

Notes

Sports for Boys, Wedding Cakes for Girls: The Inevitability of Stereotyping in Schools Segregated by Sex^{*}

This Note argues that in light of psychological research demonstrating that stereotypes flourish when groups are segregated on the basis of visible characteristics such as sex, all schools that are segregated on the basis of sex violate the Fourteenth Amendment's guarantee against sex discrimination. Though the Supreme Court in United States v. Virginia left open the question of whether sex-segregated schools are constitutional, the Virginia court clearly articulated that the cornerstone of constitutional sex-discrimination analysis is the inquiry of whether or not the state's classification on the basis of sex serves to reinforce stereotypes. This Note offers an in-depth look at the leading psychological theories on stereotypes, examining what they are, how they operate, and in what conditions they thrive or are diminished. Situating this research in the history of sex-segregated schooling and the current proliferation of single-sex programs, this Note argues that single-sex schools—simply by virtue of segregating boys from girls—serve to perpetuate stereotypes about how males and females should behave, to what they should aspire, and what talents and capabilities they possess. Thus single-sex schools present a constitutional problem: by their very nature they violate the anti-stereotyping principle articulated by the Supreme Court's sex-discrimination jurisprudence and, as such, violate the Fourteenth Amendment.

Introduction

The law does not generally concern itself with understanding the basic cognitive processes of human beings, however relevant such an understanding may be in shaping our legal system.¹ But when men and women—or rather, in our context, boys and girls—are treated differently solely because of their sex, courts are required to delve into the building blocks of our minds. This is because courts are required to determine whether or not different treatment on the basis of sex perpetuates or diminishes stereotypes

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1. See Linda Hamilton Krieger, *The Content of Our Categories: A Cognitive Bias Approach to Discrimination and Equal Employment Opportunity*, 47 STAN. L. REV. 1161, 1164–65 (1995) (arguing that current Title VII jurisprudence fails because it does not take cognitive biases into account).

about males and females: a determination that demands a look at what stereotypes are, how they operate, and how they affect our behavior.

Whether public schools that are segregated based on sex are constitutional is an open question: the Supreme Court in *United States v. Virginia*² made a point to keep it that way.³ But the Court has informed us that in situations where people are classified on the basis of sex alone, the pivotal question is whether or not the classification perpetuates “stereotypic notions” about males and females.⁴ Should the state’s purpose for separating the sexes rest on stereotypes of male and female talents, capacities, or preferences, it would violate the equal protection guarantee of the Fourteenth Amendment.⁵ As such, the case law demands an inquiry into what stereotypes are, how they operate, and whether or not it is possible for segregated schools to work to dissipate rather than reinforce them. And determining whether stereotypes are perpetuated or diminished demands a look at psychological research.

Contrary to what we would like to believe, stereotypes are not invidious, corrosive, hateful attitudes that only bigots endorse.⁶ Stereotypes are as basic as breathing—they are a simple by-product of how our brains categorize and make sense of the world.⁷ Building on this understanding, psychologists have found that mere segregation of different types of people serves to enforce stereotypes.⁸ Just putting boys in one room and girls in another signals their difference and, as a consequence, makes the other group into a stereotype.

In this Note, I argue that in light of the psychological research exposing the effects of segregation on our natural biases, sex-segregated schooling inherently promotes sex stereotyping and is therefore unconstitutional under the Fourteenth Amendment. Part I outlines the existing constitutional and statutory law in the area of school segregation and highlights the jurisprudential focus on the promotion of sex stereotypes. Part II gives a brief history of sex-segregated schooling in the United States, outlines the most popular single-sex programs in our country today, and explains why experimental psychology research is a necessary addition to the dialogue on sex stereotypes in single-sex schools. Part III explores the

2. 518 U.S. 515 (1996).

3. *Id.* at 534 n.7; *see also infra* subpart I(A).

4. *Miss. Univ. for Women v. Hogan*, 458 U.S. 718, 724–25 (1982); *see also United States v. Virginia*, 518 U.S. at 550 (elaborating on why the admission policy of the sex-segregated school at issue, Virginia Military Institute, cannot be based on generalizations about women).

5. *United States v. Virginia*, 518 U.S. at 533–34; *Miss. Univ. for Women*, 458 U.S. at 729–30.

6. *See* KRISTIN J. ANDERSON, BENIGN BIGOTRY: THE PSYCHOLOGY OF SUBTLE PREJUDICE 1–4 (2010) (observing a shift from overt bigotry to subtle prejudice).

7. Carol Lynn Martin & Charles F. Halverson, Jr., *A Schematic Processing Model of Sex Typing and Stereotyping in Children*, 52 *CHILD DEV.* 1119, 1119–20 (1981).

8. *See id.* at 1125 (observing that applying schemas in sex stereotyping may result in affirming those stereotypes).

psychological research that makes up our understanding of stereotypes and the effects of segregation on the development and reinforcement of those stereotypes. Finally, Part IV discusses the implications and impact of the experimental-psychology research on law and policy.

The focus of this Note is limited to K–12 public schools for two main reasons. First, the most current, pertinent psychological research on the impact of sex segregation focuses on children, so the implications of segregation are the most clear for the K–12 age group. Second, the consequences of any constitutional development in this area would almost exclusively impact K–12 schools. This is because most single-sex colleges are private schools and thus likely beyond the reach of the Fourteenth Amendment, which requires state action.⁹ However, it is worth noting that the same cognitive mechanisms that perpetuate stereotypes in boys and girls also perpetuate stereotypes in adult men and women.¹⁰ Some of these studies have even focused on these effects in adults and observed the same increased stereotyping in segregated environments.¹¹ These studies suggest that sex-segregated colleges such as Wellesley or Smith College may also perpetuate stereotypes, but they do not present the constitutional problem segregated public schools do.

I. The Legal Framework of Segregated Public Schooling

A. *Constitutional Framework*

The 1960s and 1970s witnessed the development of the jurisprudence defining what it means to discriminate on the basis of sex.¹² Though sex discrimination was originally conceptualized based on the idea that the subjugation of women paralleled the subjugation of black Americans,¹³ as the law surrounding sex discrimination developed, a distinct “anti-stereotyping” principle emerged as the foundation of the analysis.¹⁴ This anti-stereotyping theory “dictated that the state could not act in ways that reflected or reinforced traditional conceptions of men’s and women’s roles” in society.¹⁵ That is, our legal system cannot reflect or reinforce traditional

9. Brief of Twenty-Six Private Women’s Colleges as Amici Curiae in Support of Petitioner at 13–24, *United States v. Virginia*, 518 U.S. 515 (Nos. 94-1941 & 94-2107), 1995 WL 702837.

10. *See infra* subparts III(A)–(C).

11. *See infra* note 209 and accompanying text.

12. Cary Franklin, *The Anti-Stereotyping Principle in Constitutional Sex Discrimination Law*, 85 N.Y.U.L. REV. 83, 120–22 (2010).

13. *Id.* at 108–09.

14. *Id.* at 137–38.

15. *Id.* at 88.

notions about how males and females behave, what their preferences are, or what abilities they have.¹⁶

The Court has applied the anti-stereotyping principle to sex-segregated education in two pivotal cases that shape the constitutional framework for our analysis: *Mississippi University for Women v. Hogan*¹⁷ and *United States v. Virginia*.

1. *Mississippi University for Women v. Hogan*.—The Court first considered the issue of schooling segregated by sex after a male applicant was denied admission to the Mississippi University for Women School of Nursing's baccalaureate program.¹⁸ The Court found the school's argument that its admissions policy compensated for past discrimination against women unpersuasive, reasoning that the single-sex policy "tends to perpetuate the stereotyped view of nursing as an exclusively woman's job."¹⁹ By funding nursing programs for women at a disproportionately higher rate than nursing programs for men, the state "allot[ted] more openings in its state-supported nursing schools to women than it [did] to men," thereby lending "credibility to the old view that women, not men, should become nurses," and creating a "self-fulfilling prophecy."²⁰

The Court's holding did not reach whether sex segregation in separate-but-equal facilities was itself unconstitutional,²¹ only that it was impermissible to exclude one sex without providing comparable educational alternatives.²² However, this case made clear that "archaic and stereotypic notions" or "fixed notions concerning the roles and abilities of males and females" are not permissible objectives for sex-segregated education.²³

16. See *United States v. Virginia*, 518 U.S. 515, 533 (1996) (noting that the justification for sex-based classifications "must not rely on overbroad generalizations about the different talents, capacities, or preferences of males and females").

17. 458 U.S. 718 (1982).

18. *Id.* at 720–21.

19. *Id.* at 729.

20. *Id.* at 730.

21. *Id.* at 720 n.1.

22. See *id.* at 728–29 (rejecting the idea that an all-female nursing school was needed to provide women with equal educational opportunities to men in nursing).

23. *Id.* at 724–25.

In his dissent, Justice Powell was critical of the Court for bowing to the “conformity” of coeducation and urged that the women of Mississippi be allowed the “choice” of a single-sex “diversity” option.²⁴ Justice Powell was the first to frame a single-sex educational environment as a “diversity option” for those seeking an alternative to coeducation,²⁵ a framework that proponents of single-sex schools continue to advocate today.²⁶

2. *United States v. Virginia*.—The Supreme Court again considered sex-segregated education when a female applicant was denied admission to the publicly funded Virginia Military Institute (VMI), which featured “adversative” military training, including spartan barracks living, a complete absence of privacy, and harsh physical training.²⁷ After lower courts ruled that offering “the unique benefits of a VMI-type of education to men and not to women” violated the Equal Protection Clause,²⁸ VMI partnered with Mary Baldwin College to create a separate, parallel program for women: the Virginia Women’s Institute for Leadership (VWIL).²⁹ The VWIL creators determined that “a military model and, especially VMI’s adversative method, would be wholly inappropriate for educating and training most women for leadership roles,”³⁰ and instead fashioned a program which used a cooperative method of education that reinforced self-esteem.³¹ In contrast to VMI’s emphasis on military training, VWIL students’ military participation was “largely ceremonial.”³² VWIL, unlike VMI, did not offer bachelors of engineering or science degrees and was vastly underfunded in comparison.³³

The Court ruled in favor of the United States, concluding that VWIL was an inadequate remedy for excluding women from admission to VMI.³⁴ The opinion by Justice Ginsburg explained that VMI’s refusal to admit women was rooted in the history of relegating women to separate spheres

24. *Id.* at 735 (Powell, J., dissenting).

25. Nancy Levit, *Separating Equals: Educational Research and the Long-Term Consequences of Sex Segregation*, 67 GEO. WASH. L. REV. 451, 460 (1999).

26. See, e.g., Christina Hoff Sommers, *The Bizarre, Misguided Campaign to Get Rid of Single-Sex Classrooms*, ATLANTIC (Oct. 4, 2013), <http://www.theatlantic.com/education/archive/2013/10/the-bizarre-misguided-campaign-to-get-rid-of-single-sex-classrooms/280262/> [http://perma.cc/93CD-M2C8] (arguing that choice between single-sex and coeducation schools reflects a decision for parents and students based on educational needs).

27. *United States v. Virginia*, 518 U.S. 515, 522, 530–31 (1996).

28. *United States v. Virginia*, 976 F.2d 890, 899–900 (4th Cir. 1992), *aff’d*, 518 U.S. 515 (1996).

29. *United States v. Virginia*, 518 U.S. at 526.

30. *United States v. Virginia*, 852 F. Supp. 471, 476 (W.D. Va. 1994), *aff’d*, 44 F.3d 1229 (4th Cir. 1995), *rev’d*, 518 U.S. 515 (1996), *vacated*, 96 F.3d 114 (4th Cir. 1996).

31. *United States v. Virginia*, 518 U.S. at 527.

32. *Id.* (quoting *United States v. Virginia*, 44 F.3d at 1234).

33. *Id.* at 551–52.

34. *Id.* at 534.

by depriving them of the right to vote,³⁵ the right to control their own property,³⁶ and the right to equal opportunity in the workplace justified by sex-role stereotyping.³⁷ The exclusion of women from the military academy, reasoned the Court, originated from that history of stereotyping.³⁸ So-called “gender-based developmental differences” that women tend to “thrive in a cooperative atmosphere” whereas men “tend to need an atmosphere of adversativeness,” were an impermissible basis upon which to exclude women,³⁹ and “rel[ied] on overbroad generalizations about the different talents, capacities, or preferences of males and females.”⁴⁰ Even though most women would not choose VMI’s adversative method, the Court reasoned, the state could not constitutionally exclude those women who would choose to attend.⁴¹

Educators in single-sex institutions realized the implications of this decision went far beyond military academies in Virginia, and many institutions filed amicus briefs to the Court. In a brief in support of the female applicant, twenty-six women’s colleges argued their colleges operated “to dissipate, rather than perpetuate, traditional gender classifications,”⁴² and were “particularly effective in preparing [women] for leadership and success . . . in male-dominated fields.”⁴³

The Court was sympathetic to these arguments in a footnote, stating their holding did not reach the amici’s institutions:

Several *amici* have urged that diversity in educational opportunities is an altogether appropriate governmental pursuit and that single-sex schools can contribute importantly to such diversity. Indeed, it is the mission of some single-sex schools “to dissipate, rather than perpetuate, traditional gender classifications.” We do not question the Commonwealth’s prerogative evenhandedly to support diverse educational opportunities.⁴⁴

Thus, single-sex programs which operate to dissipate gender stereotypes are likely constitutionally permissible as a diversity option in education, while programs that rely on stereotypes of male and female talents, capacities, or preferences violate the equal protection guarantee of the Fourteenth Amendment.

35. *Id.* at 531.

36. *Id.* at 532.

37. *Id.* at 543.

38. *Id.* at 536–37.

39. *Id.* (quoting *United States v. Virginia*, 766 F. Supp. 1407, 1434–35 (W.D. Va. 1991)).

40. *Id.* at 533.

41. *Id.* at 541–43.

42. Brief of Twenty-Six Private Women’s Colleges as Amici Curiae in Support of Petitioner, *supra* note 9, at 5.

43. *Id.* at 25.

44. *United States v. Virginia*, 518 U.S. at 534 n.7 (citation omitted).

B. Statutory Framework

1. *Title IX of the 1972 Education Amendments.*—Title IX was passed as a part of the 1972 Education Amendments; its controlling provision reading as follows: “No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance”⁴⁵ In accordance with Title IX, the Department of Health, Education, and Welfare passed regulations outlining the scope of the statute in 1975.⁴⁶ The regulations eliminated segregated health classes, physical-education classes, and vocational subjects such as welding classes, and banned discriminatory counseling and sex-biased guidance tests and materials.⁴⁷ Sex segregation was permitted in public schools only in very narrow circumstances: contact sports, sex-education classes, choral groups, and when segregation was designed to overcome the effects of past discrimination.⁴⁸

The 1975 regulations were the governing statutory law until 2001, when Congress passed an education-bill amendment offering funding to single-sex schools and loosening restrictions.⁴⁹ In accordance with the legislation, the Department of Education amended the Title IX regulations in 2006 to expand the circumstances under which school districts could offer single-sex programs.⁵⁰ Under the 2006 amendment, the requirements for single-sex programs are as follows: (1) each single-sex program must be based on the school’s “important objective”⁵¹ established at the program’s inception;⁵² (2) the program must be “substantially related” to achieving that objective either by providing “diverse educational opportunities” or by “meet[ing] the particular, identified educational needs of its students”;⁵³

45. Education Amendments of 1972, Pub. L. No. 92-318, § 901(a), 86 Stat. 235, 373 (codified at 20 U.S.C. § 1681 (2012)).

46. DAVID TYACK & ELISABETH HANSOT, *LEARNING TOGETHER: A HISTORY OF COEDUCATION IN AMERICAN PUBLIC SCHOOLS* 255–56 (1992).

47. *Id.* at 256.

48. AM. ASS’N OF UNIV. WOMEN, *SEPARATED BY SEX: TITLE IX AND SINGLE-SEX EDUCATION* 4 (2011), <http://www.aauw.org/files/2013/02/position-on-single-sex-education-112.pdf> [<http://perma.cc/R7VY-6ZRF>].

49. PEG TYRE, *THE TROUBLE WITH BOYS: A SURPRISING REPORT CARD ON OUR SONS, THEIR PROBLEMS AT SCHOOL, AND WHAT PARENTS AND EDUCATORS MUST DO* 212 (2008).

50. AM. CIVIL LIBERTIES UNION, *PRELIMINARY FINDINGS OF ACLU “TEACH KIDS, NOT STEREOTYPES” CAMPAIGN* 8 (2012), https://www.aclu.org/files/assets/doe_ocr_report2_0.pdf [<https://perma.cc/TZR7-AWFM>].

51. 34 C.F.R. § 106.34(b)(1)(i) (2015).

52. OFFICE FOR CIVIL RIGHTS, U.S. DEP’T OF EDUC., *QUESTIONS AND ANSWERS ON TITLE IX AND SINGLE-SEX ELEMENTARY AND SECONDARY CLASSES AND EXTRACURRICULAR ACTIVITIES* 5 (2014), <http://www2.ed.gov/about/offices/list/ocr/docs/faqs-title-ix-single-sex-201412.pdf> [<http://perma.cc/2ZAD-E4SW>].

53. 34 C.F.R. § 106.34(b)(1)(i)(A)–(B).

(3) a single-sex program must be “completely voluntary”,⁵⁴ and (4) single-sex programs may not “rely on overly broad generalizations about the different talents, capacities, or preferences of either sex.”⁵⁵

Therefore, under Title IX, single-sex programs are permissible as a diversity option so long as they comport with the constitutional anti-stereotyping principle and do not promote sex stereotypes.

II. Coeducational and Single-Sex Education: Then and Now

A. *A History of Single-Sex and Coeducational Education*

In early America, a central function of both single-sex and coeducational schooling was to promote “the development of appropriate sex roles.”⁵⁶ Girls were to be trained to be mothers and wives, while boys were to be trained to be doctors, lawyers, and businessmen.⁵⁷ Early feminists advocated for coeducational schooling as a way to achieve a blending of the traditional roles of men and women.⁵⁸ Later feminists in the 1960s and 1970s sought to reform schooling to increase women’s opportunities by eliminating sex bias and reducing sex stereotyping.⁵⁹ Under the legal backdrop of Title IX and *Brown v. Board of Education*,⁶⁰ feminists all but eliminated single-sex schooling by forcing all-male institutions to admit women.⁶¹

However, in the early 1990s, many feminist advocates changed tack. In 1992, the American Association of University Women released a report entitled *How Schools Shortchange Girls* that documented systemic discrimination against girls in public schools, ranging from sex bias in curriculum, to lack of attention paid by instructors, sexual harassment of girls, and classroom activities that appealed only to boys.⁶² The result, the report said, was a kind of “learned helplessness,” or lack of academic perseverance in girls.⁶³

54. *Id.* § 106.34(b)(1)(iii).

55. *Id.* § 106.34(b)(4)(i).

56. CORNELIUS RIORDAN, *GIRLS AND BOYS IN SCHOOL: TOGETHER OR SEPARATE?* 52 (1990).

57. See Gary J. Simson, *Separate but Equal and Single-Sex Schools*, 90 CORNELL L. REV. 443, 449 (2005) (explaining that “the history of public single-sex education . . . is one dominated by gender role stereotyping, with all-boys schools typically oriented to training for professional and economic success and all-girls schools commonly oriented to training to be wives and mothers and to fill certain low-paying, low-status jobs”).

58. TYACK & HANSOT, *supra* note 46, at 244.

59. *Id.* at 244–47.

60. 347 U.S. 483 (1954).

61. TYRE, *supra* note 49, at 207.

62. AM. ASS’N OF UNIV. WOMEN, *HOW SCHOOLS SHORTCHANGE GIRLS: A STUDY OF MAJOR FINDINGS ON GIRLS AND EDUCATION* 61–74 (1992).

63. *Id.* at 69.

Though the report was intended to galvanize public schools to address the rampant institutional sexism, it gave rise to a movement embracing single-sex schools for girls.⁶⁴ If coeducational schools were inadequate, feminists and parents reasoned, girls would be better served in a single-sex environment.⁶⁵ Institutions like the Young Women's Leadership School of East Harlem were established, modeled after the elite, all-girls private schools and featuring small classes, college prep, and high expectations.⁶⁶ After 100% of the school's first graduating class went on to attend college in 2001, institutions following this model proliferated across the country.⁶⁷

In the wake of the girls' school movement, a litany of writers highlighted boys' struggles in school⁶⁸—struggles that came to be known as the "Boy Crisis."⁶⁹ Many of these writers blamed "misguided feminism" for neglecting boys⁷⁰ and claimed boys were institutionally disadvantaged.⁷¹ Other writers argued that boys were suffering in school because teachers failed to take into account inherent differences in learning between the sexes.⁷² These popular texts prompted a movement toward boys' schools with "boy friendly" curriculum and male role models.⁷³

Though boys' achievement in some areas is lagging behind girls,⁷⁴ it is unclear whether boys are really facing a crisis or if the contrast is due either to girls doing better or disadvantaged, minority boys doing worse.⁷⁵ Despite this lack of consensus on the Boy Crisis, private boys' schools

64. TYRE, *supra* note 49, at 208.

65. *Id.*

66. *Id.* at 211.

67. Cornelius Riordan, *What Do We Know About the Effects of Single-Sex Schools in the Private Sector?: Implications for Public Schools*, in GENDER IN POLICY AND PRACTICE: PERSPECTIVES ON SINGLE-SEX AND COEDUCATIONAL SCHOOLING 10, 24 (Amanda Datnow & Lea Hubbard eds., 2002).

68. Marcus B. Weaver-Hightower, *Issues of Boys' Education in the United States: Diffuse Contexts and Futures*, in THE PROBLEM WITH BOYS' EDUCATION: BEYOND THE BACKLASH 1, 4–6 (Wayne Martino et al. eds., 2009).

69. SARA MEAD, EDUC. SECTOR, THE EVIDENCE SUGGESTS OTHERWISE: THE TRUTH ABOUT BOYS AND GIRLS 4 (2006), http://educationpolicy.air.org/sites/default/files/publications/ESO_BoysAndGirls.pdf [<http://perma.cc/AEU4-F74Y>].

70. *E.g.*, Weaver-Hightower, *supra* note 68, at 5; *see also* CHRISTINA HOFF SOMMERS, THE WAR AGAINST BOYS: HOW MISGUIDED FEMINISM IS HARMING OUR YOUNG MEN 44 (2000) (criticizing the viewpoint that "[w]e badly need to raise boys more like we raise girls").

71. *E.g.*, WILLIAM POLLACK, REAL BOYS: RESCUING OUR SONS FROM THE MYTHS OF BOYHOOD, at xxii–xxiv (1998); TYRE, *supra* note 49, at 65–66.

72. MICHAEL GURIAN, BOYS AND GIRLS LEARN DIFFERENTLY!: A GUIDE FOR TEACHERS AND PARENTS 54 (2001); LEONARD SAX, WHY GENDER MATTERS: WHAT PARENTS AND TEACHERS NEED TO KNOW ABOUT THE EMERGING SCIENCE OF SEX DIFFERENCES 8–9 (2005).

73. Wayne Martino, Michael Kehler & Marcus B. Weaver-Hightower, *Preface*, in THE PROBLEM WITH BOYS' EDUCATION: BEYOND THE BACKLASH, *supra* note 69, at xii, xii.

74. *See* Weaver-Hightower, *supra* note 68, at 9–11. Boys are less likely to enroll in college but more likely to be learning disabled, abuse substances, commit suicide, and be the victims and perpetrators of crime. *Id.* at 11–12.

75. MEAD, *supra* note 69, at 3.

experienced a resurgence of popularity as the standard-bearers of “boy-centered” education, as they were thought to be better equipped to handle “more active, messier, less organized, more energetic, noisier, and funny” boys.⁷⁶ Similarly, in response to even poorer outcomes for black and Latino students, school districts have begun targeting low-performing minority schools for sex segregation.⁷⁷

In the face of the demand for single-sex schools, legislators loosened Title IX restrictions on single-sex public education and made annual funding available for such programs in 2001.⁷⁸ In 2006, the Department of Education clarified that the 2001 law meant single-sex education was legal within the constitutional parameters of *Mississippi University for Women* and *United States v. Virginia*.⁷⁹ Since then, public single-sex schooling has flourished. Between 1995 and 2008, the number of single-sex public schools went from two to forty-nine, while the number of public schools offering single-sex classes went from twelve to 518 between 2002 and 2009.⁸⁰ As of 2014, “there are about 750 public schools around the country with at least one single-sex class and 850 entirely single-sex public schools.”⁸¹

Single-sex educational environments are being implemented at an unprecedented rate and are now more pervasive than they have been for the last two decades. Such a proliferation demands an inquiry into the benefits and drawbacks of single-sex schooling, particularly addressing the constitutional question of whether or not single-sex institutions promote sex stereotypes.

B. *Current Single-Sex Programs and Their Justification*

Single-sex environments are diverse, and they vary in inspiration and implementation. Though the diversity of single-sex programs is vast, the following section articulates some of the more popular and developed programs in the United States today.

76. TYRE, *supra* note 49, at 209–10.

77. See, e.g., Press Release, Am. Civil Liberties Union, ACLU Requests Federal Investigation of Austin ISD for Sex and Racial Discrimination at Two Schools (Sept. 3, 2014), <https://www.aclu.org/news/aclu-requests-federal-investigation-austin-isd-sex-and-racial-discrimination-two-schools> [<https://perma.cc/2ZMQ-FN6Y>] (detailing a lawsuit against the Austin Independent School District for zoning predominantly black and Latino students into single-sex schools).

78. TYRE, *supra* note 49, at 212.

79. See *id.* at 213.

80. Janna Jackson, ‘Dangerous Presumptions’: How Single-Sex Schooling Reifies False Notions of Sex, Gender, and Sexuality, 22 GENDER & EDUC. 227, 227 (2010).

81. Motoko Rich, *Old Tactic Gets New Use: Public Schools Separate Girls and Boys*, N.Y. TIMES (Nov. 30, 2014), <http://www.nytimes.com/2014/12/01/education/single-sex-education-public-schools-separate-boys-and-girls.html> [perma.cc/LJ8C-CYCZ].

1. “*Different-Learning-Styles*” Programs.—The majority of recently implemented single-sex programs have premised their programs on the conclusion that boys and girls learn differently, and therefore both sexes benefit from separate programs tailored to their different learning styles.⁸² A recent review from the American Civil Liberties Union indicated that in the twenty-one districts reviewed across fifteen states, virtually all single-sex programs were premised on this theory.⁸³ Though biological differences between males and females have long been used to justify segregation in schools,⁸⁴ this recent theory primarily has its origins in the biological and brain research of Dr. Leonard Sax and Michael Gurian. A 2010 estimate suggested that Dr. Sax’s organization, the National Association for Single Sex Public Education, was directly involved in about half of the 360 then-existing single-sex programs and that 300 of the programs were influenced by his theory.⁸⁵

Both Sax and Gurian recommend boys and girls be taught separately so teachers can use different teaching styles and learning environments tailored to the innate, biological differences between the sexes.⁸⁶ For example, Sax proposes that because of physiological differences in the way girls and boys hear sounds, teachers in boys’ classrooms should “speak loudly and in short, direct sentences with clear instructions: ‘Put down your papers. Open your books. Let’s get to work! Mr. Jefferson, that includes you.’”⁸⁷ Meanwhile, in girls’ classrooms, teachers should “speak much more softly, using more first names with more terms of endearment and fewer direct commands: ‘Lisa, sweetie, it’s time to open your book. Emily, darling, would you please sit down for me and join us for this exercise?’”⁸⁸

Sax also argues that due to innate differences in how males and females respond to stress, “boys are energized by confrontation and by time-constrained tasks,” while girls do better when time constraints are removed.⁸⁹ Similarly, Sax contends that because of sex differences in the

82. See CORDELIA FINE, *DELUSIONS OF GENDER: HOW OUR MINDS, SOCIETY, AND NEUROSEXISM CREATE DIFFERENCE* 163 (2010) (describing a “brain-based” justification for same-sex schooling).

83. AM. CIVIL LIBERTIES UNION, *supra* note 50, at 3.

84. See TYACK & HANSOT, *supra* note 46, at 146–47 (noting that Dr. Edward H. Clarke of Harvard Medical School and G. Stanley Hall of Clark University argued for single-sex education in 1873 because of “fundamental biological differences between adolescent girls and boys”).

85. FINE, *supra* note 82, at 162–63.

86. See GURIAN, *supra* note 72, at 54 (arguing that boys and girls are neurologically different and that a failure to recognize these differences causes harmful educational biases); SAX, *supra* note 72, at 7 (claiming that failure to recognize differences between males and females in early education has caused substantial harm over the past several decades).

87. Leonard Sax, *Six Degrees of Separation: What Teachers Need to Know About the Emerging Science of Sex Differences*, 84 *EDUC. HORIZONS* 190, 195 (2006).

88. *Id.*

89. SAX, *supra* note 72, at 90–91.

size of the brain's hippocampus, boys are more comfortable with math "for its own sake," whereas girls are unable to get excited about "pure" math.⁹⁰ Similarly, Michael Gurian posits that because boys' brains receive daily "surges" of testosterone, they are better at math tests, whereas girls can perform best on tests a few days a month when estrogen is high.⁹¹ In addition, Gurian argues boys are better at abstract thinking, making them naturally better at philosophy, architecture, and engineering.⁹²

Although the research of Sax and Gurian has inspired many school districts to change the way they educate boys and girls, their recommendations have been widely criticized by the scientific community.⁹³ For example, Dr. Sax's conclusion that boys are better at pure math due to differences in the hippocampus glosses over the fact that a complicated mental process such as solving a geometry problem does not take place in one circumscribed area of the brain.⁹⁴ Additionally, while there are clear, documented differences in the brains of males and females such as size,⁹⁵ there are more differences between individual members of the same sex than differences between the sexes themselves.⁹⁶ Moreover, Sax and Gurian ignore the important fact that the brain develops according to our environment, behavior, and thinking.⁹⁷ Therefore, any observable differences in boys and girls may simply be a result of their brains adapting to the different sort of practice, role models, and reinforcement that boys and girls experience from birth onward.⁹⁸

In addition to its problematic foundations, research that uses biology to justify existing differences in males and females is an especially effective way to reinforce stereotypes.⁹⁹ Essentially, when stereotypes are backed by a biological justification, we are more likely to accept them as true and perform in accordance with the stereotypes.¹⁰⁰ We can see this phenomenon historically as well—Sax and Gurian are not the first to use

90. *Id.* at 101–04.

91. GURIAN, *supra* note 72, at 28–29.

92. *Id.* at 45.

93. See FINE, *supra* note 82, at 162–67 (criticizing Sax and Gurian for faulty interpretations of neurological research); Diane F. Halpern et al., *The Pseudoscience of Single-Sex Schooling*, 333 SCIENCE 1706, 1706–07 (2011) (explaining the lack of evidence supporting academic advantages and neurological necessity of single-sex schooling); Mark Liberman, *Sexual Pseudoscience from CNN*, LANGUAGE LOG (June 19, 2008, 7:35 AM), <http://languagelog.ldc.upenn.edu/nll/?p=260> [<http://perma.cc/H547-XALA>] (undermining claims of sex-based differences in auditory ability).

94. FINE, *supra* note 82, at 169.

95. Halpern et al., *supra* note 93, at 1706.

96. LISE ELIOT, PINK BRAIN, BLUE BRAIN: HOW SMALL DIFFERENCES GROW INTO TROUBLING GAPS—AND WHAT WE CAN DO ABOUT IT 11 (2009).

97. See FINE, *supra* note 82, at 176–77 (noting the importance of environment, behavior, and thinking in choosing what genes are expressed).

98. ELIOT, *supra* note 96, at 6–7.

99. FINE, *supra* note 82, at 172–73.

100. *Id.* at 185.

so-called biology to justify disparate education for males and females. In 1873, Edward Clarke proposed in his book, *Sex in Education*, that when women are exposed to intellectual study and competition, energy is directed away from their ovaries and to the brain, which endangers fertility and causes other physical ailments.¹⁰¹ Therefore, Clarke concluded, girls required segregated school environments so they could work a third less than boys in their studies, pursue a less-demanding curriculum, and receive monthly rest periods.¹⁰²

From our modern vantage point, we can see the blatant stereotyping that led to these “scientific” conclusions. The *Virginia* Court even admonished Clarke’s research in its opinion, stating his view “reflect[ed] widely held views about women’s proper place.”¹⁰³ But Clarke was widely influential during his time, and his book went through seventeen editions.¹⁰⁴ Clarke’s work and its popular reception caution us to look critically at biological research on sex difference and examine whether it simply reinforces the majority opinion regarding sex roles and behavior.

Also importantly, the Department of Education has made clear this type of inherent “biological differences” research is inadequate justification for establishing a single-sex program under Title IX.¹⁰⁵ In its recent *Question and Answer* publication, the Department of Education gave an example of an impermissible single-sex program:

Example T: Quiet Elementary School created single-sex fourth-grade classes for both boys and girls. During the school year, the teachers of the single-sex classes became aware of studies that show that girls are born with a significantly more sensitive sense of hearing than boys, and that the differences grow larger as the children grow older. Relying on those studies, the school decided that the boys class would incorporate speaking in a loud tone, while the girls class would not.

. . . Use of the specific teaching method (loud talking) would not comply with Title IX The leap from the biological differences to the use of a particular teaching method or strategy for students of one sex . . . resulted in an overly broad generalization (that loud talking would improve boys’ ability to learn).¹⁰⁶

Even if Sax and Gurian’s research does not in itself reveal the reinforcement of sex stereotypes, an examination of the programs themselves makes it clear that the programs reinforce sex stereotypes. For

101. EDWARD H. CLARKE, *SEX IN EDUCATION* 39–49 (1874).

102. *Id.* at 154–60.

103. *United States v. Virginia*, 518 U.S. 515, 536–37 (1996).

104. *Id.* at 536 n.9.

105. OFFICE FOR CIVIL RIGHTS, *supra* note 52, at 22.

106. *Id.*

example, a secondary school in Pittsburgh, Pennsylvania, sought to ensure students would experience “male-hood and female-hood defined space[s],” exhibiting characteristics of “warrior, protector, and provider” for boys and allowing girls “space/time to explore things that young women like [including] writing, applying and doing make-up & hair, art.”¹⁰⁷ A Wisconsin school district trained teachers to motivate boys with cries of “hierarchy!!! Competition!!!,” “Being ‘On Top’ . . . Being a winner!!!” while motivating girls by getting them to “care,” and be “[a]ccepted’, liked, and loved.”¹⁰⁸ In Theodore, Alabama, sixth-grade boys were asked to brainstorm action words used in sports for a language-arts exercise, while girls were asked to design their dream wedding cake.¹⁰⁹ In Vermilion Parish, Louisiana, boys read *Where the Red Fern Grows* because boys like “hunting” and “dogs” and girls read *The Witch of Blackbird Pond* because girls like “love stories.”¹¹⁰

These programs rely on stereotypes that girls like makeup and weddings and are motivated by relationships, while boys are motivated by competition and like sports and hunting. While it may be true that the majority of girls like weddings and the majority of boys like sports, these programs clearly rely on “overbroad generalizations about the different talents, capacities, or preferences of males and females,” prohibited by *United States v. Virginia*.¹¹¹ However, even though it is evident these different-learning-styles programs are illegal under Title IX and the Fourteenth Amendment, the question remains whether it is possible for single-sex programs to withstand constitutional muster in another form.

2. *STEM Programs for Young Women.*—These programs seek to address the lack of women in the sciences by offering single-sex programs that emphasize a rigorous science, technology, engineering, and math (STEM) curriculum, female role models in the sciences, and leadership opportunities. Examples include the Ann Richards School for Young Women Leaders in Austin, Texas,¹¹² and the Young Women’s Leadership School in Queens, New York.¹¹³

107. AM. CIVIL LIBERTIES UNION, *supra* note 50, at 30 (alteration in original).

108. *Id.* at 42, 47.

109. David Holthouse, *Gender Segregation: Separate but Effective?*, TEACHING TOLERANCE, Spring 2010, at 25, 26.

110. Brief for the Plaintiffs-Appellants at 42, *Doe ex rel. Doe v. Vermilion Par. Sch. Bd.*, 421 F. App’x 366 (5th Cir. 2011) (No. 10-30378), 2010 WL 3050251.

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

112. *Curriculum*, ANN RICHARDS SCH. FOR YOUNG WOMEN LEADERS, <http://www.annrichardsschool.org/school/curriculum> [<http://perma.cc/6VNN-8Z5Y>].

113. *The Young Women’s Leadership School, Queens*, NEW VISIONS FOR PUB. SCHOOLS, <http://www.newvisions.org/schools/entry/28Q896> [<http://perma.cc/FJ6R-2UCD>].

It is undeniable that these programs seek to address a critical problem. Women make up a mere 20% of engineering majors, and the proportion of Bachelor of Science degrees awarded to women in computer science has actually declined since the mid-1980s, dwindling from 37% to 28%.¹¹⁴ Though young girls perform about as well as boys in the sciences,¹¹⁵ by eighth grade girls are more likely to agree they are “just not good in mathematics,”¹¹⁶ and in high school girls choose to take Advanced Placement (AP) science classes at much lower rates than boys.¹¹⁷ Researchers have suggested that starting in middle school boys dominate math and science classes, and girls fear if they are viewed as science nerds they will be less popular with the boys.¹¹⁸ To address these gaps, single-sex programs seek to bolster girls’ confidence and interest in math by providing an environment where boys are unable to dominate.¹¹⁹ Girls have female science teachers to look up to and more opportunities to participate in their education as leaders.

As encouraging as these programs are as a means to promote sex equality in male-dominated fields, the results come with some reservations. First, while these programs boast high test scores in math and the sciences,¹²⁰ a recent study shows students’ achievement can be attributed to the quality of the students selected for the school and the positive influence that high-quality peers have on learning.¹²¹ In other words, the efficacy of the programs is not due to the single-sex environment, but rather because the school is selective about which students are allowed to attend. Second, though female role models in STEM careers are essential to combat stereotypes that math and science are primarily male domains,¹²² schools do not have to be single sex to hire more female math and science teachers. In fact, single-sex programs such as these may serve to siphon off capable female math and science teachers from coeducational schools. Last, as I discuss in Part III, social and developmental psychological research suggests segregation on the basis of gender at any age serves to foster sex stereotypes.

114. ELIOT, *supra* note 96, at 210.

115. *Id.* at 209.

116. *Id.* at 236.

117. *Id.* at 209.

118. *Id.* at 240–41.

119. See Amy Roberson Hayes et al., *The Efficacy of Single-Sex Education: Testing for Selection and Peer Quality Effects*, 65 *SEX ROLES* 693, 694 (2011) (stating that proponents of single-sex education are “more supportive of girls’ academic achievement in counter-stereotypic domains such as math and science than classrooms that include males”).

120. E.g., *School Overview & History*, ANN RICHARDS SCH. FOR YOUNG WOMEN LEADERS, <http://www.annrichardsschool.org/school> [<http://perma.cc/TM4U-PFC3>].

121. Hayes et al., *supra* note 119, at 702.

122. FINE, *supra* note 82, at 36.

3. *Programs for Black and Latino Boys.*—Since the 2006 Title IX amendments went into effect, single-sex programs targeting black and Latino boys¹²³ have become increasingly popular as an attempt to address the many hardships that fall on these populations.¹²⁴ Black and Latino males “lead the nation in homicides, both as victims and perpetrators,” and “their incarceration, conviction, and arrest rates have been higher than all other groups in most states for over a decade.”¹²⁵ School-age black and Latino boys are more likely to be suspended or expelled from school and are much less likely to enroll in college.¹²⁶ Though socioeconomic considerations contribute to these statistics, even middle-class black males are outperformed by their white peers.¹²⁷ These single-sex programs are an attempt to address these overwhelming difficulties black and Latino males face.

A number of researchers have proposed that these types of programs are the ideal way to implement a single-sex school.¹²⁸ For example, researcher Cornelius Riordan argues single-sex schools are most effective if the programs are rare and if they are targeted at at-risk minority students.¹²⁹ He posits that single-sex programs such as these provide a pro-academic choice for parents and students, and allow them to reject the anti-academic culture surrounding their culture and schools.¹³⁰

In the single-sex schools targeted at black and Latino boys, practitioners identified three main strategies for promoting the needs of their students: “1) changing boys’ ideas of masculinity, 2) incorporating an academic identity, and 3) developing future and leadership.”¹³¹ The schools

123. These schools are not racially segregated but are rather located in areas where the populations are predominantly black and Latino.

124. See Lance T. McCreedy, *Troubles of Black Boys in Urban Schools in the United States: Black Feminist and Gay Men’s Perspectives*, in *THE PROBLEM WITH BOYS’ EDUCATION: BEYOND THE BACKLASH*, *supra* note 73, at 124, 142 (noting a renewed interest in establishing single-sex schools to address the needs of students who have been unsuccessful in traditional coeducational schools, and stating that single-sex schools for black male students have become increasingly popular as a solution to problems such as low college enrollment rates and overall academic underachievement).

125. *Id.* at 126.

126. *Id.* at 127.

127. *Id.*

128. See OFFICE OF PLANNING, EVALUATION & POLICY DEV., U.S. DEP’T OF EDUC., *SINGLE-SEX VERSUS COEDUCATIONAL SCHOOLING: A SYSTEMATIC REVIEW* 89 (2005), <https://www2.ed.gov/rschstat/eval/other/single-sex/single-sex.pdf> [<https://perma.cc/37E6-36MA>] (mentioning that a number of authors have proposed that single-sex schools may be “particularly effective for students of lower socioeconomic status and perhaps specifically for those who are members of minority or disadvantaged communities”).

129. Riordan, *supra* note 67, at 18.

130. *Id.* at 19–20.

131. EDWARD FERGUS & PEDRO NOGUERA, METRO. CTR. FOR URBAN EDUC., *THEORIES OF CHANGE AMONG SINGLE-SEX SCHOOLS FOR BLACK AND LATINO BOYS: AN INTERVENTION IN*

seek to change the boys' ideas of masculinity by providing exposure to black and Latino male role models, by encouraging students to embrace activities they may perceive as feminine, and by shifting students' focus away from a masculine identity centered around dominance and sexual prowess.¹³² The schools seek to promote academic identity in black and Latino boys by establishing a "brotherhood" to foster and support their commitment to education in the face of a culture that tells them "doing homework is betraying their race."¹³³ Last, the schools strive to foster a sense of leadership and future by directing their students to take positive control of their own lives and give back to the community, "[r]ather than sit back and be influenced by the negativity of street culture."¹³⁴

There is concern that these programs promote sex stereotypes by failing to disrupt the stereotype "of black macho as the most viable form of masculinity."¹³⁵ Furthermore, studies that have measured the outcomes of these programs have not thus far found any advantages for black or Latino students attending single-sex schools.¹³⁶

C. *The Outcomes: Educational Studies of Single-Sex Schools*

Of the thousands of studies on this topic,¹³⁷ several reviews of the literature have culled the results from the handful of quality studies, but the results are ambiguous.¹³⁸ In 2005, the Department of Education conducted a review of 102 studies of single-sex and coeducational schools.¹³⁹ The preponderance of research showed students in single-sex schools had higher

SEARCH OF THEORY 6 (2010), http://steinhardt.nyu.edu/scmsAdmin/media/users/eaf7/An_Intervention_in_Search_of_Theory_Research_Brief.pdf [<http://perma.cc/RK8Z-WX3E>].

132. *Id.* at 14–15; *see also* McCready, *supra* note 124, at 144 (explaining that several schools in the Black and Latino Male School Intervention Study rely on "professional" black men as role models).

133. FERGUS & NOGUERA, *supra* note 131, at 18–19.

134. *Id.* at 20.

135. McCready, *supra* note 124, at 144.

136. *See* Erin Pahlke et al., *The Effects of Single-Sex Compared with Coeducational Schooling on Students' Performance and Attitudes: A Meta-Analysis*, 140 PSYCHOL. BULL. 1042, 1065 (2014) (explaining that there is no evidence that single-sex schooling provides an advantage for ethnic minorities). *But see* OFFICE OF PLANNING, EVALUATION & POLICY DEV., *supra* note 128, at 89 (recognizing that an insufficient number of studies on single-sex schools focused on race or ethnicity as a moderator).

137. *See* OFFICE OF PLANNING, EVALUATION & POLICY DEV., *supra* note 128, at 3–4 (noting that a search of the extant literature produced over 2,000 studies).

138. *See id.* at 86 (finding that "there is a degree of support for [single-sex] schooling" in terms of academic-achievement outcomes and long-term indicators of success); Fred A. Mael, *Single-Sex and Coeducational Schooling: Relationships to Socioemotional and Academic Development*, 68 REV. EDUC. RES. 101, 121 (1998) (concluding that the predominance of educational research "shows a role for single-sex schools"). *But see* Pahlke et al., *supra* note 136, at 1064 (concluding that controlled studies demonstrate only trivial advantages for single-sex versus coeducational schooling).

139. OFFICE OF PLANNING, EVALUATION & POLICY DEV., *supra* note 128, at 5.

academic achievement and more positive attitudes and aspirations about education and careers.¹⁴⁰ In addition, a small number of studies suggested that both female and male students educated in single-sex schools were more likely to participate in collegiate activities while maintaining full-time enrollment for a four-year period, were less likely to be unemployed, and were less likely to drop out of high school.¹⁴¹ Girls particularly were more likely to choose a nontraditional college major and to be politically active.¹⁴²

However, a 2014 review of 184 studies conducted by Erin Pahlke found that while uncontrolled studies found modest support for single-sex schools, the highest quality controlled studies showed only trivial differences between single-sex and coeducational schools.¹⁴³

Regardless of any possible academic benefits of single-sex schooling, the results do not address our core question: whether or not single-sex schools perpetuate gender stereotypes.¹⁴⁴ While the Department of Education review suggests that girls attending single-sex schools may be more likely to choose a nontraditional college major,¹⁴⁵ Pahlke's review found only trivial differences in math and science performance and attitudes for girls in single-sex versus coeducational schools.¹⁴⁶ And while Pahlke's review found that girls in coeducational schools are more gender stereotyped,¹⁴⁷ other studies found that stereotyping is roughly equivalent across school type¹⁴⁸ or that stereotyping is more frequent in single-sex schools.¹⁴⁹

Even if educational research could unequivocally show single-sex schooling does not promote sex stereotyping, we are prevented from relying upon these conclusions because the literature is inherently limited by its nonexperimental design. This is not due to poor methodological choices on the researchers' part but rather because students cannot be randomly assigned to either a treatment or control group without knowledge or permission. Because parental preference must dictate the group to which students are assigned (single sex or coeducational), the possibility that

140. *Id.* at 83–84.

141. *Id.* at 85.

142. *Id.*

143. Pahlke et al., *supra* note 136, at 1064.

144. See OFFICE OF PLANNING, EVALUATION & POLICY DEV., *supra* note 128, at 85 (stating the effect of single-sex schooling on gender equity could not be addressed due to the lack of quantitative studies that addressed the issue).

145. *Id.*

146. Pahlke et al., *supra* note 136, at 1065.

147. *Id.*

148. Valerie E. Lee et al., *Sexism in Single-Sex and Coeducational Independent Secondary School Classrooms*, 67 SOC. EDUC. 92, 113 (1994).

149. Richard A. Fabes et al., *Gender-Segregated Schooling and Gender Stereotyping*, 39 EDUC. STUD. 315, 317 (2013).

parents and students in each condition will differ is very real.¹⁵⁰ Teachers also choose for which type of school they wish to work, which is a product of their attitudes and beliefs about schooling and gender.¹⁵¹ Only experimental studies with random assignment can allow us to make causal conclusions.¹⁵²

Another issue with the educational research is that sex-segregated schools differ from coeducational schools on a number of different dimensions—including funding levels, curricula, ability tracking, and teacher characteristics—obscuring our ability to determine if the single variable of sex segregation truly caused differing outcomes.¹⁵³ Even if a study concludes a single-sex environment has a better outcome, the sex of the students is hardly the only thing going on in a classroom.¹⁵⁴ Relatedly, coeducational schools which are split into single-sex schools may owe their success to the Hawthorne effect, which is essentially that being singled out and made to feel special will cause an improvement in student performance.¹⁵⁵

Given the inherent limitations and equivocal results of the educational research, the question of whether or not single-sex programs are capable of dispelling gender stereotypes requires a look into experimental social and developmental psychology research. The following Part examines the basic building blocks of stereotypes: how they are formed, how they are reinforced, and in what situations they flourish.

150. Pamela Haag, *Single-Sex Education in Grades K-12: What Does the Research Tell Us?*, in *SEPARATED BY SEX: A CRITICAL LOOK AT SINGLE-SEX EDUCATION FOR GIRLS* 13, 14–15 (1998).

151. See OFFICE OF PLANNING, EVALUATION & POLICY DEV., *supra* note 128, at 88 (explaining that because at least some teachers working in single-sex schools do so because they believe in the concept, random assignment of teachers to classrooms would be necessary for a controlled, truly randomized experiment); Patricia B. Campbell & Ellen Wahl, *What's Sex Got to Do with It? Simplistic Questions, Complex Answers*, in *SEPARATED BY SEX: A CRITICAL LOOK AT SINGLE-SEX EDUCATION FOR GIRLS*, *supra* note 150, at 63, 69 (discussing the importance of controlling for curriculum, teacher expectations, and pedagogy).

152. See Leland Wilkinson & The Task Force on Statistical Inference, *Statistical Methods in Psychology Journals: Guidelines and Explanations*, 54 AM. PSYCHOLOGIST 594, 596 (1999) (“Random assignment . . . allows for the strongest possible causal inferences free of extraneous assumptions.”).

153. Haag, *supra* note 150, at 14–15.

154. Patricia B. Campbell & Jo Sanders, *Challenging the System: Assumptions and Data Behind the Push for Single-Sex Schooling*, in *GENDER IN POLICY AND PRACTICE: PERSPECTIVES ON SINGLE-SEX AND COEDUCATIONAL SCHOOLING* 31, 33–34 (Amanda Datnow & Lea Hubbard eds., 2002).

155. OFFICE OF PLANNING, EVALUATION & POLICY DEV, *supra* note 128, at 88.

III. The Psychology of Stereotyping

A. *The Basic Structure: Stereotypes as Generalizations*

We think of stereotypes as invidious, corrosive, hateful attitudes that only bigots endorse.¹⁵⁶ We assume stereotypes are the attitudes that give rise to outright racism and sexism: assuming women are best at being homemakers or Mexicans are lazy. This explains why psychologists originally thought stereotyping was the result of dysfunctional or inferior judgment.¹⁵⁷ But recently psychologists have accepted that stereotypes are a normal cognitive process¹⁵⁸ and are therefore held by each and every human being to some degree.¹⁵⁹ Stereotypes are simply a product of our brain's most basic cognitive functions of categorization and generalization.¹⁶⁰

Categorization is “making a group out of items that share some characteristics.”¹⁶¹ For example, the first time a child sees a horse, she might point and say “cow.” After all, a horse also has four legs and lives on a farm. This is until the child learns cows are a separate category of animal, with features distinct from horses. From then on, the child will immediately ascribe cow characteristics—tasty to eat, say “moo”—whenever she identifies an animal as a cow. Once these categories are constructed, the brain is able to use minimal energy to ascribe individual features to every member of the category.¹⁶² Thus, categorization is crucial to both our ability to comprehend and adapt to a complex world.¹⁶³

Stereotypes are a product of this natural categorization process.¹⁶⁴ Simply defined, “stereotypes are qualities perceived to be associated with particular groups or categories of people.”¹⁶⁵ As our brains categorize groups of people, we ascribe to them similar qualities, which may be positive or negative.¹⁶⁶ The mere process of categorizing increases our perception of differences between categories and increases our perceptions

156. See ANDERSON, *supra* note 6, at 1–4 (discussing how bigots are identified through the use of stereotypes).

157. Martin & Halverson, *supra* note 7, at 1119.

158. *Id.* at 1120.

159. See DAVID J. SCHNEIDER, *THE PSYCHOLOGY OF STEREOTYPING* 64 (2004) (stating that “stereotyping is categorization” and that categorization is “ubiquitous”).

160. Martin & Halverson, *supra* note 7, at 1120.

161. ANDERSON, *supra* note 6, at 31.

162. SCHNEIDER, *supra* note 159, at 64.

163. David L. Hamilton & Tina K. Trolie, *Stereotypes and Stereotyping: An Overview of the Cognitive Approach*, in *PREJUDICE, DISCRIMINATION, AND RACISM* 127, 128 (John F. Dovidio & Samuel L. Gaertner eds., 1986).

164. Martin & Halverson, *supra* note 7, at 1120.

165. SCHNEIDER, *supra* note 159, at 24 (emphasis omitted).

166. *Id.* at 19.

of similarities between members of the group.¹⁶⁷ In short, as soon as we separate cows and horses in our minds, we are more aware of the differences between cows and horses, and also more aware of the similarities all cows share.

The category of sex is particularly susceptible to stereotyping for a number of reasons. First, every society has long been organized along the category of sex, assigning attributes, motivations, and professions based on sex.¹⁶⁸ We also consider sexes as “opposite,” which serves to emphasize the distinctness of the “boy” and “girl” categories and imply what is good for boys is not good for girls and vice versa.¹⁶⁹ Furthermore, the sex category label is commonly reinforced over other category labels.¹⁷⁰ For example, teachers often greet their classes with “Good morning boys and girls” and ask children to line up by sex, whereas teachers never greet their classes with “Good morning Whites and Latinos” nor do they line up their classes by race.¹⁷¹ However, the fact that we are all hardwired to think categorically does not mean stereotypes are therefore fixed and unpreventable. The content of our categories, as well as the meaning and significance of those categories, is socially constructed and subject to change.¹⁷²

B. Implicit Bias: Where Stereotypes Thrive Beyond the Conscious Mind

Though it is becoming less and less acceptable to explicitly accept stereotypes,¹⁷³ we continue to apply stereotypes without consciously accepting them because we are so hardwired for categorization.¹⁷⁴ For example, even if an individual explicitly disagrees that women are more compassionate, cooperative, and nurturing than men, she may still hold to these stereotypes *implicitly*, beyond the reach of her conscious mind. Studies show we are much quicker to associate female names with

167. *Id.* at 64, 108; W. Doise et al., *The Accentuation of Intra-Category Similarities, in DIFFERENTIATION BETWEEN SOCIAL GROUPS: STUDIES IN THE SOCIAL PSYCHOLOGY OF INTERGROUP RELATIONS* 159, 159, 165 (Henri Tajfel ed., 1978).

168. Sandra Lipsitz Bem, *Gender Schema Theory: A Cognitive Account of Sex Typing*, 88 *PSYCHOL. REV.* 354, 354 (1981).

169. See Campbell & Sanders, *supra* note 154, at 36 (indicating that the rationale for single-sex education is the assumption that girls and boys are “opposite sexes”).

170. Rebecca S. Bigler & Lynn S. Liben, *A Developmental Intergroup Theory of Social Stereotypes and Prejudice*, in 34 *ADVANCES IN CHILD DEVELOPMENT AND BEHAVIOR* 39, 46 (Robert V. Kail ed., 2006).

171. *Id.*

172. ANDERSON, *supra* note 6, at 31.

173. See *id.* at 2.

174. See Patricia G. Devine, *Stereotypes and Prejudice: Their Automatic and Controlled Components*, 56 *J. PERSONALITY & SOC. PSYCHOL.* 5, 15 (1989) (stating that “automatic stereotype activation” occurs because people cannot perceive all aspects of a situation or their behavior).

communal words such as “connected” and “supportive” and male names with agentic words such as “individualistic” and “competitive.”¹⁷⁵ When required to associate female names with agentic words and male names with communal words, however, we have a much harder time and our reaction time slows.¹⁷⁶ These kinds of studies reveal our implicit stereotypes; “connected” and “Susan” fits into our ingrained category for women, whereas “competitive” and “Helen” gives us pause.

So what does it matter if we hold on to these stereotypes implicitly as long as we don’t explicitly accept them? It matters because implicit categories and associations can still dictate our actions and perpetuate those same stereotypes. For example, a recent, widely publicized study randomly assigned groups of scientists to evaluate one of two job applications for a lab-manager position.¹⁷⁷ The only difference between the applications was that half were from an applicant named “Jennifer” and the other half were from an applicant named “John.”¹⁷⁸ The scientists evaluating the “Jennifer” applications rated the applicant as less competent, less hireable, and offered her a lower starting salary than the scientists who rated the “John” application.¹⁷⁹ Even though these scientists were likely not overtly sexist, they were unconsciously influenced by the pervasive cultural stereotype that women are less competent in math and science than men.¹⁸⁰

Another important way that stereotypes implicitly influence our behavior and perpetuate themselves is they contain predictions of outcomes that in turn become self-fulfilling prophecies. In other words, if we expect an outcome, we will subconsciously shape our behavior to bring about the outcome. In a classic study, psychologist Robert Rosenthal told teachers in an elementary school that certain students (chosen at random by the experimenters) were “growth spurters” based on a fictitious ability test and the teachers could expect greater intellectual development from them.¹⁸¹ A year later, the younger growth spurters actually tested at a significantly higher IQ than they had at the start of the study.¹⁸² The authors posited that the teachers gave more attention to the growth spurters, which fostered more intellectual growth in those children.¹⁸³ In short, the teachers’ expectations shaped the children’s abilities to that which was predicted.

175. FINE, *supra* note 82, at 3–5.

176. *Id.*

177. Corinne A. Moss-Racusin et al., *Science Faculty’s Subtle Gender Biases Favor Male Students*, 109 PROC. NAT’L ACAD. SCI. 16,474, 16,478 (2012).

178. *Id.*

179. *Id.* at 16,477.

180. *Id.*

181. Robert Rosenthal & Lenore Jacobson, *Pygmalion in the Classroom*, URB. REV., Sept. 1968, at 16, 16.

182. *Id.* at 17–18.

183. *Id.* at 20.

If our behavior is driven by expectations that in turn elicit behavior that conforms to what we expect, there are great implications for teacher expectations that are driven by stereotypes. For example, if a teacher expects that girls will excel at reading and not math, this study suggests teachers will unconsciously conform their behavior to bring about a stereotype-affirming result.

As we have seen, stereotypes live beyond the reach of our conscious mind and, once rooted, are self-affirming. The development of stereotypes in children is particularly problematic, as implicit stereotypes are well-established beliefs developed in childhood and are thereafter very difficult to change.¹⁸⁴ Even though many parents assume their children do not develop stereotypes and prejudices until society points them out to the children when they are older,¹⁸⁵ children actually begin to develop stereotypes as young as five years old.¹⁸⁶ The following discussion will examine the most informative psychological theories of how stereotypes develop in our social world and in what circumstances they thrive.

C. *Group Bias: The Building Blocks for Stereotype Formation*

Both children and adults favor members of groups to which they belong (in-groups) and disfavor members of groups to which they do not belong (out-groups).¹⁸⁷ Even when people are randomly assigned to groups that otherwise have no meaning, they ascribe more positive attributes to their in-group than the out-group.¹⁸⁸ For example, psychologist Rebecca Bigler found that when children were divided into two color groups, given blue or yellow t-shirts to signify their membership to the groups, and teachers distinguished children based on group membership, children thought members of their color group were nicer, friendlier, and smarter than the children in the other color group.¹⁸⁹ Similarly, psychologist Kimberly Powlishta found that boys and girls favored their own sex by

184. See Devine, *supra* note 174, at 6 (explaining that stereotypes established in children's memories are more likely to be accessed than later-developed personal beliefs about the unacceptability of certain stereotypes).

185. PO BRONSON & ASHLEY MERRYMAN, *NURTURESHOCK: NEW THINKING ABOUT CHILDREN* 52 (2009).

186. Bigler & Liben, *supra* note 170, at 43.

187. Vernon L. Allen & David A. Wilder, *Categorization, Belief Similarity, and Intergroup Discrimination*, 32 J. PERSONALITY & SOC. PSYCHOL. 971, 975 (1975); Marilyn B. Brewer & Madelyn Silver, *Ingroup Bias as a Function of Task Characteristics*, 8 EUR. J. SOC. PSYCHOL. 393, 399 (1978).

188. Rebecca S. Bigler et al., *Social Categorization and the Formation of Intergroup Attitudes in Children*, 68 CHILD DEV. 530, 539 (1997).

189. See *id.* at 534–35, 539 (indicating that students divided into blue and yellow groups were more likely to predict in-group members to win hypothetical contests and to receive a higher number of beans for good behavior).

ascribing more positive characteristics as typical to their own group, with girls being even more prone to same-sex favoritism.¹⁹⁰

In addition to ascribing more positive characteristics to in-group members and more negative characteristics to out-group members, people think all members of the out-group are homogenous,¹⁹¹ which has been dubbed the “they all look alike” phenomena.¹⁹² Perceived homogeneity of the out-group is simply reliance on the stereotypes associated with the group.¹⁹³ As an illustration of this principle, psychologist Bernadette Park found that when male and female subjects were asked what percentage of women would endorse stereotypic statements about their sex (“I often tell those close to me how much I care for them”) and counter-stereotypic statements about their sex (“I often seek out competitive challenges—whether intellectual or athletic”), male subjects said more women would endorse the stereotypic personality items.¹⁹⁴ By contrast, female subjects perceived more variability within their own group and said a lower percentage of women would endorse the stereotypic items.¹⁹⁵ Furthermore, when subjects were judging members of the out-group (male subjects judging women and female subjects judging men), the subjects ascribed either more negative attributes or less positive attributes to the out-group.¹⁹⁶ In sum, our natural cognitive processes of categorization inevitably result in assigning negative attributes to those unlike ourselves and then generalizing those negative attributes to apply to all members of the group.

Group bias also impacts memory, which in turn reinforces the bias. People tend to remember information about ways in-group members are similar to themselves and out-group members are dissimilar to themselves.¹⁹⁷ People also tend to remember when members of the out-group act in a negative way more than when members of the in-group do the same.¹⁹⁸ This filtering of information justifies group bias once it is established.¹⁹⁹ In short, we naturally develop and maintain negative generalizations, or stereotypes, regarding groups to which we do not belong.

These group biases become more pronounced when membership to the group is salient—that is, when the groups become noticeable or

190. Kimberly K. Powlishta, *Gender Bias in Children's Perceptions of Personality Traits*, 32 *SEX ROLES* 17, 24–26 (1995).

191. Bernadette Park & Myron Rothbart, *Perception of Out-Group Homogeneity and Levels of Social Categorization: Memory for the Subordinate Attributes of In-Group and Out-Group Members*, 42 *J. PERSONALITY & SOC. PSYCHOL.* 1051, 1066 (1982).

192. ANDERSON, *supra* note 6, at 24–28.

193. Park & Rothbart, *supra* note 191, at 1054.

194. *Id.* at 1056 tbl.1, 1056–58.

195. *Id.* at 1057 fig.1, 1057–58.

196. *Id.* at 1058.

197. Hamilton & Trolie, *supra* note 163, at 132.

198. *Id.* at 132–33.

199. *Id.* at 132.

important.²⁰⁰ To illustrate, Rebecca Bigler found that children simply labeled as either “red” or “green” did not develop in-group biases,²⁰¹ whereas children who wore t-shirts indicating their color group did develop biases.²⁰² Because sex can be easily perceived, like t-shirt color, it is inherently susceptible to group biases.

Furthermore, how a classroom is organized can impact the salience of group membership, thereby increasing the endorsement of stereotypes. In classrooms where teachers used extensive gender labels to organize classrooms (segregating seating by sex, lining children up by sex, and referring to gender frequently: “Jack, be a good helper for the boys,” or “All the girls put their bubble-makers in the air”), students were more likely to endorse gender stereotypes by labeling occupations as “only [for] men” or “only [for] women” than in classrooms where teachers refrained from labeling by gender.²⁰³ Similarly, another more recent study found that not only were preschool children in the high-gender-salience condition more likely to endorse gender stereotypes, they were also less likely to choose to play with peers of the opposite sex.²⁰⁴

This research begs the question: Does complete segregation of the sexes make group membership more salient, thus promoting the development of stereotypes, or does segregation make group membership less salient? Arguably, a single-sex environment makes membership less salient because the other sex is not around to remind the group members of their differences. For example, if pupils of an all-girls school never see a boy in math class, they are not reminded that boys are supposed to be better at math.

But psychologists have found the opposite: membership to a group becomes *more* salient when groups are segregated based on observable characteristics.²⁰⁵ For example, a study assigned children to novel social groups based on t-shirt color in either segregated (all red or all blue shirts) or integrated (both blue and red shirts) summer-school classrooms.²⁰⁶ After several weeks, the children segregated by t-shirt color developed more in-group biases than the integrated classrooms.²⁰⁷ Furthermore, other children

200. Bigler & Liben, *supra* note 170, at 62.

201. Rebecca S. Bigler, *The Role of Classification Skill in Moderating Environmental Influences on Children's Gender Stereotyping: A Study of the Functional Use of Gender in the Classroom*, 66 CHILD DEV. 1072, 1084 (1995).

202. Bigler et al., *supra* note 188, at 539.

203. Bigler, *supra* note 201, at 1077, 1083.

204. Lacey J. Hilliard & Lynn S. Liben, *Differing Levels of Gender Salience in Preschool Classrooms: Effects on Children's Gender Attitudes and Intergroup Bias*, 81 CHILD DEV. 1787, 1794 (2010).

205. Bigler & Liben, *supra* note 170, at 66–67.

206. *Id.* at 67.

207. *Id.*

who observed the red and blue groups playing with only their color were more likely to endorse the belief that members of the groups disliked each other and state they would behave in an antisocial manner toward out-group members.²⁰⁸ Similarly, another study found that when seating patterns of “A” and “B” group members were integrated (ABABABABAB), members merged their groups as a unit, showed less intergroup bias in leader choice, and cooperated more than members of segregated (AAAABBBB) groups.²⁰⁹

Separating boys and girls on the basis of sex maximizes intergroup bias, which carries with it a number of consequences, all of which reinforce stereotypes. When separated, boys and girls are more likely to view the opposite sex as homogenous and ascribe gender stereotypes to all members of the group. These stereotypes become rooted and difficult to dispel because boys and girls will remember when the opposite sex conforms to the stereotype, but not when he or she challenges it. Though we naturally develop these stereotypes, they especially thrive when individuals are segregated.

D. *Sex Typing: A Stereotyping Guide*

Because all societies allocate roles, attributes, and tasks on the basis of gender, children are required to view themselves through the lens of gender.²¹⁰ Psychologist Sandra Bem argues that children create elaborate networks of associations called schemas, which embody what it means to be masculine or feminine and incorporate features such as anatomy, division of labor, and personality attributes.²¹¹ Because of the importance society places on masculine and feminine distinctions, she argues, children selectively choose to promote attributes that conform to their sex, using the schema as a prescriptive standard or guide.²¹² The more an individual organizes information on the basis of gender and promotes the gender schema, the more “sex-typed” the individual becomes.

This theory finds support in a number of ways. First, girls and boys value and judge their competence in academic domains along the lines of cultural stereotypes.²¹³ Boys think they are more competent in the areas of

208. Meagan M. Patterson & Rebecca S. Bigler, *Relations Among Social Identities, Intergroup Attitudes, and Schooling: Perspectives from Intergroup Theory and Research*, in *CONTESTING STEREOTYPES AND CREATING IDENTITIES: SOCIAL CATEGORIES, SOCIAL IDENTITIES, AND EDUCATIONAL PARTICIPATION* 66, 75–76 (Andrew J. Fuligni ed., 2007).

209. Samuel L. Gaertner & John F. Dovidio, *Prejudice, Discrimination, and Racism: Problems, Progress, and Promise*, in *PREJUDICE, DISCRIMINATION, AND RACISM*, *supra* note 163, at 315, 327 fig.1, 326–29.

210. Bem, *supra* note 168, at 354.

211. *Id.* at 354–55.

212. *Id.* at 355.

213. Jacquelynne Eccles et al., *Age and Gender Differences in Children's Self- and Task Perceptions During Elementary School*, 64 *CHILD DEV.* 830, 844 (1993).

math and sports, while girls think they are more competent in music and reading.²¹⁴ Boys aspire to jobs traditionally stereotyped as masculine, while girls aspire to jobs traditionally stereotyped as feminine.²¹⁵ For example, a male student is less likely to consider nursing as a career and a female student is less likely to consider computer programming as a career.

Furthermore, segregation promotes sex-typing. Psychologists have found that when children are segregated by sex, both boys and girls exhibit more sex-differentiated behavior.²¹⁶ In one study psychologists found that the “[c]hildren who spent more time with same-sex peers experienced more opportunities and/or stronger pressures to conform to gender-related behaviors than did children who spent less time with same-sex peers.”²¹⁷ Boys who played with only boys became “rougher, more aggressive, and more active in their play,” whereas girls who played with only girls showed “lower activity levels” and a “calmer style” of play.²¹⁸ Similarly, others found that girls who have older brothers are less likely to exhibit sex-typed play than girls who do not.²¹⁹ That is, the girls with an older brother were likely to choose to play with trucks instead of dolls and dishes.²²⁰ Again, we see that segregation from peers of the opposite sex leads to the development of more sex-stereotyped behaviors and attitudes.

E. *The Dangers of Sex Stereotyping*

So what is the problem if boys behave like boys and girls behave like girls? The problem is that when stereotypes go unchallenged and we assume (consciously or not) certain roles and attributes for the sexes, both men and women’s opportunity to choose a life outside of those roles is restricted. As the female applicant to the Virginia Military Institute had a military education closed off to her, the applicant to the Mississippi University’s Nursing School had the nursing profession closed to him. And now, even though those programs may be open to both genders, stereotypes shape our perceptions of what choices are available to us. Once children learn the stereotypical roles for men and women, their behavior and thinking are confined to what are perceived as sex-appropriate ways of operating.

214. *Id.*

215. Lynn S. Liben et al., *Pink and Blue Collar Jobs: Children’s Judgments of Job Status and Job Aspirations in Relation to Sex of Worker*, 79 J. EXPERIMENTAL CHILD PSYCHOL. 346, 347 (2001).

216. Carol Lynn Martin & Richard A. Fabes, *The Stability and Consequences of Young Children’s Same-Sex Peer Interactions*, 37 DEVELOPMENTAL PSYCHOL. 431, 443 (2001).

217. *Id.*

218. *Id.* at 443–44.

219. Brenda A. Henderson & Sheri A. Berenbaum, *Sex-Typed Play in Opposite-Sex Twins*, 31 DEVELOPMENTAL PSYCHOBIOLOGY 115, 117–18 (1997).

220. *Id.*

As much as we would all like to believe sex equality was achieved in the 1970s, sex roles continue to restrict opportunity for everyone. This continued adherence to sex roles is clearly manifested in the “gender gap” between men and women in the workforce. Women continue to be relegated to traditionally female jobs that pay less than traditionally male jobs²²¹ and they enjoy lesser status in those jobs.²²² Even if women do work in traditionally male-dominated jobs, they are rarely seen in the upper ranks.²²³ A large cause of these disparities is that childcare continues to be a female responsibility and often requires female workers to quit or work part-time, both of which hinder their advancement in a society that rewards only full-time, continuous work.²²⁴ By contrast, men are expected to work full-time and have less flexibility to choose to stay home with their kids.²²⁵ Just as women have less opportunity to pursue careers like carpentry and computer programming, men have less opportunity to choose careers such as nursing—or alternatively, to choose to stay home and act as primary caregiver for their children.

It’s also important to note that reinforcing sex as a rigid binary is particularly problematic for those who do not fall into traditional sex roles because they are intersex, transgender, or gender nonconforming.²²⁶ Assuming “natural” binary sex roles also endorse heteronormativity, contributing to the lack of acceptance of same-sex affection.²²⁷

Reinforcing gender stereotypes in children has ripple effects that define the limits and opportunities of men and women in our country. In a pluralistic society, we have to make room for those who either feel they do not fit the mold of sex roles or aspire to an existence outside their prescriptions.

IV. Implications of the Research: Beyond the Lab and Into the Courtroom

The psychology research indicates sex segregation in schools fuels the fire for sex stereotypes, which makes sex segregation illegal under Title IX and the Fourteenth Amendment. But, thus far, the research has done little to stem the tide of single-sex schools. Though psychology research on the

221. ROBERT L. KAUFMAN, RACE, GENDER, AND THE LABOR MARKET: INEQUALITIES AT WORK 3 (2010).

222. Liben et al., *supra* note 215, at 356.

223. JOAN WILLIAMS, UNBENDING GENDER: WHY FAMILY AND WORK CONFLICT AND WHAT TO DO ABOUT IT 67 (2000).

224. *Id.* at 70–75.

225. *See id.* at 25–30 (explaining that most men feel confined to the breadwinning role, which requires them to act as “ideal workers” and precludes them from being available to care for their children).

226. Jackson, *supra* note 80, at 230–31.

227. *Id.* at 232.

impact of sex segregation is now included in the debate,²²⁸ the dialogue still centers on educational achievement and promoting school choice rather than the perpetuation of stereotypes.²²⁹

At first glance, the fact that these experimental psychological studies have been largely overlooked in the coeducational-versus-single-sex constitutional debate makes little sense, especially when we start with a look at the Supreme Court's seminal educational segregation case: *Brown v. Board of Education*.²³⁰ In *Brown*, psychological research on the impact of race-segregated schools played a pivotal role, leading the Court to conclude that separate facilities for black and white children taught black children they were inferior and interfered with their learning.²³¹ So why has the research failed to rule out segregation on the basis of sex when the Supreme Court relied on the same research to eliminate segregation on the basis of race in *Brown*?

One practical consideration is that since its opinion in *Brown*, the Court has largely retreated from any reliance on empirical psychological research,²³² likely in reaction to criticism of the role of psychological research in the *Brown* opinion.²³³ Even in the context of its sex-discrimination opinions, the Court has expressed skepticism as to the utility of empirical research.²³⁴ Charles R. Lawrence suggests that this skepticism is due in part to the inability of most empirical research to show causation.²³⁵ For example, a study on students' performance in segregated

228. Halpern et al., *supra* note 93, at 1707.

229. See, e.g., Sommers, *supra* note 26 (reciting educational studies suggesting that students at single-sex schools scored higher on standardized tests and emphasizing that students freely chose to attend single-sex schools).

230. 347 U.S. 483 (1954).

231. *Brown*, 347 U.S. at 494. The most famous studies cited by the Court were conducted by psychologist Kenneth B. Clark. *Id.* at 494 n.11. Clark found that when offered a choice to play with a white or black doll, the majority of black children preferred the white doll, even as young as three years old. KENNETH B. CLARK, PREJUDICE AND YOUR CHILD 22–23 (2d ed. 1963). Many of the children explained their choice, saying the white doll was “pretty” while the black doll was “dirty” and “ugly.” Kenneth B. Clark & Mamie P. Clark, *Emotional Factors in Racial Identification and Preference in Negro Children*, 19 J. NEGRO EDUC. 341, 347–48 (1950). Clark posited that these results were manifestations of the inferiority black children feel as a result of state-enforced segregation. CLARK, *supra*, at 45–49.

232. See J. Alexander Tanford, *The Limits of a Scientific Jurisprudence: The Supreme Court and Psychology*, 66 IND. L.J. 137, 138 (1990) (noting that the Court looks upon empirical research on jury behavior with “distrust and suspicion”).

233. See RICHARD KLUGER, SIMPLE JUSTICE: THE HISTORY OF *BROWN V. BOARD OF EDUCATION* AND BLACK AMERICA'S STRUGGLE FOR EQUALITY 714 (2004) (quoting columnist James Reston as saying that “[t]he Court's opinion read more like an expert paper on sociology than a Supreme Court opinion”).

234. See *Craig v. Boren*, 429 U.S. 190, 204 (1976) (“[T]his merely illustrates that proving broad sociological propositions by statistics is a dubious business, and one that inevitably is in tension with the normative philosophy that underlies the Equal Protection Clause.”).

235. Charles R. Lawrence III, *The Id, the Ego, and Equal Protection: Reckoning with Unconscious Racism*, 39 STAN. L. REV. 317, 360–61 (1987).

versus desegregated environments can't conclude that the environment *caused* any increase in achievement, only that the two are correlated.²³⁶ But as discussed in Part III, this inability to show causation is not a problem with this body of research. Each study is experimental in nature, randomly assigning subjects to conditions in which only one variable is altered so that the cause of any differences in outcomes between the groups is evident. Reluctance to apply the findings based on the inability to show a causal link is misplaced.

Moreover, failing to take this experimental psychological research into account would be even more of a mistake in the context of sex discrimination. While the race-discrimination inquiry has become limited to the question of whether or not the state classified on the basis of race, the sex-discrimination inquiry has evolved to require an analysis of stereotypes: an inherently psychological phenomenon. To ignore the research that explains the nature and operation of stereotypes is to fail to answer truly the constitutional question presented by single-sex institutions.

Even though the psychological research has not yet played the same part as it did in the race-segregation context, it is highly relevant to the pivotal question: whether or not single-sex education can work to combat sex stereotypes. While more research exploring the connection between stereotypes and sex segregation is certainly needed, it's time that this important piece of the discussion took a more central role.

Conclusion

While sex-segregated schools rapidly proliferate across the United States, the debate has focused primarily on academic outcomes and failed to address the overarching constitutional question: whether or not single-sex schools can avoid perpetuating sex stereotypes. The answer to this question, as we have seen, is no. Psychological research shows us that group bias and sex typing are very real phenomena that create and reinforce stereotypes in both adults and children, and these biases are amplified still further in segregated environments. In short, because sex-segregated schools promote sex stereotypes by the very nature of their segregation, they are unconstitutional under *United States v. Virginia*.

If we value equality of the sexes, it is crucial to encourage a society where boys can play dress up and become beauticians, and girls can roughhouse and become welders. That starts with changing our policies and laws so they discourage, rather than reinforce, gender stereotypes.

—Kelsey R. Chapple

236. *Id.* at 360–61, 361 n.204.