of the entering students (such as economic background), by selection effects (for example, low performing students are not admitted, or are asked to leave), and by the substantial extra resources and mentoring these programs provide.¹⁶⁷

Other studies deal with very small samples and no controls,¹⁶⁸ demonstrate that reported successes may not be borne out on careful examination,¹⁶⁹ and indicate abandonment of experiments without

¹⁶⁵ *Id.* at 88. The Hawthorne effect is the effect of the observer on the observed.

¹⁶⁶ See, e.g., Jennifer Shapka, *Trajectories of Math Achievement and Perceived Math Competence over High School and Postsecondary Education: Effects of an All-Girl Curriculum in High School*, 15 EDUC. RES. & EVALUATION 527, 537, 538 (2009) (reporting on twenty-six girls who had qualified for a single-sex ninth grade math class by being high achievers and following them for five years, and finding that while their performance “trajectory started high (when they were involved in the all-girl classes),” by the time they were in post-secondary classes, “all groups were achieving at a similar level” and concluding that “the elevated achievement experienced by girls in the intervention program during high school did not appear to have any impact on later perceived math competence”); Frances Spielhagen, “*It All Depends . . .*”: *Middle School Teachers Evaluate Single-Sex Classes*, 34 RES. MIDDLE LEVEL EDUC. ONLINE 1, 1 (2011) (“By the end of the school year, the initially optimistic attitudes of the teachers toward the behavior of their students in the single-sex classes had diminished”).

¹⁶⁷ Bigler & Eliot, *supra* note 120.

¹⁶⁸ See, e.g., Max McFarland et al., *Comparing Achievement Scores of Students in Gender Specific Classrooms with Students in Traditional Classrooms*, 8 INT’L J. PSYCHOL. 99, 111 (2011) (reporting mixed results from creating subgroups of forty-eight fifth grade students from a Midwestern elementary school, where there was a boys only group of eight students, a girls only group of eight students, and a coed group of thirty-two students; despite the very small class size, “the gender specific classrooms did not improve boys MAPS reading scores as was the goal,” although “there is suggestion that gender specific classrooms help females”).

¹⁶⁹ See, e.g., Nancy Levit, *Embracing Segregation: The Jurisprudence of Choice and*

adequate record keeping.¹⁷⁰

One of the most comprehensive and recent meta-analyses provides support for the null hypothesis: that there are simply no educational or attitudinal benefits from single-sex schooling. In one of the largest studies to date, Erin Pahlke, Janet Shibley Hyde, and Carlie M. Allison conducted a meta-analysis of 184 separate studies, encompassing 1.6 million elementary through high school students from twenty-one countries.¹⁷¹ This new study addresses the quality of the prior studies comparing single-sex and coeducational schooling

Diversity in Race and Sex Separatism in Schools, 2005 U. ILL. L. REV. 455, 483–84 (The Young Women’s Leadership School in New York (TYWLS):

[R]eported high standardized test scores compared to citywide averages and proclaimed that 100% of the thirty-two seniors in its first graduating class were accepted at four-year colleges. The numbers are just tabulations, with no controls for other influential variables. In fact, the numbers themselves are rarely analyzed. The entering class that graduated in 2001 actually had fifty students in it. Thus, it seems that eighteen of the original group were lost, which is a thirty-six percent attrition rate—roughly comparable to the attrition or transfer rate of other city schools. This is the sort of information that is hard to ferret out; it is certainly not featured in news stories lauding the successes of the single-sex program at TYWLS.

Id.

¹⁷⁰ See, e.g., Emily Richmond, *In Single-sex Experiment, School Failed to Measure*, LAS VEGAS SUN, Oct. 29, 2009, at 1 (following a six-year experiment with single-sex seventh grade reading classes, “[t]he Clark County School District apparently did not try to assess, measure, or otherwise examine the effects of separating the sexes Or at the very least, district officials have been unable to locate any documentation of the initiative’s progress.”); see also Susan Frietsche & Sara Rose, *Beyond Sugar and Spice: Real School Reform Doesn’t Rest on Gender Stereotypes*, PITT. POST-GAZETTE, Nov. 30, 2011, at B7.

Pittsburgh Public Schools ended its ill-advised experiment with gender segregation at Westinghouse Academy, a grade 6–12 school in Homewood.

. . .

The ideological underpinnings of the plan were revealed to be little more than 1950s-era gender stereotypes in modern dress. One document about the program produced by the school district referred to “male-hood and female-hood defined space,” intended to nurture characteristics of “warrior, protector and provider” for boys and “space/time to explore things that young women like [including] writing, applying and doing make-up & hair, art.”

Id.; Jaclyn Zubrzycki, *Single-Gender Schools Scrutinized: Caribbean Study May Offer Insights for United States*, 31 EDUC. WK. 1, 13 (Jan. 18, 2012) (“The number of single-sex schools in South Carolina has declined after a peak two years ago . . . dropping from 232 to 129 last fall.”).

¹⁷¹ Erin Pahlke, Janet Shibley Hyde, & Carlie M. Allison, *The Effects of Single-Sex Compared With Coeducational Schooling on Students’ Performance and Attitudes: A Meta-Analysis*, 140 PSYCHOL. BULL. 1 (2014).

across a wide array of performance and attitudinal outcomes, and categorizes the studies as either controlled (including random assignment or controls for selection effects) or uncontrolled (lacking these characteristics). In distinguishing these studies methodologically, the authors note that the studies cited by proponents of single-sex education as yielding advantages for single-sex schooling are the “studies with inadequate methods, when selection effects are not controlled.”¹⁷² With respect to the high-quality, controlled studies (covering more than 560,000 students), the researchers concluded that “[single-sex] schooling generally produced only trivial advantages over [coeducation], with most weighted effect sizes smaller than 0.10 (U.S. and international combined). There is little evidence of an advantage of single-sex schooling for girls or boys for any of the outcomes.”¹⁷³

3. International Evidence

Cross-country research may be of limited applicability because of wide demographic, economic, and cultural variations between the United States and other countries.¹⁷⁴ Several recent international studies have drawn attention in the debate about single-sex schools, however. This section will focus on two recent sets of studies conducted in countries that have public single-sex schools—one set encompasses several different researchers evaluating schools from South Korea and the other is a study of schools in Trinidad and Tobago.

South Korea has a national policy of close to randomly assigning middle and high school students into coeducational or single-sex schools, so it has drawn the attention of researchers. Sociologist Hyunjoon Park and colleagues found, with qualification, that in Seoul, South Korea, attendance at an all-boys or all-girls school, rather than attendance at a coeducational high school, was associated with higher college entrance exam scores and greater likelihood of attending a four-year college.¹⁷⁵ Yet, an important caveat to this

¹⁷² *Id.* at 24.

¹⁷³ *Id.* at 23.

¹⁷⁴ Hyunjoon Park et al., *Causal Effects of Single-Sex Schools on College Entrance Exams and College Attendance: Random Assignment in Seoul High Schools 4* (Population Studies Ctr., Working Paper Series, 2012) (“Korea has the largest earnings gender gap (favoring men) among all OECD countries that provided the data Underlying the limited economic opportunities of Korean women is a pervasive patriarchal culture.”).

¹⁷⁵ *Id.*

research is that the quality of the single-sex schools may differ markedly from the coeducational schools, because “[s]ingle-sex schools in Seoul are predominantly private: about 80 percent of all-boys and all-girls schools, respectively, are private, and only 30 percent of coeducational schools are private.”¹⁷⁶ Once the researchers controlled for this dimension, as well as the average years of teacher experience and schooling, teacher-student ratios, and percentage of students receiving lunch support (the only marker of socioeconomic status considered), the numbers dropped significantly. For instance, “the estimated effect of all-girls schools on four-year college attendance rates . . . is still significant at the 90 percent level with a magnitude that corresponds to 23 percent of one standard deviation.”¹⁷⁷

These researchers did not offer any ideas as to why there might be single-sex effect. Moreover, their methodology could not account for a number of factors that other studies have found to completely confound what might be perceived as gender composition effects,¹⁷⁸ such as the socio-economic conditions of students: “The school-level data used in this study do not have detailed information on socioeconomic background of students attending the schools.”¹⁷⁹ The private and public schools have markedly different systems of teacher selection and appointment, and the “all-boys schools in Seoul have a much larger proportion of male teachers than coeducational schools.”¹⁸⁰

Another set of sociologists, Doo Hwan Kim and Helen Law, examined the performance of 9,821 fifteen year olds from Korea and Hong Kong.¹⁸¹ Although the data initially indicated more favorable performance for both boys and girls at single-sex schools than at coeducation schools, once the researchers controlled for a host of school-level variables (such as class size, student-teacher ratio, academic selectivity of the schools, parents’ educational level, and

¹⁷⁶ *Id.* at 9.

¹⁷⁷ *Id.* at 21.

¹⁷⁸ See, e.g., Mary J. Oates & Susan Williamson, *Women’s Colleges and Women Achievers*, 3 SIGNS 795, 799–800 (1978) (finding that controlling for institutional selectivity and socioeconomic advantages made any seeming differences formerly attributable to single-sex schools disappear).

¹⁷⁹ Park et al., *supra* note 174, at 13.

¹⁸⁰ *Id.* at 24.

¹⁸¹ Doo Hwan Kim & Helen Law, *Gender Gap in Maths Test Scores in South Korea and Hong Kong: Role of Family-Background and Single-Sex Schooling*, 32 INT’L J. EDUC. DEVEL. 92 (2012).

parents' perceptions of the quality of education), "girls attending a single-sex school scored, on average, 17.2 fewer points than those attending a co-ed school. The positive advantage for boys of attending a single-sex school rather than co-ed school remained statistically significant."¹⁸²

Educational psychologist Erin Pahlke and colleagues decided to focus on middle schools in South Korea, because "random assignment appears to have been practiced less carefully at the high-school level than at the middle-school level."¹⁸³ The data set they used encompassed almost 10,000 eighth graders at 150 schools. Importantly, these researchers used hierarchical linear modeling to "account for the nested nature of the data Students within the same school tend to be similar in many respects that are unrelated to the sex composition of the classroom (e.g., family resources, teacher qualifications)."¹⁸⁴ What they found was that performance differences for both boys and girls on mathematics and science achievement tests were not related to whether they attended single-sex schools, but instead were a function of resources at the family and school levels. They concluded, "gender composition of the school was not a significant predictor in any of the models; in other words, girls' and boys' performance in all content and cognitive mathematics and science domains did not significantly differ as a function of their attending a coeducational or single-sex school."¹⁸⁵

The conclusions of Pahlke and her colleagues about Korea are reinforced by research a continent away in South America. One of

¹⁸² *Id.* at 96.

¹⁸³ Erin Pahlke, *The Effects of Single-Sex Compared with Coeducational Schooling on Mathematics and Science Achievement: Data from Korea*, 105 J. EDUC. PSYCHOL. 444, 446 (2013).

¹⁸⁴ *Id.*

¹⁸⁵ *Id.* at 449. Rather, other factors predicted performance:

Instead, for both the 2007 and the 2003 data sets, students' performance was consistently significantly predicted by factors related to socioeconomic status; students (both boys and girls) performed better on the mathematics and science exams when their fathers had more education, their families had more resources, and a lower proportion of their schoolmates came from economically disadvantaged families Other factors (i.e., teachers' experience, instructional time, the size of communities and schools, and students' mother's education) were predictive of achievement in some domains for either boys or girls. However, these models emphasize that it is not the gender composition of the schools that determines mathematics and science performance, but rather family and school resources.

Id.

the most important and very recent studies emphasizes the need for extreme caution in the rush toward single-sex education. Professor Kirabo Jackson, a labor economist and faculty fellow at Northwestern University's Institute for Policy Research, conducted quasi-experimental research about single-sex and coeducational schools in Trinidad and Tobago.¹⁸⁶ The unique features of the school system there are that the vast majority of the 123 secondary schools are public, and about one-fourth of them are single-sex. The Ministry of Education assigns students to either single-sex or coed schools based on their secondary school entrance exam scores and their preferences. Jackson was able to obtain enough information to offer a metric about the strength of individual students' preferences for single-sex as opposed to coeducation.¹⁸⁷

Jackson's conclusions are that for more than 85% of all students, there is no academic benefit to single-sex schools.¹⁸⁸ The only demonstrable positive effects for single-sex schools were for the 14% of students (girls) who had a strong preference for a single-sex environment.¹⁸⁹ Even then, he cautioned that "single-sex schools are more selective than coed schools and they attract higher quality teachers [Thus,] the effects presented likely over-state the pure single-sex schooling effect."¹⁹⁰ Boys did not benefit from attendance at single-sex schools.¹⁹¹ He concluded, "The results suggest that single-sex schooling *per se* is not associated with better outcomes on average [A]ttending a single-sex school provides no benefit over attending an equally selective coed school on average."¹⁹²

One other intriguing finding was that attendance at single-sex secondary school did not promote interest among girls in math, science, or engineering, as previous researchers have claimed: "Contrary to common belief, girls took *fewer* science courses and *more* traditionally female subjects at single-sex schools."¹⁹³

In short, the findings from several of the largest and most recent international studies echo the converging evidence of studies

¹⁸⁶ C. Kirabo Jackson, *Single-sex Schools, Student Achievement, and Course Selection: Evidence from Rule-based Student Assignments in Trinidad and Tobago*, 96 J. PUB. ECON. 173 (2012).

¹⁸⁷ *Id.* at 177.

¹⁸⁸ *Id.* at 185.

¹⁸⁹ *Id.* at 174.

¹⁹⁰ *Id.*

¹⁹¹ *Id.* at 186.

¹⁹² Jackson, *supra* note 186, at 184.

¹⁹³ *Id.* at 174.

conducted in the United States—that the results showing performance differences between single-sex and coeducational schools are most likely attributable to factors other than the sex composition of the schools.

D. Anti-stereotyping

Another common argument proponents of single-sex education make is that single-sex education does not further gender stereotypes but rather that it works against them. Leonard Sax has explained: “Here’s the paradox: coed schools tend to *reinforce* gender stereotypes, whereas single-sex schools can *break down* gender stereotypes.”¹⁹⁴ The website for Sax’s National Association for Single-Sex Public Education explains this further:

Girls in single-sex educational settings are more likely to take classes in math, science, and information technology, especially when teachers have received appropriate training. Boys in single-gender classrooms—led (once again) by teachers with training in how to lead such classrooms—are much more likely to pursue interests in art, music, drama, and foreign languages. Both girls and boys have more freedom to explore their own interests and abilities than in the coed classroom.¹⁹⁵

In fact, this argument is so important to the movement for single-sex education that the website’s homepage features three pictures with captions, each with a statement about breaking down stereotypes. One picture shows a girl sitting on a basketball with the caption: “Girls who attend single-sex schools are more likely to participate in competitive sports than are girls at coed schools.”¹⁹⁶ The next picture shows two boys studying together. Underneath is written, “Single-sex schools break down gender stereotypes. It’s cool to study.”¹⁹⁷ The final picture shows two girls sitting at a computer. The caption reads, “Single-sex schools break down gender stereotypes. Girls at single-sex schools are more likely to study computer science and technology than are girls at coed schools.”¹⁹⁸

This argument has some intuitive appeal. After all, we know that much of the employment market and higher education majors

¹⁹⁴ SAX, *supra* note 116, at 243 (emphasis added).

¹⁹⁵ NAT’L ASS’N FOR SINGLE SEX PUB. EDUC., <http://www.singlesexschools.org/> (last visited Feb. 10, 2014).

¹⁹⁶ *Id.*

¹⁹⁷ *Id.*

¹⁹⁸ *Id.*

remain highly segregated¹⁹⁹ and that coeducation has been the norm for a long time in this country. If we want to fight this segregation of interests and professions, the argument goes, maybe changing to sex segregation and focusing on diversifying within the segregated group would work. There are, however, at least two problems with this argument that must be addressed before we even consider the pernicious ways in which sex segregation exacerbates stereotypes (which the next section explores).

First, as a logical matter, the argument that single-sex education breaks down stereotypes actually relies on embedded stereotypes itself. The reason proponents of single-sex education think separating boys and girls will have positive results is twofold: one, they believe that boys and girls need to be taught differently to bring out their true interests; and two, they believe that boys and girls distract each other when they are in classrooms together. Both of these reasons rely on untrue assumptions about how all boys and all girls act. The different classroom strategies rely on flawed science about boys' and girls' physiology as well as generalized notions of how and what boys and girls want to learn.²⁰⁰ The idea of distraction is based on presumed heterosexuality, another stereotype about boys and girls.²⁰¹ Those children who clearly do not fit within these stereotypes cannot take advantage of this education reform, and those children who are not yet sure of exactly who they are in the world (most children) are given a clear message of how boys and girls are supposed to behave. This has distinct harms that are detailed in the next section.

¹⁹⁹ See, e.g., Ariane Hegewisch et al., *Separate and Not Equal? Gender Segregation in the Labor Market and the Gender Wage Gap*, 2010 INST. FOR WOMEN'S POL'Y RES. 1, available at <http://www.iwpr.org/publications/pubs/separate-and-not-equal-gender-segregation-in-the-labor-market-and-the-gender-wage-gap> (observing that:

[F]our of ten women (39.7 percent) worked in female-dominated occupations (those where incumbents are at least 75 percent female); these occupations employ fewer than one in twenty men (4.5 percent; IWPR 2010a). Slightly more than four of ten men (43.6 percent) and only 5.5 percent of all women worked in male-dominated occupations (those where incumbents are at least 75 percent male)

and concluding that progress toward occupational integration "has completely stalled since the mid 1990s").

²⁰⁰ See David S. Cohen, *No Boy Left Behind? Single-Sex Education and the Essentialist Myth of Masculinity*, 84 IND. L.J. 135 (2009) (detailing the different rationales and classroom strategies).

²⁰¹ *Id.* at 153–55; see also Janna Jackson, "Dangerous Presumptions": *How Single-Sex Schooling Reifies False Notions of Sex, Gender, and Sexuality*, 22 GENDER & EDUC. 227, 232–33 (2010).

The literature from those supporting sex-segregated education makes these points entirely clear. Though the proponents proudly highlight the stereotype-busting possibilities of sex segregation, they do so while infusing their work with learning strategies that are themselves based on stereotypes. For instance, Leonard Sax and Michael Gurian have written extensively about the importance of teaching both boys and girls in sex-specific ways that are rooted in their sex-specific needs.²⁰² These are stereotypes, pure and simple.

Second, possibly intentionally, this argument creates too much room, in a culture that believes deeply in inherent differences between males and females, for schools to implement single-sex education in a way that relies on stereotypes. Proponents of single-sex education are quick to disclaim any interest in stereotyping boys and girls. The people implementing single-sex education, however, are prone to do so in a way that relies on sex stereotyping. This has been documented previously,²⁰³ but even more recent examples indicate that this risk is real and not going away.

For instance, Pittsburgh experimented with single-sex education in 2011 but then stopped only months later because of problems related to sex stereotyping. The Academy at Westinghouse, a public magnet school, began offering single-sex classes in the fall; however, by November, the superintendent of the Pittsburgh public school system decided to end the program.²⁰⁴ She stated that she was not “comfortable with some of the things that were stated to be characteristics of girls or characteristics of boys [during staff trainings]. I wasn’t comfortable with it, and I don’t think most people would have been.”²⁰⁵ In response to a records request from the Women’s Law Project and the ACLU of Pennsylvania, documents

²⁰² Cohen, *supra* note 200, at 155–68; *see, e.g.*, GURIAN, *supra* note 116; SAX, *supra* note 116.

²⁰³ *See* Cohen, *supra* note 200, at 168–74; *see also* Howard M. Glasser, *Hierarchical Deficiencies: Constructed Differences Between Adolescent Boys and Girls in a Public School Single-Sex Program in the United States*, 27 J. ADOLESCENT RES. 377, 395 (2012) (examining teaching by teachers who believe the biological differences literature and finding not only that a single-sex offering “constructs and endorses differences between the sexes that identify and position them relative to each other,” but also that teachers who believe strongly in differences between the sexes “reinforce and reify gender differences, constructing essentialized identities for boys and girls that could substantially affect students’ construction of self as well as a variety of outcomes including their academic experiences”).

²⁰⁴ Eleanor Chute, *City Schools Chief Wants Single Gender Classes to End*, PITT. POST-GAZETTE, Nov. 8, 2011, <http://www.post-gazette.com/stories/local/neighborhoods-city/city-schools-chief-wants-single-gender-classes-to-end-322809/>.

²⁰⁵ *Id.*

were uncovered that indicated the school planners intended to emphasize “‘characteristics of warrior, protector, and provider’ for boys, and provid[e] ‘space / time to explore things that young women like [including] writing, applying and doing make-up & hair, art.’”²⁰⁶ Among the materials that led to the training sessions relying on stereotypes was Leonard Sax’s book, *Why Gender Matters*.²⁰⁷

Similar issues arose in Mobile, Alabama, where the school district also experimented with sex segregation. There, according to the ACLU, teacher trainings included the following:

[T]eachers were informed that boys should be taught about “heroic behavior” but that girls should learn “good character.” Teachers were told that male hormone levels directly relate to success at “traditional male tasks” but that when stress levels rise in an adolescent girl’s brain, “other things shut down.” A story in the Mobile Press-Register reported that a language arts exercise for sixth grade girls involved asking the girls to use as many descriptive words as possible to describe their dream wedding cake, while the boys were asked to brainstorm action verbs used in sports. According to Mark Jones, whose son Jacob attends Hankins Middle School, the school principal told him that the changes at Hankins were necessary because boys’ and girls’ brains are so different that they needed different curriculums.²⁰⁸

In early 2009, the Mobile County school system announced that it had agreed with the ACLU to abandon the experiment and not segregate schools for at least another three years.²⁰⁹

These are just two instances among many in which teachers all over the country are repackaging and delivering sexist stereotypes as they adopt sex-specific teaching methods.²¹⁰ This repeated trope in

²⁰⁶ Sara Rose & Sue Frietsche, *Following ACLU Demands Pittsburgh Ditches Single-Sex School Plans*, ACLU (Nov. 11, 2011), <http://www.aclu.org/blog/womens-rights/following-aclu-demands-pittsburgh-ditches-single-sex-school-plans>.

²⁰⁷ *Id.*

²⁰⁸ *Alabama School District Agrees to End Illegal Sex Segregation*, ACLU (Mar. 25, 2009), <http://www.aclu.org/womens-rights/alabama-school-district-agrees-end-illegal-sex-segregation>.

²⁰⁹ Rena Havner Philips, *Single-sex Classes to Be Dropped*, ALA. PRESS-REG., Mar. 20, 2009, <http://www.al.com/press-register/stories/index.ssf?/base/news/1237540592311240.xml&coll=3>.

²¹⁰ *See, e.g.*, Kerry Fehr-Snyder, *Same-Gender Classes Boost Boys at Andersen*, ARIZ. REPUBLIC (Phoenix), Apr. 14, 2010, p. 3 (reporting about different teaching techniques at a middle school: “Female teachers need to be direct and speak in lower tones in all-boy classes Girls learn better working in groups and having

the delivery of single-sex education highlights the flaw in the argument that breaking down stereotypes is an exceedingly persuasive justification for sex-segregated education. Although science indicates that males and females differ more within each group than between the two groups,²¹¹ large segments of the population still believe that men and women (and boys and girls) are inherently different. After all, John Gray's books would not have been as popular as they were had they been called "Men and Women Are Both From Earth."²¹² Because of the widespread belief in inherent differences, the segregation of boys and girls in education sends the message that they should be taught differently, often based on the pernicious stereotypes described above.²¹³

Therefore, although proponents of single-sex education sound noble in proclaiming that segregating boys and girls in school will lead to boys and girls breaking free from the chains of stereotypes, their argument is a smoke screen. The anti-stereotyping argument masks a clear effort by many single-sex education proponents to perpetuate those stereotypes in the classroom. Moreover, sex segregation provides teachers and administrators with an opportunity to implement their own beliefs in sex stereotypes. Like the arguments covered above—choice and diversity, educational outcomes, and brain differences—this argument to justify sex segregation in education is not exceedingly persuasive.

choices."); Sarah Rogers, *Separate but Not Equal*, CHARLESTON GAZETTE (W. Va.), Dec. 7, 2011, <http://www.wvgazette.com/Opinion/OpEdCommentaries/201112070317>:

Boys should be asked about what has happened in a story, while girls should be asked how the story made them feel. Girls should not be given time limits on a test, but should be encouraged to take their shoes off in class because this helps them relax and think.

Id.; Elizabeth Weil, *Teaching Boys and Girls Separately*, N.Y. TIMES, Mar. 2, 2008, <http://www.nytimes.com/2008/03/02/magazine/02sex3-t.html> (quoting David Chadwell, the coordinator of Single-Gender Initiatives at the South Carolina Department of Education):

"You need to engage boys' energy, use it rather than trying to say, No, no, no. So instead of having boys raise their hands, you're going to have boys literally stand up." . . . For the girls, Chadwell prescribes a focus on "the connections girls have (a) with the content, (b) with each other and (c) with the teacher. . . . So you do a lot of meeting in circles, where every girl can share something from her own life that relates to the content in class."

Id.

²¹¹ See Hyde, *supra* note 122, at 581; see also *supra* notes 1243–136 and accompanying text.

²¹² NANCY LEVIT, *THE GENDER LINE: MEN, WOMEN, AND THE LAW* 3 (1998).

²¹³ Cohen, *supra* note 200, at 176.

IV. THE ESSENTIALIST PROBLEM WITH SINGLE-SEX EDUCATION

Without an exceedingly persuasive justification, sex-segregated education fails constitutional scrutiny. This section shows that sex segregation also fails because it furthers “overbroad generalizations about the different talents, capacities, or preferences of males and females”²¹⁴ and because it “create[s] or perpetuate[s] the legal, social, and economic inferiority of women.”²¹⁵ Situating sex segregation of public schools within the context of the feminist legal theory of anti-essentialism makes this clear. Sex segregating public schools relies on and furthers an essentialist view of boys and girls, which is exactly what Justice Ginsburg is referring to when she decries “overbroad generalizations” about males and females.²¹⁶ Moreover, sex segregation in public schools furthers male dominance, which in turn perpetuates the “inferiority of women.”²¹⁷

Anti-essentialism is a theory that the binary sex and gender categories do not truly capture people’s identities and differences but rather construct those identities and differences. Anti-essentialism notes that there is more variation within the binary categories of “men” and “women” than exists between the two constructed categories. This binary works to constrain identity, because people feel the need to confine their behaviors and personalities to what is socially acceptable for people of their sex. Anti-essentialism, on the other hand, refuses to label any particular characteristic as more appropriate for one sex than the other; thus, men can have masculine or feminine traits, just as women can have masculine or feminine traits. In fact, anti-essentialism challenges the idea of any set masculinity or femininity in the first place.²¹⁸

In this sense, anti-essentialism is consistent with the Supreme Court’s concerns in its sex segregation cases. By focusing so clearly, as Justice Ginsburg did in *VMI*, on “overbroad generalizations” and

²¹⁴ United States v. Virginia, 518 U.S. 515, 533 (1996).

²¹⁵ *Id.* at 534.

²¹⁶ *Id.* at 533.

²¹⁷ See, e.g., Christopher John Greig, *Boy-Only Classrooms: Gender Reform in Windsor, Ontario 1966-1972*, 63 EDUC. REV. 127, 139 (2011) (finding no academic advantages for boys in single-sex classes and concluding that “boy-only settings may promote, legitimate, and reinforce dominant constructions of masculinity that serve to exacerbate the problem of male violence. In the Flintridge case, boys from the boy-only classes became more aggressive and developed misogynist attitudes.”).

²¹⁸ See generally Cohen, *supra* note 117, at 135–38.

stereotyping, the Supreme Court has sent a clear message that the state cannot rely on essentialist views of how men and women (or boys and girls) are or are supposed to behave. Mary Ann Case has called this the idea of the “perfect proxy.” She claims that the only way the Constitution will allow a sex classification is if “the sex-respecting rule [is] true of either all women or no women or all men or no men; there must be a zero or a hundred on one side of the sex equation or the other.”²¹⁹

As already demonstrated in the earlier discussion about stereotyping, single-sex education relies on and allows for the exploitation of embedded sex stereotyping. As the implementation of single-sex education²²⁰ as well as the arguments for it that come from its strongest proponents make entirely clear,²²¹ without sex stereotyping, there would be no single-sex education. From these sources, what emerges is that those pushing and implementing single-sex education rely on a fairly consistent set of “overbroad generalizations” about how boys and girls are and behave: boys and girls are heterosexual; boys are stoic, girls are emotional; boys are competitive, girls are cooperative; boys like sports, girls like anything but; boys are aggressive and active, girls are passive; and most important, boys are not girls or girl-like and girls are not boys or boy-like.²²²

This problem is not merely a problem with the particular group of people currently advocating for or implementing single-sex education. Rather, it is inherent to the very idea of sex-segregated education. Thus, essentialism is an inevitable result of sex segregation.

If separating boys and girls in school based on sex is a good idea, it must be because there is something different about boys and girls

²¹⁹ Mary Anne Case, “*The Very Stereotype the Law Condemns*”: *Constitutional Sex Discrimination Law as a Quest for Perfect Proxies*, 85 CORNELL L. REV. 1447, 1449–50 (2000). She continues:

Even a generalization demonstrably true of an overwhelming majority of one sex or the other does not suffice to overcome the presumption of unconstitutionality the Court has attached to sex-respecting rules: virtually every sex-respecting rule struck down by the Court in the last quarter century embodied a proxy that was overwhelmingly, though not perfectly, accurate.

Id. at 1450.

²²⁰ Cohen, *supra* note 200, at 149–51.

²²¹ *Id.* at 172–74.

²²² *Id.* at 153–68.

that is relevant to their ability to learn.²²³ Regardless of whether the program is being implemented by the most forward-thinking equality-believing educator, that very basis for separating the sexes is inconsistent with constitutional guarantees against sex stereotyping. Given that generalized physiological and psychological differences between boys and girls are dwarfed by their similarities,²²⁴ any notion of what it is that differs between boys and girls is going to rely on and perpetuate essentialist ideas of sex and gender or, in the words of Justice Ginsburg, “overbroad generalizations.” For instance, undoubtedly some boys may be more competitive and more interested in sports than girls. A teacher may want to exploit these interests in teaching those boys. The problem, though, is that not all boys are going to fit that characterization. For those boys, separation is going to work against their interests.

The proponent of single-sex education may respond to this argument by saying that boys who do fit within these generalizations should be able to choose to be in an all-boys class. But, that ignores the girls who fit within this generalization about boys.²²⁵ Certainly, some girls are going to learn better in, to continue with the example here, a competitive environment that is based on sports. For those girls, not being in the boys’ class that is geared toward competitive learning is going to harm their education. Likewise, for those girls, being in the girls’ class that teaches without competition is going to be harmful.

Research from many disciplines clearly proves that sex segregation causes even more harmful stereotyping of boys and girls. This occurs through a predictable psychological process. When two groups are separated, the “outgroup homogeneity effect” causes the ingroup to perceive that those who are not a part of that group are all the same. Working along with the outgroup homogeneity effect is the concept known as “groupthink,” which results in the people within the ingroup believing in the same things as one another and

²²³ If there is no difference between the two groups, then splitting them based on sex is arbitrary and a violation of basic principles stemming from the very beginning of the Court’s sex discrimination jurisprudence. *See* *Reed v. Reed*, 404 U.S. 71, 75–76 (1971) (“The Equal Protection Clause . . . does, however, deny to States the power to legislate that different treatment be accorded to persons placed by a statute into different classes on the basis of criteria wholly unrelated to the objective of that statute.”).

²²⁴ *See supra* notes 123–36 and accompanying text.

²²⁵ *See, e.g.*, EILEEN McDONAGH & LAURA PAPPANO, *PLAYING WITH THE BOYS: WHY SEPARATE IS NOT EQUAL IN SPORTS* 39–75 (2008).

ignoring or squelching dissenting opinions.²²⁶

These basic psychological processes that occur when boys and girls are separated based on the fact that they are boys and girls would increase stereotyping rather than decrease it. Sex-segregated boys would believe that all girls are the same, and sex-segregated girls would believe that all boys are the same (the outgroup homogeneity effect). The sex-segregated boys would also believe that they are all the same as one another rather than see their own differences, as would the sex-segregated girls (groupthink). This is sex stereotyping pure and simple.

This theoretical description of how stereotyping works in segregated groups has been found to occur repeatedly in the context of educational sex segregation.²²⁷ Most prominently, in a California experiment in the late 1990s, researchers found that sex-segregated schools increased students' and teachers' stereotyped beliefs about sex and gender, gave them ready outlets for expressing those stereotypes, and created a sense of opposition between boys and girls.²²⁸ In 2011, a group of researchers published a summary of the research about sex segregation and stereotyping in *Science* magazine, concluding that there "is evidence that sex segregation increases gender stereotyping and legitimizes institutional sexism."²²⁹

Two of the most recent studies to this effect were both published in 2013. Both confirmed the theory that segregation causes stereotyping and the previous studies in a much more direct inquiry into the matter. In the first, researchers studied "a public junior high school in the southwestern USA that offered both co-educational and [sex segregated] classes."²³⁰ The researchers looked directly at whether students who were in sex-segregated classes held more stereotypical beliefs about sex and gender than those who were not. The school they studied randomly assigned 365 seventh graders (181 girls, 184 boys) into coeducational or sex-segregated classes. The overall schedule for the students studied varied from zero to eight

²²⁶ See David S. Cohen, *Keeping Men "Men" and Women Down: Sex-Segregation, Anti-Essentialism, and Masculinity*, 33 HARV. J. L. & GENDER 509, 545–46 (2010).

²²⁷ See *id.* at 545–49.

²²⁸ DATNOW ET AL., *supra* note 149, at 50; Elisabeth L. Woody, *Constructions of Masculinity in California's Single-Gender Academies*, in GENDER IN POLICY AND PRACTICE: PERSPECTIVES ON SINGLE-SEX AND COEDUCATIONAL SCHOOLING 280, 285 (Amanda Datnow & Lee Hubbard eds., 2002).

²²⁹ Halpern et al., *supra* note 123, at 1706.

²³⁰ Richard A. Fabes et al., *Gender-Segregated Schooling and Gender Stereotyping*, EDUC. STUDIES 2 (2013).

sex-segregated classes over the course of the school year. The researchers asked the students to fill out a questionnaire twice during the school year, once in August and again in May. The questionnaire asked “who is better at math” and “who is better at language arts,” with the options being boys, girls, or neither.²³¹

The results of the study confirmed the theory advanced here and indicated that segregation of classes based on sex results in more stereotypical views based on sex. Controlling for sex-stereotyped beliefs in the beginning of the school year, the researchers found that there was a “14% increase in the odds of responding in a stereotypic manner for a one-unit increase in [sex segregated] classes.” This effect was compounded based on the number of classes, so that a student taking the maximum of eight sex-segregated classes had a “112% increase in the odds of responding in a gender-stereotypic manner to the questions relative to students who did not have any [sex segregated] classes.” The researchers concluded that sex-segregated classes “led to increases in later stereotypic beliefs beyond the students’ initial levels.” In their analysis, they stated that their findings directly contradict the anti-stereotyping argument of single-sex education proponents:

Thus, despite adults’ best intentions to use [sex-segregated] classrooms to create environments that promote equity and enhance academic and social skills for all children, the present findings provide evidence that placing students in [sex-segregated] classes strengthens rather than reduces students’ gender-stereotypic beliefs. Moreover, these findings revealed that the *more* [sex-segregated] classes students took, the *more* gender-stereotyped they became.²³²

The second study reached similar conclusions by looking at single-sex girls’ schools in Colombia.²³³ The study looked at 469 fourth, fifth, and sixth grade girls; about 70% attended single-sex schools, while the other 30% attended mixed-sex schools.²³⁴ The researchers gave the students a short self-assessment about their gender identity.²³⁵ The findings provide further evidence that single-sex schooling exacerbates stereotypes rather than breaking them

²³¹ *Id.*

²³² *Id.* at 3–4.

²³³ Kate Drury et al., *Victimization and Gender Identity in Single-Sex and Mixed-Sex Schools: Examining Contextual Variations in Pressure to Conform to Gender Norms*, 69 *SEX ROLES* 442 (2013).

²³⁴ *Id.* at 447.

²³⁵ *Id.*

down.

In particular, the researchers found that pressure to conform to gender stereotypes was higher in single-sex environments.²³⁶ They concluded that “spending more time with same-gender peers leads to increased feelings of pressure to conform to gender norms and higher levels of gender typicality.”²³⁷ In contrast, “girls in the mixed-sex environment rated themselves as less typical and as feeling less pressure to conform to gender norms.”²³⁸ Perhaps most troubling was the study’s finding that in single-sex schools “being a typical girl protects you from victimization, and conversely, being atypical places you at risk for peer victimization.”²³⁹ The study found no association between gender typicality and peer victimization in mixed-sex schools.²⁴⁰ Thus, this study tells us that single-sex schools not only produce more gender typical students than mixed-sex schools but also that, unlike in mixed-sex schools, this gender typicality is reinforced through the threat of peer victimization.

Ultimately, if the idea is that some students learn better being taught in a particular way—with, for instance, more exercise or greater interpersonal support woven in—then educators need to figure out how to do that without separating based on some other characteristic, a characteristic rendered suspect by the Constitution. Educators can identify students who learn in a particular way and teach those students in that fashion, based on those learning patterns. Or, educators need to figure out a way to incorporate different teaching methods into a group that has different learning needs. Grouping students based on their presumed genitalia is a highly over- and under-inclusive way of achieving the universally desired goal of better education because it exacerbates exactly what Justice Ginsburg warned against—overbroad stereotypes about boys and girls.²⁴¹

Anti-essentialism also addresses the other concern raised by Justice Ginsburg—that sex classifications not reinforce notions of the inferiority of women. Anti-essentialism is not merely a theory about identity but also is a theory about the way that constructed identity

²³⁶ *Id.* at 450.

²³⁷ *Id.*

²³⁸ *Id.*

²³⁹ Drury et al., *supra* note 233, at 451.

²⁴⁰ *Id.*

²⁴¹ The Court has consistently decried overbroad stereotypes because they harm almost everyone involved. *See* Cohen, *supra* note 200, at 170–74 (describing in detail the harms that flow from stereotyping based on sex).

reinforces power differentials that already exist in society. Essentialist notions of sex and gender create, normalize, and reinforce power differentials between men and women as well as power differentials among men. This essentialized notion of how men and women are supposed to behave not only restricts identity (as discussed earlier) but also furthers patriarchy.

An example of this exact problem can be found in an experiment with sex segregation in Detroit in the early 1990s. By creating a school that focused on the problems of African American boys, the city ignored African American girls. As the district judge who found the program unconstitutional pointed out, “[t]here is no evidence that the educational system is failing urban males because females attend schools with males. In fact, the educational system is also failing females.”²⁴² By ignoring the concerns of urban females, the system furthered male dominance.

In fact, the expansion of sex-segregated education over the past decade indicates that this reification of hierarchy is an essential part of the sex segregation movement. In 1992, the American Association of University Women issued its landmark report entitled “How Schools Shortchange Girls.”²⁴³ The report detailed how girls had fallen behind boys, had been discriminated against, and were generally suffering in school. Yet, there was no expansion of sex-segregated education as a result. In the 2000s, however, as boys became the focus of the national conversation about failing schools, sex segregation blossomed.²⁴⁴ People like those already described in this essay, Michael Gurian and Leonard Sax, focused on the boy crisis and supposed boy needs. Thus, these advocates were able to garner the attention of policy-makers and school superintendents, and we have now seen the explosion of single-sex education. By focusing on improving the lot of boys and previously ignoring girls’ problems, the sex segregation movement showed its true colors.

Individual stories of schools focused on boys along with the questionable motives of modern reformers is indicative of the inescapable larger problem—that sex segregation, by definition, reifies existing sex-based hierarchies. The recent article from *Science* magazine referenced above, which summarized what we know about separating children based on sex, emphasized this point. The

²⁴² *Garrett v. Bd. of Educ.*, 775 F. Supp. 1004, 1008 (E.D. Mich. 1991).

²⁴³ AM. ASS’N OF UNIV. WOMEN EDUC. FOUND., *HOW SCHOOLS SHORTCHANGE GIRLS: A STUDY OF MAJOR FINDINGS ON GIRLS AND EDUCATION* (1992).

²⁴⁴ See Cohen, *supra* note 200.

authors reviewed studies on the subject and concluded that “gender divisions are made even more salient in [single-sex] settings because the contrast between the segregated classroom and the mixed-sex structure of the surrounding world provides evidence to children that sex is a core human characteristic along which adults organize education.”²⁴⁵

Given that students attending sex-segregated classes or schools live in a world with sex divisions and hierarchies already firmly entrenched, segregated classes will work to ossify those divisions and hierarchies. Students in those classes will see that the division means something and will carry this understanding outside the classroom. The research summarized by the *Science* authors demonstrates how this works. Research has shown that, within an already sex-stereotyped world, “[b]oys who spend more time with other boys become increasingly aggressive, and certain boys experience greater risk for behavior problems because they spend more time with boys. Similarly, girls who spend more time with other girls become more sex-typed.”²⁴⁶ These stereotyped behaviors are associated with sex-based hierarchies, which sex-segregated education will reify.

Moreover, by the very act of separation, students will develop biases that they are superior and the other group is inferior. This process, the “ingroup superiority effect,” results in the ingroup believing that its members are superior to those who are not a part of the ingroup.²⁴⁷ In the context of sex-segregated education, researchers have found these effects to exist and posit that they are even more likely to exist “when sex is used to divide children into entirely separate classrooms or schools rather than merely into separate lines to go to lunch.”²⁴⁸ On the other hand, “[p]ositive and cooperative interaction with members of other groups is an effective method for improving intergroup relationships.”²⁴⁹

Broadening the disciplinary context, cross-cultural research has

²⁴⁵ Halpern et al., *supra* note 123, at 1707; *Single-sex Schooling Does Not Improve Performance and Can Lead to Gender Stereotyping, Study Finds*, SCIENCE DAILY, Sept. 3, 2011, <http://www.sciencedaily.com/releases/2011/09/110922141902.htm> (According to Richard Fabes, director of Arizona State University’s School of Social and Family Dynamics, “[s]eparating boys and girls in public school classrooms makes gender very salient, and this salience reinforces stereotypes and sexism.”); *see also* Carol Lynn Martin & Richard A. Fabes, *The Stability and Consequences of Young Children’s Same-Sex Peer Interactions*, 37 DEVELOPMENTAL PSYCHOL. 431 (2001).

²⁴⁶ Halpern et al., *supra* note 123, at 1707.

²⁴⁷ *See* Cohen, *supra* note 226, at 545–46.

²⁴⁸ *Id.*

²⁴⁹ *Id.*

shown that sex segregation leads to the reification of hierarchy. Architectural theorist Daphne Spain has studied sex segregation across cultures and found when sex segregation is pronounced in a culture, men occupy a higher, more powerful status than women. In a patriarchal society, this effect of sex segregation is even more pronounced. She writes that in such a society where men hold more power than women, “the physical separation of women and men . . . contributes to and perpetuates gender stratification.”²⁵⁰ She argues that “[w]hen gender segregation is imposed by custom or law [], it typically operates to maintain the privileges of those with the highest status.”²⁵¹ In a world without sex and gender-based hierarchies, “[s]patial arrangements might not be associated with gender stratification Yet that rarely is the case. The ‘masculine knowledge’ conveyed in schools and workplaces is typically granted higher status than the ‘feminine knowledge’ associated with the dwelling.”²⁵²

Because at its root it is a form of sex and gender essentialism, sex-segregated education falls prey to the very problems that Justice Ginsburg identified in *VMI*. By separating boys from girls, single-sex education relies upon and exacerbates “outdated stereotypes” while it also “create[s] [and] perpetuate[s] the legal, social, and economic inferiority of women.”²⁵³

V. CONCLUSION

We are over seven years into an unconstitutional experiment that is promising a false bill of goods to parents and children and delivering significant damage in the form of stereotypes and sexism. Parents are told they have a choice of more diverse options for their children, but instead their children are coerced into accepting an unconstitutional education. Students are promised better educational outcomes but no evidence backs that up. Advocates rely on discredited brain science that is in actuality another way to promote and encourage stereotyped learning. The effect is not that students learn better but rather that they believe and act more stereotypically based on sex while also furthering existing sex-based hierarchies.

²⁵⁰ Daphne Spain, *Gendered Spaces and Women's Status*, 11 SOC. THEORY 137, 137 (1993).

²⁵¹ *Id.* at 141.

²⁵² *Id.* at 140.

²⁵³ *United States v. Virginia*, 518 U.S. 515, 533–34 (1996).

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In other words, sex-segregated education is patently unconstitutional as a violation of the Equal Protection Clause. It has no “exceedingly persuasive justification” and instead exacerbates “outdated stereotypes” while “creat[ing] [and] perpetuat[ing] the legal, social, and economic inferiority of women.”²⁵⁴ It is time for the nation’s judges and educators to stop this unconstitutional experiment.

²⁵⁴ *Id.*