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Carolyn B. Ramsey
University of Colorado Law School

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SUBTRACTING SEXISM FROM THE CLASSROOM: 
LAW AND POLICY IN THE DEBATE OVER ALL-
FEMALE MATH AND SCIENCE CLASSES IN 
PUBLIC SCHOOLS

Carolyn B. Ramsey*

I. Introduction

In his dissent in United States v. Virginia, Justice Scalia pronounced single-sex public education “functionally dead.” He warned that, despite “the illusion that government officials in some future case will have a clear shot at justifying some sort of single-sex public education,” the invalidation of Virginia’s separate military training for men and women could not be limited to its facts. Even if the majority left room to defend other single-sex programs, he predicted, “[t]he costs of litigating [their] constitutionality . . . and the risks of ultimately losing that litigation . . . are simply too high to be embraced by public officials.” In fact, when the Supreme Court ruled against the Virginia Military Institute (VMI), school districts had already begun to retreat from single-sex programs, indefinitely postponing plans for three all-male academies in Detroit and eliminating a boys-only kindergarten class in Dade County, Florida.


2. Id. at 2306 (Scalia, J., dissenting).
3. Id. at 2305 (Scalia, J., dissenting).
4. Id. at 2306 (Scalia, J., dissenting).
The Court has not completely foreclosed a remedial rationale for gender classifications benefiting women. However, in the wake of the VMI decision, educators show understandable reluctance to experiment. The campaign to improve adolescent girls' mathematics and science performance by allowing them to enroll in single-sex courses may be the latest casualty of the treacherous legal waters surrounding gender distinctions. Researcher David Sadker calls the handful of all-female math and science programs in public schools nationwide "a secret, underground educational development that people are afraid to talk about because of the legal repercussions." From Ventura, California, to Presque Isle, Maine, officials have modified or abandoned girls-only classes in the face of potential lawsuits or threatened withdrawal of federal financial support. For example,

that the exclusion of girls was not substantially related to the goal of remedying the educational and cultural crisis facing black boys and that the school district provided different benefits to boys and girls in violation of Title IX; see also Elaine Ray, All-Male Black Schools Put on Hold in Detroit; Girls Will be Admitted After Court Challenge, BOSTON GLOBE, Sept. 1, 1991, at A16; Hillary Stout, ACLU, NAACP, and NOW All Give Poor Marks to Plans to Help Inner-City Black Male Students, WALL ST. J., Sept. 10, 1991, at A22.

6. See Mississippi Univ. for Women v. Hogan, 458 US 718, 728 (1982) ("It is readily apparent that a State can evoke a compensatory purpose to justify an otherwise discriminatory classification only if members of the gender benefited by the classification actually suffer a disadvantage related to the classification.") But cf. id. at 733 (Burger, J., dissenting) (contending that the majority's invalidation of an all-female nursing program that stereotyped nursing as a woman's job should not apply to fields in which women face discrimination).

7. See Laurie J. Scott, Mathematics Class is Minus Boys: Blue Springs High School Tests Whether Girls Learn Better on Their Own, KAN. CITY STAR, Sept. 13, 1997, at C1 ("[A]ccording to the American Association of University Women, there may be fewer than two dozen all-girl math or science classes in public schools nationwide.").


9. See Riechmann, supra note 8, at 36 (noting that state and local officials ordered the termination of a single-sex experiment at Myrtle Middle School in Irvington, New Jersey, in 1995, due to concerns that it violated state and federal laws); Maia Davis, Math Minus Boys: Reports of Teaching Bias Prompt Classes for Girls Only, L.A. TIMES, Nov. 8, 1993, at 3 (reporting that California officials directed Ventura High School in Ventura, California, to make participation in its pilot math program voluntary and available to boys); Morning Edition: Harlem All-Girls School Scrutinized After VMI Ruling, (National Public Radio, Segment 14, Show 1939, Aug. 21, 1996) (discussing the decision to allow male students in Anacapa Middle School's special math classes); Presque Isle, Maine, Teaches Girls Math in Single-sex Classes and Their Stats Improve, but Civil Rights Activists are Balking, (NBC Nightly News broadcast, June 24, 1995) [hereinafter Presque Isle] (reporting that Presque Isle opened its math classes to boys when a complaint was filed with the U.S. Office of Civil Rights).
an experimental math course at Anacapa Middle School in Ventura now accepts male students (though none has applied), and it bears the new title "Math PLUS—Power Learning for Underrepresented Students." This change of heart and educational lingo arises from confusion in the law.

The debate over the legality of single-sex math and science classes in public schools is fascinating because it illuminates tensions between three theoretical perspectives: the integrationist or anti-differentiation position; the advocacy of gender preferences in the name of anti-subordination; and the feminist critique of single-sex education’s mixed blessings for women. Anti-differentiation theorists contend that the state should eschew racial or gender distinctions, whether or not such distinctions benefit a subordinated group. In contrast, the anti-subordination argument makes the impact of a classification on the subordinated group the litmus test of its constitutionality: If it combats subordination, it survives; if not, it is invalid. Finally, some feminists acknowledge that single-sex learning fosters female solidarity and self-esteem but worry that the "ghettoization" of schoolgirls will have stigmatic effects in the long-run. Does the Constitution require symmetrical treatment of the sexes—that is, can educational programs exclude men but not women? Does an anti-subordination objective legitimize such asymmetry? Perhaps most fundamentally, should the law forbid segregation itself—or just the stigmas and inequalities sometimes associated with it?

10. See LynNell Hancock & Claudia Kalb, A Room of their Own, NEWSWEEK, June 26, 1996, at 76.

11. See infra note 12 for examples of anti-differentiation arguments. For an example of an anti-subordination argument, see infra note 13. For a feminist perspective, see, for instance, Deborah L. Rhode, Association and Assimilation, 81 N.W.U. L. REV. 106, 143 (1986) ("Separatist education, like other forms of separatist affiliation, offers the virtues and vices of a ghetto: it provides support, solidarity, and self-esteem for subordinate groups, but often at the price of perpetuating attitudes that perpetuate subordination.").

12. See Barbara A. Brown et al., The Equal Rights Amendment: A Constitutional Basis for Equal Rights for Women, 80 YALE L.J. 871, 889 (1971) ("The basic principle of the Equal Rights Amendment is that sex is not a permissible factor in determining the legal rights of women, or of men."); William Van Alstyne, Rights of Passage: Race, the Supreme Court, and the Constitution, 46 U. Chi. L. REV. 775, 809 (1979) ("[O]ne gets beyond racism by getting beyond it now: by a complete, resolute and credible commitment never to tolerate in one's own life—or in the life or practices of one's government—the differential treatment of other human beings by race.").

13. See, e.g., Ruth Colker, Anti-Subordination Above All: Sex, Race, and Equal Protection, 61 N.Y.U. L. REV. 1003, 1015 (1986) ("[U]nder the equal protection framework proposed in this article, it would be permissible for a state actor to use facially differentiating policies to redress subordination; it would not be permissible for a state actor to use facially differentiating policies to perpetuate subordination.").

14. See Rhode, supra note 11, at 143.
Part II of this article examines recent experiments with all-female math and science classes and suggests that they do not violate the Equal Protection Clause of the Fourteenth Amendment. First, I discuss the injury that plaintiffs of each sex might allege. I conclude that it would be difficult for male students to show injury of constitutional magnitude and that, even if such harm could be demonstrated, the state's interest in remedying female disadvantages in math and science would override it. Male plaintiffs would have to argue that they were deprived of a single-sex option, that the state impermissibly took gender into account in structuring public programs, or that the girls' program infringed the boys' constitutional right to integrated schooling. The objective of facilitating gender parity in test scores and enrollment in advanced math and science arguably trumps each of these arguments. A female plaintiff might seek to invalidate the all-female programs on the ground that they contribute to her subordination. According to this view, single-sex math and science classes prepare girls poorly for life in a coed world and imply that the plaintiff as an individual (or females as a group) cannot compete academically with males.¹⁵

The demand for integration poses the most interesting challenge to the pilot programs because it provides an occasion to disentangle the constitutionality of gender segregation from the question of its desirability and to explore whether integrated education is itself a constitutional right. Part II contends that separatism chosen by a subordinated group does not cause the harms against which the Court sought to protect in Brown v. Board of Education.¹⁶

In addition to assessing the importance of the state's remedial objective and the closeness of the fit between the means and the end, Part II also examines the risks inherent in remedial affirmative action programs. Despite the shortcomings of the remedial approach, I conclude that, under current equal protection jurisprudence, the experimental math and science courses bear a substantial relation to the important goal of improving female academic achievement.'¹⁷ Theorists disagree over the wisdom of separating the sexes.¹⁸ However, proponents of single-sex math and science

¹⁵ See, e.g., Riechmann, supra note 8, at 36 (discussing the concerns of NOW Legal Defense and Education Fund attorneys, who believe that "[f]emale math or science classes . . . suggest that girls learn these subjects at a slower pace or that they can't be competitive").

¹⁶ 347 U.S. 483 (1954) (holding that segregation of black and white children in public schools on the basis of race denies equal protection of the laws, even though physical facilities may be equal).


¹⁸ See, e.g., Valerie E. Lee & Helen M. Marks, Sustained Effects of the Single-Sex Secondary School Experience on Attitudes, Behaviors, and Values in College, 82:3 J. EDUC. PSYCHOL. 578-92 (1990) (discovering that girls who go to single-sex high schools
classes can advance concrete evidence to support their position: A growing body of empirical research indicates that male monopolization of class time and the corresponding landslide in girls' self-esteem have detrimental effects on female academic achievement. Although strategies besides segregation might enhance the math and science performance of adolescent girls, intermediate scrutiny does not mandate the least restrictive means for achieving governmental ends. Thus, the courts should not declare the pilot programs unconstitutional.

Part III of this essay explores the uncertain contours of Title IX, the statute that poses the greatest barrier to single-sex classes. The legislative history of Title IX reveals a concern that single-sex education has perpetuated women's exclusion from lucrative, technical jobs, and the text of the statute forbids coeducational schools from offering gender-segregated classes, except in specified circumstances. But that is not the end of the

have a higher orientation toward "challenge and prestige in the workplace," fewer stereotypical views about gender roles, and are more interested in politics than their counterparts from coed schools); Kenneth J. Rowe, Single-sex and Mixed-sex Classes: The Effects of Class Type on Student Achievement, Confidence, and Participation in Mathematics, 32:2 Austl. J. Educ. 180-202 (1988) (noting increased confidence on the part of students in single-sex math classes in a study conducted at Ballarat High School in Victoria, Australia). But see 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 63, 65 (American Association of University Women Educational Foundation eds., 1998) (contending that "there is no clear evidence to support the claim that single-sex classes are better for girls"); Alice McKee, Letter to the Editor, WALL ST. J., Nov. 3, 1992, at A17 (clarifying that the American Association of University Women, of which she is president, did not endorse single-sex education in its study, HOW SCHOOLS SHORTCHANGE GIRLS). See also Hancock & Kalb, supra note 10, at 76 (noting that David Sadker, co-author of the influential study FAILING AT FAIRNESS, disapproves of gender segregation as a long-term strategy).

19. See generally Elizabeth Fennema & Penelope Patterson, Autonomous Learning Behavior: A Possible Explanation of Gender-related Differences in Mathematics, in GENDER INFLUENCES IN CLASSROOM INTERACTION 17 (Louise Cherry Wilkinson & Cora B. Marrett eds., 1985); Elizabeth Fennema, Success in Mathematics, in SEX DIFFERENTIATION AND SCHOOLING 163 (Michael Marland, ed. 1983); Linda Wilson Morse & Herbert M. Handley, Listening to Adolescents: Gender Differences in Science Classroom Interaction, in GENDER INFLUENCES IN CLASSROOM INTERACTION 37 (Louise Cherry Wilkinson & Cora B. Marrett eds. 1985); Rowe, supra note 18; Elizabeth K. Stage et al., Increasing the Participation and Achievement of Girls and Women in Mathematics, Science, and Engineering, in HANDBOOK FORACHING SEX EQUITY THROUGH EDUCATION 237 (Susan S. Klein ed., 1985).


21. See infra note 231 and accompanying text.

22. See 34 C.F.R. § 106.31(b)(2) (1998) (barring the provision of "different aid, benefits, or services in a different manner" on the basis of sex); 34 C.F.R. § 106.34 ("A recipient shall not provide any course or otherwise carry out any of its education program or activity separately on the basis of sex, or require or refuse participation therein by any of its students
story. For a variety of reasons, devoid of theoretical coherence, Congress declined to outlaw existing single-sex elementary and secondary schools without further exploration of their “special qualities” and indicated its willingness to consider new research on gender segregation.\textsuperscript{23} Moreover, despite the legislators’ suspicion of quotas, the implementing regulations for Title IX include limited provisions for remedial and affirmative action programs.\textsuperscript{24} Although constituency politics arguably played the greatest role in the final wording of the statute, there is reason to believe that, given the data we now possess,\textsuperscript{25} Congress would have allowed optional single-sex classes that redress girls’ disadvantages in math and science. A contrary conclusion frustrates Title IX’s purpose of fostering female advancement in male-dominated fields.\textsuperscript{26}

Because voluntary enrollment in single-sex math and science classes does not offend the Fourteenth Amendment, Congress should clarify Title IX to allow it. However, providing greater consistency in the law may open the door to bad policy. Part IV offers a critique of the pilot programs based on current educational and social theories. The literature on math teaching suggests that adolescent girls need a different pedagogical style than that currently used in coeducational classrooms.\textsuperscript{27} Giving girls a room of their own will not raise their test scores or their aspirations if educators retain outmoded attitudes and instructional techniques; indeed, such insularity may actually reinforce male chauvinism by casting girls in the role of “special needs” students. It makes more sense to change the way teachers conduct coed classes than to create single-sex enclaves that do not necessarily eradicate bias.

\begin{itemize}
\item\textsuperscript{23} See 118 CONG. REC. 5804 (Feb. 28, 1972) (speech by Senator Bayh). Senator Bayh admitted, at the time of the Senate vote in 1972, that “[n]o one even knows how many single-sex schools exist on the elementary and secondary levels or what special qualities of the schools might argue for a continued single-sex status.” \textit{Id.} He stated that Congress needed more statistics and other information before it could make a “fully informed decision” about the advisability of barring single-sex admissions in grades K through 12. \textit{See id.} at 5807.
\item\textsuperscript{24} See 34 C.F.R. § 106.3(a)-(b) (1998); see also \textit{infra} notes 247-53 and accompanying text.
\item\textsuperscript{25} \textit{See infra} notes 31-54 and accompanying text.
\item\textsuperscript{26} See 118 CONG. REC. at 5813 (entering into the record a letter from the National Federation of Business and Professional Women’s Clubs, Inc. of the United States of America, which noted that women are “often discouraged from pursuing studies in science, mathematics, business administration—areas in which they could expect better positions and higher pay in our technological society.”).
\item\textsuperscript{27} \textit{See infra} notes 33-37 and accompanying text.
\end{itemize}
Like voluntary racial resegregation, girls-only math classes should not run afoul of the law as long as they are optional and substantially equal\textsuperscript{28} to those offered to boys. Educators can learn valuable lessons about the pedagogical needs of both sexes through short-term exploration of single-sex public education.\textsuperscript{29} However, because female-only classes may be detrimental to both sexes in the long run,\textsuperscript{30} officials should be wary of making them a permanent fixture in public schools.

II. The Constitutionality of All-female Classes in Public Schools Under the Equal Protection Clause

A. Exploring All-female Learning in Math and Science

Recent experiments with all-female math and science drew inspiration from a 1992 report by the American Association of University Women,\textsuperscript{31} which found that adolescent girls suffer a dramatic decline in self-esteem when they enter middle school and that this erosion of confidence stems from the disproportionate attention teachers lavish on boys.\textsuperscript{32} The AAUW report, entitled \textit{How Schools Shortchange Girls}, indicates that the quality of interaction between faculty and female students reaches its nadir in science classes, where teachers ask boys eighty percent more academically-related questions.\textsuperscript{33} In another study, researchers observing a junior high in Mississippi noted that eighth-grade boys received eighty-six percent of the criticism and discipline in science classes and that they monopolized the discussion by yelling out questions and answers.\textsuperscript{34} The fact that teachers allow boys to run rampant in coed classrooms does not bestow an unambiguous benefit on the boys; yet, it \textit{does} appear to have a detrimental effect on girls.

The pattern of ignoring female students begins very early. The 1992 AAUW report suggests that, during preschool and primary grades, boys' relatively retarded verbal skills and low impulse control demand the lion's

\textsuperscript{28} See United States v. Virginia, 116 S. Ct. 2264, 2284 (1996) (concluding that the state had failed to show substantial equality between the adversative model of training at VMI and the program offered by Virginia Women's Institute for Leadership).
\textsuperscript{29} See \textit{infra} note 267 and accompanying text.
\textsuperscript{30} See \textit{infra} notes 268-69 and accompanying text.
\textsuperscript{31} See \textsc{American Association of University Women, AAUW Report, How Schools Shortchange Girls: A Study of Major Findings on Girls in Education} (1992) [hereinafter \textit{How Schools Shortchange Girls}]. Educators credit this report with inspiring the implementation of girls' math classes in Ventura, California, and elsewhere in the country. See Davis, \textit{supra} note 9, at 3.
\textsuperscript{32} See \textit{How Schools Shortchange Girls}, \textit{supra} note 31, at 13, 71.
\textsuperscript{33} See id. at 71.
\textsuperscript{34} See Morse & Handley, \textit{supra} note 19, at 49.
share of their teachers’ energy. Another phenomenon, which is not clearly related to the first one, involves the disparate treatment of male and female students with regard to intellectual independence. Elementary school boys are encouraged to engage in more exploratory and large-motor activities than girls. According to Elizabeth Fennema and Penelope Patterson, the tendency of teachers to encourage independent thought in boys, but not in girls, leaves females radically unprepared to do higher math, where rote memorization rarely suffices.

Moreover, from a young age, male students behave in ways that intimidate and demean females. David and Myra Sadker, the authors of *Failing at Fairness*, present disturbing anecdotal evidence of sexual harassment in the school yard, including the belittling of smart girls, who are often accused of wearing short skirts to earn their As. The 1993 AAUW study *Hostile Hallways* estimates that eighty-one percent of adolescent females have been sexually harassed at school and that thirty-three percent of them felt so disturbed by the experience that they no longer wanted to talk in class. Girls who do not perceive the sexualization of the classroom as harassment may still suffer in profound ways from peer pressure to be pretty rather than smart. Educators, especially those at the classroom level, cite the havoc wreaked by hormones as a compelling reason to keep girls and boys apart during their adolescent years.

Three patterns can be distilled from recent research in the United States, England, and Australia on the underrepresentation of females in math- and science-related professions. First, although women have made inroads into traditionally male fields like law, they lag far behind in those requiring higher math. Men receive ninety-one percent of all engineering

36. See Fennema & Patterson, supra note 19, at 21-22, 27, 30.
37. See id. at 27.
38. See Sadker & Sadker, supra note 8, at 108.
39. See id. at 111-12 (citing *American Association of University Women, Hostile Hallways: The AAUW Survey on Sexual Harassment in America’s Schools* (1993)).
40. See, e.g., *Middle School to Separate Kids by Gender*, GRAND RAPIDS PRESS, Mar. 30, 1997, at B3 (In one principal’s opinion, single-sex classes are advisable because, “when the boys discover the girls don’t have cooties,” they become “more interested in one another than they are in school”); Davis, supra note 9, at 3 (reporting that, according to another principal, adolescents become obsessed with their hair, clothes, and acne but that, in single-sex classes, “they’re more focused on the math”). Of course, the conviction that single-sex education will solve problems created by raging hormones overlooks the sexual tensions affecting homosexual and bisexual youths. Indeed, the literature favoring single-sex classes is notable for its ignorance of issues of sexual orientation. See Campbell & Wahl, supra note 18, at 67 (criticizing proponents of single-sex education for making assumptions that deny the existence of bisexual and homosexual adolescents).
doctorsates and occupy ninety-eight percent of faculty positions in engineering schools. At a growth rate of one percent per year, the numbers of men and women in engineering jobs will not reach parity until the year 2020.

Second, researchers attribute these depressing statistics to sex discrimination in grades K through 12. Sex differences in math and science achievement seem to derive from socialization, rather than from inherent disparities in intelligence or spatial skills. Deficient math training and career counseling in secondary schools function as a "critical filter," inhibiting women's entry into science and engineering at the university level. Fennema writes that "[w]hen young girls feel mathematics is inappropriate for females, they will feel anxious about succeeding in it, as they must, at least partially, deny their femininity in order to achieve in mathematics."

Finally, gender disparities in math and science performance increase during the secondary school years. By the twelfth grade, boys show advantages in physics, chemistry, earth and space science, and every math subject except algebra. Girls' standardized test scores do not keep pace with their grade-point averages, nor do high marks in lower-level courses translate into enrollment in calculus or advanced placement physics. Indeed, girls may drop out of college-preparatory or pre-professional math and science tracks before they cease to understand the subject matter because they lack female role models and encouragement from parents and teachers.

Ironically, the AAUW does not recommend single-sex education. But other researchers cautiously embrace separate instruction of boys and

41. See Sadker & Sadker, Failing at Fairness, supra note 8, at 166-67.
42. See Stage et al., supra note 19, at 237.
43. See Fennema, supra note 19, at 170-74 (discussing the effects of beliefs, feelings, and attitudes on mathematical achievement).
44. Id.
45. Id. at 172.
47. See Fennema, supra note 19, at 165 (linking females' decision "not to study mathematics beyond minimal requirements" to "non-participation in mathematics-related occupations" and speculating about the reasons for low levels of female enrollment in higher math); Fennema & Patterson, supra note 19, at 19-20 (citing studies that note higher levels of enrollment in advanced math courses and higher achievement on the SAT math section among males); How Schools Shortchange Girls, supra note 31, at 22-25 (reporting that, despite the narrowing gap between the sexes in math achievement, girls still score lower on the SAT and perform below boys in almost all math subjects by the end of high school); Stage et al., supra note 19, at 240-46 (discussing societal factors that may play a more significant role in inhibiting girls from taking advanced math classes than differing spatial skills).
48. See Campbell & Wahl, supra note 18, at 65; McKee, supra note 17, at A17; see also Jane Gross, Classes Girls Can Count On: Single Sex High School Classes Reduce Math Anxiety for Students, DALLAS MORNING NEWS, Dec. 15, 1993, at 5C (reporting that
girls in subjects where the girls experience difficulty\textsuperscript{49} and present evidence that gender segregation in math and science has had modest success in redressing gender imbalances.\textsuperscript{50} In comparative studies of single- and mixed-sex high school math classes, single-sex groups showed the greatest gains in confidence, test performance, and intent to enroll in advanced math electives.\textsuperscript{51} Kenneth Rowe, the author of an Australian study, surmises that the elimination of cross-gender harassment and teasing facilitates these improvements.\textsuperscript{52} Although Rowe has not found a direct correlation between gains in confidence and math achievement,\textsuperscript{53} his findings seem to substantiate Michael Marland's view that the introduction of single-sex classes "would be justified if [in an otherwise mixed school] . . . it was clear that one sex as a group was turning off a subject."\textsuperscript{54}

Guided by their own practical experience and a somewhat overzealous reading of the academic literature,\textsuperscript{55} American school officials launched single-sex math and science at public facilities in the late 1980s.\textsuperscript{56} At the time, only two all-female public high schools remained in the nation: the venerable Philadelphia High School for Girls, which opened its doors in 1848, and Western Senior High School in Baltimore, which also dates from the nineteenth century. Neither school has faced a legal challenge, administrators hypothesize, because boys are uninterested in breaking down the

Susan Bailey, one of the AAUW Report authors, believes that all-female classes are "sending a message that girls are so special, so in need of extra help, that they must be taught separately").

\textsuperscript{49} See, e.g., Rowe, supra note 18, at 195-96; Michael Marland, Should the Sexes be Separated?, in Sex Differentiation and Schooling 183-84 (Michael Marland ed., 1983).

\textsuperscript{50} See, e.g., Rowe, supra note 18, at 195-96 (presenting findings about the success of single-sex math classes at Ballarat High School in Victoria, Australia).

\textsuperscript{51} See id.

\textsuperscript{52} See id. at 196-97.

\textsuperscript{53} See id. at 195-96; see also 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, 24 (American Association of University Women Educational Foundation eds., 1998) (stating that Rowe "reported no significant differences in math achievement per se" and was unable to directly relate improvements in confidence to higher test scores).

\textsuperscript{54} Marland, supra note 49, at 184; see also Lee & Marks, supra note 18, at 589 (encouraging further research into the benefits of single-gender classes taught by same-sex teachers in American public schools).

\textsuperscript{55} See Davis, supra note 9, at 3 (stating that all-girl classes in Ventura, California, and elsewhere gained impetus from the AAUW Report, but even without reading such studies, teachers had independently observed that the girls "are often subtly steered away from advanced mathematics").

\textsuperscript{56} The pilot program at Presque Isle High School in Maine began in 1988, for example. See Presque Isle, supra note 9.
doors to an all-female bastion. In contrast, several of the pilot science and math programs have generated complaints to the United States Office of Civil Rights.

Experimental classes in coed schools can be sorted into four types:
1) both boys and girls have a choice between coeducational and single-sex formats;
2) boys enroll in coeducational classes, while girls have a choice between coeducational and single-sex formats that use the same teaching methods;
3) boys enroll in coeducational classes, while girls can elect to take an all-female course that employs novel teaching methods;
4) girls enroll in a class that is nominally open to boys but which is designated for students who are "underrepresented" and which, in fact, contains only female students.

Objections have clustered around the second and third categories; the fourth category represents a facially neutral compromise adopted by two California schools after a complainant approached the Office of Civil Rights. Ventura High School and Anacapa Middle School in Ventura, California, both changed their girls' math programs when state officials warned that they must be optional and "technically open to boys." Prior to the legal challenge, Ventura High School offered two second-year algebra classes in which female students learned without a textbook—grasping the laws of probability, for instance, by counting the number of times a

57. See Dennis Kelly, All Girls School Pushed in Detroit, USA TODAY, Aug. 8, 1991, at 1D (describing the two all-female public high schools in Baltimore and Philadelphia). In 1996, 50 seventh-graders enrolled in a new all-female public school in East Harlem. Before it even opened its doors, the Young Women's Leadership School faced legal challenges from civil rights groups, claiming it ran afoul of the VMI decision. The school decided to change its admissions policies to include boys, but so far no male students have applied. See Morning Edition: Harlem All-girls School Scrutinized (N.P.R. broadcast), supra note 9.


59. Davis Elementary School in Cobb County, Georgia, started four single-sex math classes for third- and fourth-graders. Both boys and girls had the option of choosing between coed or single-sex formats, and Principal Sandy Davis said she hoped to compare test results. See Seth Coleman, The Gender Equation: Two Cobb Schools Get Good Results from Separate Math Classes for Girls and Boys, ATLANTA CONST., Apr. 23, 1995, at D1.

60. See Scott, supra note 7, at C1 (citing a two-year pilot project at Blue Springs High School in Kansas that offers an optional all-female trigonometry class that involves the same pedagogical techniques as coed courses). "School officials did not actively recruit girls for the class; they simply asked those who got seventh-hour trigonometry whether they would mind being in an all-girls class. None did." Id.

61. See infra notes 64-69 and accompanying text.

62. See infra note 63 and accompanying text.

63. See Morning Edition: Harlem All-girls School Scrutinized (N.P.R. broadcast), supra note 9.
tossed coin landed heads-up. Instructor Christine Mikles divided the class into teams that worked with computers or completed cooperative projects. The classroom culture emphasized collaboration and adopted a slower pace than its coed counterpart. Anacapa Middle School also boasted a special curriculum in which girls received career mentoring and advice about sexual abstinence and drug abuse, in addition to learning math at a leisurely rate that the students described as a “relief.” According to one news report, Anacapa’s “all-girl classes grind to a halt if someone does not understand triangulation or matrix logic.” Now dubbed Math-PLUS and officially coeducational, the courses continue to cater to female students.

The statistics compiled by several of these innovative schools testify to the short-term success of the single-sex format. For example, in Presque Isle, Maine, all-girl math courses reduced the gender disparity in test scores from seventy-two to sixteen points, and a University of Maine professor “found that girls who take the [single-sex] algebra course are twice as likely to enroll in advanced chemistry and college physics than their coed counterparts.”

None of the experimental programs arises from animus. Even in cases where girls receive different math instruction in the all-female environment than they would in a coed course, school officials espouse an explicitly remedial goal. One teacher at Ventura High says that parents, educators, and peers exercise a corrosive influence on girls’ resolve to continue in math when the concepts become more difficult. Her all-female class, though perhaps slower-paced than its coed counterpart, encourages female students to work harder and to pursue advanced studies in the future. Even if the all-female programs strip math of qualities like overt competitiveness and speed, they have few empty desks. Girls praise the new for-

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64. See Davis, supra note 9, at 3.
65. See id.
66. See id.
67. See Interview with teacher Pam Belitski, student Chris Young, and Leslie Wolfe from the Center on Women’s Policy Studies on All-girl Classes (NBC “Today Show” broadcast, Feb. 27, 1996).
68. See Gross, supra note 48, at 5C.
69. Id.
70. See Presque Isle, supra note 9.
71. Hancock & Kalb, supra note 10, at 76.
72. See Davis, supra note 9, at 3 (discussing the opinions of Ventura High School teacher Christine Mikles).
73. See id.
74. See id. (noting that girls tend to feel more comfortable and receive more assistance in a single sex classroom).
mat, saying that they no longer worry about speaking in class or having boys make them feel either stupid or too smart.  

B. The Equal Protection Clause: Segregation, Compensation, and the Dangers of Role-typing

Despite Justice Scalia’s fear that the principles articulated in the VMI decision make single-sex public education unconstitutional, the Court’s equal protection jurisprudence has not swept away gender distinctions grounded in a legitimate compensatory purpose. The significant disparities between Virginia’s male military academy and its less rigorous sister school formed the crux of the majority’s objections in the VMI case. Predictably, Virginia could not offer a remedial rationale for a school that had taught the supposedly masculine values of the “citizen-soldier” in an all-male setting for more than a century.

In *Mississippi University for Women v. Hogan,* there were no parallel single-sex institutions, so the “separate but equal” issue did not arise. However, the perpetuation of nursing as a stereotypically female job troubled the majority of the Court, leading it to declare that the state could advance a legitimate affirmative action goal only if “members of the gender benefited by the classification actually suffer a disadvantage related to

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75. *See, e.g.,* Ron Russell & John Wilson, *32 Girls Plus Science Equals Success,* Detroit News, July 18, 1995 (quoting 15-year-old Meredith Grow of Rochester High School in Detroit, Michigan). The youngster said of her all-female ninth-grade science class: “I didn’t worry about what the guys were thinking this year. I didn’t have the hang-up I used to about seeming too smart if I answered every question. I kind of lost that this year. I answered all the questions I thought I had the answers to.” *Id.*

76. *See United States v. Virginia,* 116 S. Ct. 2264, 2305 (1996) (Scalia, J., dissenting) (warning that the cost of litigation combined with the increased scrutiny applied in the VMI case will dissuade public schools from providing any form of single-sex education in the future). *Id.* at 2306. *But see infra* note 154 and accompanying text.

77. *See id.* at 2286.

78. Instead, the state claimed that the all-male institute served the goal of diversifying educational opportunities in Virginia. *See id.* at 2276. The majority rejected this argument on the grounds that, at the time of the school’s founding, “[h]igher education . . . was considered dangerous for women.” *Id.* at 2277. Hence, “[a] purpose genuinely to advance an array of educational options . . . is not served by VMI’s historic and constant plan—a plan to afford[d] a unique educational benefit only to males.” *Id.* at 2279 (quoting the Court of Appeals in United States v. Virginia, 976 F.2d 890, 899 (1992)). By contrast, educators expressed the desire to bring new options to predominantly coeducational schools as an ex ante justification for single-sex math and science classes.


80. *See id.* at 720 n.1 (“Mississippi maintains no other single-sex public university or college. Thus, we are not faced with the question of whether States can provide ‘separate but equal’ undergraduate institutions for males and females.”).
the classification." In neither case did the Court hold that an all-female educational program designed to enhance women's achievement in a field traditionally reserved for men violates equal protection.

1. Potential Challengers to All-female Math and Science Classes

In assessing the impact of Hogan and Virginia on the constitutionality of single-sex math and science classes, we must first consider who might claim injury. Although the Hogan majority did not discuss standing, the dissent believed that the appellee lacked a valid constitutional claim. Justice Powell dissented in Hogan because he did not consider the exclusion of men from a women's nursing school in a state that offered coeducational alternatives to be sex discrimination of constitutional magnitude. The state of Mississippi did not deny Joe Hogan instruction in nursing; it only denied him instruction at the most convenient location; and, as Justice Powell wryly observed, "[T]here is, of course, no constitutional right to attend a state-supported university in one's home town.

Despite Justice Powell's objections, the majority invalidated the MUW admissions policy because it lent "credibility to the view that women, not men, should become nurses." Hogan's lack of a genuine constitutional complaint put the court in the uncomfortable position of inventing one for him. As Justice Powell commented, "Having found 'discrimination,' the Court [found] it difficult to identify the victims." None of the two thousand women enrolled at MUW filed suit, nor did any female applicant complain about having to choose between a single-sex school in Columbus, Mississippi, and a coeducational program elsewhere in the state. The Court invalidated the school's admissions policy as the result of one man's lawsuit. Yet, somewhat ironically, the majority seemed to see stereotypical ideas about women as the chief wrong to be prevented.

81. Id. at 728.
82. See id. at 745 (Powell, J., dissenting).
83. See id. at 744 (Powell, J., dissenting).
84. Id. at 736 (Powell, J., dissenting).
85. See id. at 730.
86. Id. at 745 (Powell, J., dissenting).
87. See id. at 741 (Powell, J., dissenting). In fact, female students and alumnae of MUW filed amicus briefs urging the court to allow the state "to continue offering the choice from which they have benefited." Id. at 736.
88. See id. at 741 (Powell, J., dissenting) (characterizing the suit as "a case in which no woman has complained, and the only complainant is a man who advances no claims on behalf of anyone else"). Id.
89. The Hogan Court stated that gender classifications "must be applied free of fixed notions concerning the roles and abilities of males and females." Id. at 724-25 (emphasis added). However, O'Connor's majority opinion was based on concern that labeling nursing as a woman's profession harmed females. For example, the Court noted, "Officials of the
Plaintiffs challenging all-female math and science classes in public schools could be male or female. But, in order to have standing, they must allege a "particularized, actual, or imminent invasion of a legally protected interest" redressable by the court. As in Hogan, there is some question about whom, if anyone, the single-sex pilot programs injure.

a. Male Plaintiffs

In either their official or unofficial forms, the special math and science classes primarily seek to help female students; thus, they involve a number of potential harms to boys. First, a male plaintiff might complain that the formal creation of single-sex classes for girls, but not for boys, gives females a benefit that boys do not receive. Such an argument raises questions of fact, as well as law, for the courts would have to determine, on the basis of educational data, whether all-male classes would aid boys. Even if male students do not perform better in math and science in a single-sex environment, they might benefit from all-male instruction in other subjects. A recent public school experiment suggests that the advantages of gender segregation accrue to boys, as well as to girls. At Marsteller Middle School in Manassas, Virginia, which has single-sex classes for boys and girls in language arts and physics, male students raised their language arts scores a whole grade in one term. It is not clear whether this improvement occurred because the all-male environment alleviated boys' fears about the effeminacy of poetry-reading, because males generally study better in the absence of females, or simply because the excitement of a new program pushed the students to study harder.

Whatever the reasons for the boys' gains in language arts, however, the Marsteller evidence demands that public schools which explore only the virtues of all-female classes justify their asymmetrical allocation of benefits. Several girls' math courses, including the ones offered in California schools, involved novel pedagogy: They were taught without textbooks, and they placed more emphasis on teamwork, computer skills, and social issues than the coed classes did. The different, though not necessarily superior, characteristics of such programs focus the debate acutely

American Nurses Association have suggested that excluding men from the field has depressed nurses' wages." Id. at 730 n.15.
91. See Hancock & Kalb, supra note 10, at 76.
92. See Davis, supra note 9, at 3 (discussing teaching techniques in Christine Mikles' all-girls class at Ventura High School); Presque Isle, supra note 9 (reporting that all-girls math classes at Anacapa Middle School discuss sexual abstinence and the dangers posed by drugs and alcohol).
on the constitutionality of compensatory preferences and the substantial equality of instruction offered to each sex.

The second cluster of arguments that a male student might raise assigns value to integration, rather than to single-sex learning. Thus, it taps into the wider controversy about the imperative of race- and gender-blindness in American society. According to advocates of gender-blindness, the state must guarantee equal treatment under neutral norms and structure educational offerings without regard to gender. Unlike the allocation of seats in a medical school or contracts to build a guardrail, the creation of all-female classes at a coed facility does not deprive boys of a finite resource that they otherwise would have enjoyed. However, public funding for all-female classes still may abridge the right of a male student not to attend a public school that takes gender into account. A boy could demand either that the state establish integrated institutions unless gender segregation arises randomly, or that the state prevent gender imbalances even in a random allocation scheme.

The decision to open the pilot programs to boys removes the denial-of-access problem. However, providing thinly-disguised courses for female students may alter the gender ratio in math and science classrooms in a way that creates de facto segregation. Two harms arguably flow from gender separation, whether it is official or not: the stigmas inherent in stereotyping and the educational impoverishment of both sexes due to a lack of interaction between boys and girls.

93. See Brown et al., supra note 12, at 889 ("[T]he treatment of any person by the law may not be based on the circumstance that such person is of one sex or the other . . . . In short, sex is a prohibited classification."). The authors of this article on the underlying theory of the Equal Rights Amendment made exceptions for remedial decrees "where damage has been done by a violator who acts on the basis of a forbidden characteristic." Id. at 904. They admitted that public bathrooms need not be unisex. See id. at 900-02. But the basic message of their manifesto was that "[e]quality of rights means that sex is not a factor." Id. at 892.

94. See Kevin Brown, Do African-Americans Need Immersion Schools?: the Paradoxes Created by Legal Conceptualization of Race and Public Education, 78 IOWA L. REV. 813, 870 (1993) (making a similar argument with regard to the impact of black immersion schools on whites).

95. School administrators may see their wish for all-female math classes fulfilled, despite the nominal opening of enrollment to boys. Indeed, it is unclear that any students, besides females and perhaps ethnic minorities, would feel welcome in a class labeled "for underrepresented students." See Davis, supra note 9, at 3 (discussing Anacapa Middle School's new, gender-neutral program and the dearth of male enrollment). The percentage of girls who must abandon their old classes to effectively destroy coeducational instruction represents a thorny factual question. Yet, the most problematic aspect of a challenge to de facto gender separation lies in the Court's unwillingness to ascribe discriminatory purposes to facially neutral programs that disadvantage one sex. See infra notes 114-18 and accompanying text.
A male plaintiff might argue that the exclusion of boys from certain classes reinforces negative images of adolescent males—branding them as disruptive, aggressive, and out-of-control. The most compelling aspect of this complaint lies in its insight that stereotypes cannot cure stereotypes and that female-only math classes premised on negative perceptions of masculinity foster reverse sexism. In the late 1970s, William Van Alstyne argued that "[w]e shall not see racism disappear by employing its own ways of classifying people and of measuring their rights." A male plaintiff might raise similar objections to sex-based distinctions in public schools. As a threshold matter, however, he must show that the harm he suffers is sufficiently particularized and imminent to confer standing.

The current Supreme Court probably would find stigmatic injury too attenuated to confer standing on a male plaintiff. A boy who does not desire admittance into an all-female class at his school advances a claim that is as generalized as that raised by any boy in the state, or even the whole nation, who resents the stigmatic implications of all-female education. Although the Court considers non-economic injury sufficient for standing if the plaintiff has personally suffered discriminatory treatment, a majority of the Justices are unlikely to give standing to a male student who has not sought entry into a female-only math course.

The de facto impairment of coeducation more clearly constitutes a particularized harm. Like racial integration, coeducation at least theoretically combats prejudice by bringing boys and girls into contact with each other. In Allen v. Wright, in which the parents of black children chal-

96. See Van Alstyne, supra note 12, at 809.
98. Cf. Allen v. Wright, 468 U.S. 737, 756 (1984) (discussing why parents of black children lacked standing to challenge the Internal Revenue Service's grant of tax exempt status to racially-discriminatory private schools). In Allen, the parents complained about stigmatic injury arising from the existence of racist schools and the government's indirect support of them through tax exemptions. They did not allege that the schools had denied their children admission. See id. at 755-57 & n.22. While asserting that stigmatic injuries might support standing under certain circumstances, the majority concluded that, if the Allen plaintiffs were given standing, "[a] black person in Hawaii could challenge the grant of a tax exemption to a racially discriminatory school in Maine." Id. at 755-56. The crux of the majority's objections thus lay in the fact the plaintiffs had not been personally subjected to the private schools' discriminatory policies. See id. at 756 n.22.
99. See id.; see also Moose Lodge No. 107 v. Irvis, 407 U.S. 163, 168 (1972) (stating that plaintiff lacked standing to challenge the lodge's discriminatory membership policies because he had never sought to become a member).
100. For an insightful discussion of the integrationist position with regard to race, see Gary Peller, Race Consciousness, 1990 Duke L. J. 758, 766-82. Peller writes:

[The] deep link between racism and ignorance on the one hand, and integration and knowledge on the other, helps explain the initial focus of the integrationists on public education: Children who attended integrated schools would learn the
lenged the Internal Revenue Service's tax exemption for racially-discriminatory schools, even though their children had not sought admission to these institutions, the majority noted that "the diminished ability to receive an education in a racially-integrated school . . . is beyond any doubt, not only judicially cognizable but . . . one of the most serious injuries recognized in our legal system." However, according to the Court, the plaintiffs in Allen lacked standing because this alleged harm was neither fairly traceable to the government's conduct nor redressable through judicially-mandated means. A male challenger to all-female math and science classes has a better shot at standing than the Allen plaintiffs. The state created the disputed math classes, and the state can be compelled to dismantle them; thus, both the traceability and redressability elements are satisfied. I will argue below that a constitutional right to integration is much more ambiguous in the race and gender contexts than the Allen Court assumed. Yet, a boy deprived of a coeducational experience suffers an injury sufficient to open the doors to the courthouse, whether or not he can succeed on the merits.

Finally, separating the sexes for math and science instruction may perpetuate undesirable notions about women's roles and intelligence. Such an allegation would merit serious consideration if it were brought by a female, but it is a weak complaint for a male challenger to raise. As Justice Stevens argued in his dissenting opinion in Adarand Constructors v. Pena,

truth about each others' unique individuality before they came to believe stereotypes rooted in ignorance. 

Id. at 770. Many of the educators who oppose all-female math and science classes espouse similar beliefs about coeducation. For example, Ruby Takanishi, executive director of the Carnegie Council on Adolescent Development, contends that "[t]he development of girls does not occur without contact or interaction with boys . . . . It seems obvious that organizations seeking to advance the prospects of girls ought to link up with organizations that are working with boys." Laura Sessions Stepp, How Girls Learn Best, WASH. POST, May 28, 1996, at B5.

101. Allen, 468 U.S. at 756. Although the majority denied black parents standing in Allen, the Court noted that the impairment of a plaintiff's opportunity to learn in an integrated setting is a "concrete, personal interest that can support standing in some circumstances." Id.

102. According to the Allen Court:

The diminished ability of [plaintiffs'] children to receive a desegregated education would be fairly traceable to unlawful IRS grants of tax exemptions only if there were enough racially discriminatory private schools receiving tax exemptions in [plaintiffs'] communities for withdrawal of those exemptions to make an appreciable difference in public school integration . . . . Moreover, it is entirely speculative . . . whether withdrawal of a tax exemption from any particular school would lead the school to change its policies. Id. at 758.

103. See infra notes 132-51 and accompanying text.

persons excluded from an affirmative action policy lack standing to claim that the policy perpetuates damaging stereotypes about its supposed beneficiaries. According to Stevens’ logic, boys denied access to all-girl math and science classes could not assert, as the basis of their constitutional injury, that such classes reinforce female subordination. By sustaining a man’s challenge to an all-female program on the grounds that the program promoted gender stereotypes, the Hogan Court seemed to take a more expansive view than Stevens did in Adarand. Yet, the Hogan Court did not confront a standing issue because Joe Hogan also alleged individual harms arising from his exclusion from the nursing school. To the extent that Hogan authorizes men to complain of injuries inflicted solely on women, it ought to be overturned. Contrary to the Hogan majority, a male plaintiff should not be able to request damages or even injunctive relief because a single-sex program diminishes society’s respect for women. Such a grievance is more properly raised by females.

b. Female Plaintiffs

Programs for girls that seek to redress historical disadvantages carry the baggage of victimhood along with the hope of empowerment. From the perspective of some feminist attorneys, it is the benefit that segregated classes confer on females, rather than the need to combat sex discrimination, that remains open to question. Indeed, feminist lawyers and researchers number among the most vocal opponents of the pilot programs, and girls’ parents may be more likely than boys’ parents to file suit.

A female plaintiff’s range of legally cognizable harms is circumscribed by her ability to choose or decline enrollment in the contested programs; yet, she can still allege both individual and group injuries. A female student who thrives in a coed environment may find her individual achievements compromised when the state transforms the group against which she competes academically into either a predominantly male cohort

105. See id. at 247 n.5 (opining that Adarand Constructors, a white-owned business, lacked standing to advance an argument that the most significant cost associated with an affirmative-action program designed to benefit African Americans was its “adverse stigmatic effect” on blacks). Id.


107. See, e.g., Riechmann, supra note 8, at 36 (discussing criticisms by Martha Davis, senior staff attorney for the NOW Legal Defense and Education Fund, and Leslie Wolfe, President of the Center for Women Policy Studies in Washington D.C.); see also Interview with teacher Pam Belitski (NBC “Today Show”), supra note 67 (broadcasting Leslie Wolfe’s concern that the programs will make girls think they need special help); Hancock & Kalb, supra note 10, at 76 (stating that Norma Cantu of the Office of Civil Rights and others “worry that segregated classes will set back the cause of gender equity just when girls are finally being integrated into all-male academies”).
(if she chooses the nominally coed option) or an entirely female one (if she opts for an all-female math class). In either scenario, her educational experience and others' estimation of it will be different and, arguably, less favorable than if the state had not tinkered with coeducation.

With regard to group rights, feminist critics of experimental math and science classes contend that a return to single-sex instruction will resurrect the bad old days when girls were given just enough knowledge to make them entertaining wives. Norma Cantu of the U.S. Office of Civil Rights recalls that, earlier in this century, male students learned that pharmaceutical companies derive penicillin from mold, while girls learned how to remove mold from the shower curtain. Some feminists believe that female-only math and science classes will foster a culture of inferiority among females, reinforce the males' sense of entitlement, and result in two academic tracks: serious classes for boys and watered-down, non-competitive classes for girls.

I do not believe that the courts should find an invasion of females' equal protection rights unless the single-sex classes assume biologically-determined female inferiority or provide girls with fewer financial resources than boys. However, the dangers of stigmatizing the supposed beneficiaries of remedial affirmative action programs should not be dismissed casually; I will discuss them in greater detail later in this article.

2. Separate is Not Inherently Unequal

a. De Jure and De Facto Gender Segregation

The Supreme Court has declined to engage in a "separate but equal" analysis where the state provides a single-sex option for only one sex. However, a school that offers an all-male class, as well as a special pro-

108. See, e.g., Hancock & Kalb, supra note 10, at 76 (discussing the aesthetic and home economic focus of all-female science classes earlier in this century); Rhode, supra note 11, at 131-32 (noting that Smith College catalogs from the early 1900s promised that a Smith education would not make women compete like men).


110. See id. (citing Cantu for the inference that segregated classes will undercut gender equity by providing inferior academic preparation for girls); Interview with teacher Pam Belitski (NBC "Today Show"), supra note 67 (discussing the disadvantages of single-sex math and science with Leslie Wolfe of the Center for Women Policy Studies in Washington, D.C.); Riechmann, supra note 8, at 36 (describing the opposition of NOW Legal Defense and Education Fund attorney Martha Davis to classes that "suggest that girls learn [math or science] at a slower pace or that they can't be competitive").

111. See infra notes 161-64 and accompanying text.

112. See supra note 79-80 and accompanying text.
gram for girls, must survive the heightened scrutiny mandated for all gender-based classifications.\textsuperscript{113}

Nominally coed courses that have the purpose and effect of dividing students by sex also give challengers a colorable claim of government-sponsored gender discrimination. Encouraging the exodus of female students from regular math and science classes promotes \textit{de facto} segregation by disturbing the gender balance of the coed classrooms. A situation in which almost all the female students elect to enroll in special classes that the boys eschew, or to which the boys are denied access, is not far-fetched. The legality of such \textit{de facto} gender separation remains unclear. Given the Court’s reluctance to mandate remedies for \textit{de facto} segregation, programs theoretically open to boys might pass muster if the state showed a neutral reason for the gender imbalance.\textsuperscript{114} Yet most \textit{de facto} segregation cases deal with race,\textsuperscript{115} and rulings in the racial context do not provide an uncomplicated guide to the legality of gender separation. Nor does the Court’s tolerance of \textit{de facto} segregation in particular municipal settings endorse its existence as a general principle. In \textit{Personnel Administrator of Massachusetts v. Feeney},\textsuperscript{116} a gender discrimination case attacking the state of Massachusetts’ preference for war veterans in civil service hiring, the challenger of a facially-neutral program had to prove that the state acted “because of,” and not merely “in spite of” the discriminatory effect.\textsuperscript{117} However, \textit{Feeney} proved to be an anomaly. Indeed, the touchstone of gender discrimination cases has been the use of impermissibly broad generalizations about the sexes, rather than the existence of discriminatory purpose.\textsuperscript{118}

\textsuperscript{113} See generally United States v. Virginia, 116 S. Ct. 2264, 2286 (1996) (reiterating that all gender-based classifications must undergo heightened scrutiny). See also infra note 121 and accompanying text.

\textsuperscript{114} See \textit{Personnel Admin’r of Mass. v. Feeney}, 442 U.S. 256, 277, 279 (1979) (holding that a female plaintiff failed to show that the state acted with discriminatory intent in giving priority in civil service hiring to war veterans, almost all of whom would be male). In the context of racial desegregation, the Court distinguishes between \textit{de jure} and \textit{de facto} segregation on the basis of a school district’s intent to keep blacks and whites apart. See \textit{Milliken v. Bradley}, 418 U.S. 717, 735 (1974) (refusing to impose a multi-district remedy where only one of the districts engaged in \textit{de jure} racial segregation). According to the \textit{Milliken} Court, “The target of the \textit{Brown} holding was clear and forthright: the elimination of state-mandated and deliberately maintained dual school systems . . . .” Id. (emphasis added).

\textit{See also} \textit{Keyes v. School District}, 413 U.S. 189, 210 (1973) (“[The school authorities’] burden is to adduce proof sufficient to support a finding that segregative intent was not among the factors that motivated their actions.”).

\textsuperscript{115} See e.g., \textit{Milliken}, 418 U.S. at 735; \textit{Keyes}, 413 U.S. at 210.

\textsuperscript{116} 442 U.S. at 279 (1979).

\textsuperscript{117} Id. at 279.

\textsuperscript{118} The Supreme Court, 1980 Term, \textit{Gender-based Statutory Rape Laws}, 95 \textit{Harv. L. Rev.} 93, 175-77.
Schools that have opened special math classes to males, as well as females, have been careless about exposing their underlying motives. For example, a journalist covering the decision to make freshman algebra courses in Presque Isle coeducational reported that "[o]fficials are just hoping . . . [boys] won't sign up."

Quickly modified to avoid legal repercussions, the classes remain directed at the needs of female students. Although the Court has not often focused on discriminatory purpose in gender cases under the Equal Protection Clause, it might look askance at coed classes for "underrepresented students" in which no boys actually enrolled. Thus, both the official and unofficial versions of all-female math and science classes are vulnerable to attack.

Challengers of de jure and de facto gender separation face some impediments, however. The Supreme Court has never held that educational facilities separated on the basis of sex are inherently unequal, even when such segregation is official and blatant. Writing for the majority in Virginia, Justice Ginsburg required that separate facilities for men and women show "substantial equality" but not that they be eliminated altogether.

The state of Virginia failed to meet the substantial equality standard. Hastily established to satisfy the judiciary, Virginia Women's Institute for Leadership (VWIL) used seminars and externships, instead of mental stress, indoctrination, and physical challenges, to prepare its female students for military and civic life. VWIL differed dramatically from VMI in terms of its physical facilities; it provided neither barracks-style living nor state-of-the-art sports fields. It also lacked those intangible factors that the Court in Sweatt v. Painter declared "make for greatness in a . . . school": prestigious faculty, diverse curriculum, and an extensive network of successful alumnae.

119. See Presque Isle, supra note 9, at 2.
120. See Gender-based Statutory Rape Laws, supra note 118, at 175-77.
122. See id.
123. See id. at 2283 (discussing the substantive differences in the training provided by VMI and VWIL).
124. See id. at 2283-85.
125. See Sweatt v. Painter, 339 U.S. 629, 634 (1950) (holding that the Equal Protection Clause required an all-white law school to admit a black applicant because the educational opportunities offered to whites and blacks at separate law schools were not substantially equal).
126. See Virginia, 116 S. Ct. at 2285 (quoting Sweatt v. Painter, 339 U.S. 629, 634 (1950)) (concluding that the extreme differences in opportunities at VMI and VWIL denied "substantial equality" of educational opportunities).
Without foreclosing all forms of single-sex education, Virginia implicitly overturned the Third Circuit opinion in Vorchheimer v. School Dist. of Philadelphia, the case that Judge Gibbons characterized as “a twentieth-century sexual equivalent of Plessy.” Although the Third Circuit found educational opportunities for both sexes in Philadelphia essentially equal, the current Supreme Court certainly would have disagreed because the schools that girls could attend had inferior scientific facilities.

Recent experiments with all-female math and science classes constitute the inverse of the programs challenged in Virginia and Vorchheimer, for they seek to give girls more attention in male-dominated subjects. Moreover, they require the girls’ consent. Thus, neither Virginia nor Vorchheimer mandates a finding that such courses are unconstitutional.

b. Brown and the Integrationist Mandate: Useful Parallels from the Racial Desegregation Battle

The distinction between the levels of scrutiny for gender- and race-based classifications obscures an important insight about separatism in general: that the harm may depend upon whether segregation is freely chosen by members of a subordinated group or imposed as a means of denying them full citizenship. In the context of racial separation, the integrationist mandate of Brown has often been exaggerated. The Supreme Court appeared to presume, in the immediate post-Brown era, that race had no

127. 532 F.2d 880, 888 (3d Cir. 1976), cert. denied, 430 U.S. 703 (1977) (upholding an all-male admissions policy at a public high school in Philadelphia).
128. Id. at 889 (Gibbons, J., dissenting).
129. See id. at 882 (noting that both the girls' and boys' schools had high academic standing, successful alumni, and about the same number of students). Enrollment at either a single-sex or coeducational school was voluntary, not by assignment. Hence, the court held that the Equal Educational Opportunity Act would not have applied, even if it were sufficiently clear on the issue of sex-segregation to be controlling. See id. at 882, 884.
130. See id. at 882 (admitting that the all-male school was superior in science).
131. See, e.g., United States v. Virginia, 116 S. Ct. 2264, 2275 (1996). The Supreme Court did not find that a law disfavoring women violated equal protection until 1971. See Reed v. Reed, 404 U.S. 71, 73 (1971). It now employs intermediate scrutiny for gender classifications and strict scrutiny for race-based distinctions. See, e.g., Virginia, 116 S. Ct. at 2275 & n.6. One can speculate that the Court’s slowness to recognize gender discrimination and the lesser standard eventually adopted to scrutinize it stemmed from the view that “the chief and all-dominating purpose of the Fourteenth Amendment was to ensure equal protection for the Negro.” Charles Black, The Lawfulness of the Segregation Decisions, 69 Yale L.J. 421, 423 (1960) (exemplifying one perception of the Fourteenth Amendment’s goals).
132. See Brown v. Board of Educ., 347 U.S. 483 (1954) (holding that segregation of black and white children in public schools on the basis of race denies equal protection of the laws, even though physical facilities may be equal).
proper relevance for the state and that the wrong of segregation inhered in its racial basis. Advocates of race-blindness contend that whites also experience harm when they are excluded from public activities and that racism can be prevented only when the state treats its citizens as individuals and forbids racial considerations from affecting any publicly-funded program. Thus, according to Alexander Bickel and others, the revival of racial classifications for the benefit of minority groups has merely changed "whose ox is gored."

Whether articulated by liberals or conservatives, the integrationist or anti-differentiation perspective arguably ignores the extent to which the dominant educational culture remains white and male. The recognition that integrated, coeducational schools have neither cured racial disharmony, nor eradicated sexism, requires a fresh look at the meaning of Brown. The Warren Court did not unambiguously uphold the constitutional right of all citizens to an integrated education. Indeed, read closely, the landmark opinion in Brown is limited by its specific social and historical context.

133. See, e.g., Colker, supra note 13, at 1022 ("Post-Brown courts have focused on the strong anti-differentiation statement from the Brown Court, namely, that separate can never be equal, and overlooked that Court's central concern for remedying the subordination of blacks.").

134. See Van Alstyne, supra note 12, at 783-92, 795 (discussing the Court's "second rite of passage" in which it sought, with the post-Brown per curiam decisions, to eradicate racial classifications from governmental programs).

135. See ALEXANDER M. BICKEL, THE MORALITY OF CONSENT 133 (1975) ("Those for whom racial equality was demanded are to be more equal than others. Having found support in the Constitution for equality, they now claim support for inequality under the same Constitution."); see also, e.g., Richard A. Epstein, Tuskegee Modern, or Group Rights under the Constitution, 80 Ky. L.J. 869, 882 (1992) ("All too often we hear today that women and minorities should never be excluded from any organization that they wish to join for reasons of sex or race, but should have the power to exclude others from the organizations that they wish to form. The risks of this special pleading are serious."); Van Alstyne, supra note 12, at 797 ("[The compelling purpose test] is not, I think, a constitutional standard at all. It is, rather, a sieve—a sieve that encourages renewed race-based laws, racial discrimination, racial competition, racial spoils systems, and mere judicial sport. It is Plessy v. Ferguson all over again, in new and modish dress.").

136. BICKEL, supra note 135, at 133.

137. Gary Peller has noted, for instance, that, in the view of black nationalists, liberal integrationism assumes the superiority of white middle class values and seeks to impose such values on blacks by mandating mixed-race schools. See Peller, supra note 100, at 782-83 (discussing the views of Stokely Carmichael and others). See also JAWANZA KUNJUFU, COUNTERING THE CONSPIRACY TO DESTROY BLACK BOYS (1986) (contending that white pedagogy dominates American schools at the expense of black boys' intellectual and social development); see infra notes 274-77 and accompanying text (considering whether masculine ways of learning pervade and are reinforced in public school classrooms).
Such diverse commentators as Charles Black and Malcolm X have argued that the evil of segregated schooling lay in its social meaning in the 1950s. As the Warren Court observed, the text and history of the Equal Protection Clause are "inconclusive" with respect to "its intended effect on public education." Because there was no tax-supported school system in the South when the Fourteenth Amendment was drafted, Brown purported to address educational problems extant in the Warren Court era, not those present in 1868 or 1999. Thus, even Bickel, who later decried minority entitlements, contended in the 1950s that the framers of the Fourteenth Amendment eschewed enumerated rights in favor of generalities that could be adapted to the "moral and material state of the nation in 1954." Although Black took issue with Bickel's historical arguments, he declined to label all forms of segregation unconstitutional.

138. See Black, supra note 131, at 428 ("The fourteenth amendment commands equality, and segregation as we know it is inequality") (emphasis added). Black places school segregation in the social context of the mid-twentieth century South in which African-Americans were "subjected to the strictest codes of 'unwritten law' as to job opportunities, social intercourse, patterns of housing, going to the back door, being called by the first name, saying 'Sir' and the rest of the whole sorry business." Id. at 425. As to the intent of the framers of the Fourteenth Amendment, he noted that, because they "were unacquainted with . . . [segregation] as it prevails in the American South today," they "have bequeathed us only their generalities." Id. at 424; see also Peller, supra note 100, at 782 (noting that Malcolm X saw both Southern school segregation and liberal integrationism as manifestations of white supremacy); Charles Lawrence, If He Hollers Let Him Go: Regulating Racist Speech on Campus, 1990 Duke L.J. 431, 439 (1990). Seeking to establish that Brown was a case about speech regulation, Lawrence argued: "Brown held that segregated schools were unconstitutional primarily because of the message segregation conveys—the message that black children are an untouchable caste, unfit to be educated with white children." Id. Yet, Lawrence also asserted that "[d]iscriminatory conduct is not racist unless it also conveys a message of white supremacy." Id. at 444 (emphasis added).


140. See id. at 492-93. Justice Warren declared: "In approaching this problem, we cannot turn the clock back to 1868 when the Fourteenth Amendment was adopted, or even to 1896 when Plessy v. Ferguson was written. We must consider public education in light of its full development and its present place in American life throughout the nation." Id. (emphasis added).

141. Alexander Bickel, The Original Understanding of the Segregation Decision, 69 Harv. L. Rev. 1, 65 (1955) ("[T]he court could have faced the embarrassment of . . . formulating . . . an explicit theory rationalizing such a course. The court, of course [did not]. It was able to avoid the dilemma because the record of history, properly understood, left the law open to, in fact invited, a decision based on the moral and material state of the nation in 1954, not 1866.").

142. See Black, supra note 131, at 423 & n.14 (expressing skepticism about Bickel's use of the legislative history of the 1866 Civil Rights Bill to ascertain the intent behind the Fourteenth Amendment).

143. Black commented:

I think that some of the artificial . . . puzzlement called into being around this question originates in a single fundamental mistake. The issue is seen in terms of
Instead, he argued that forcing African-American children into a position of "walled-off inferiority" in Southern schools violated the Fourteenth Amendment.\textsuperscript{144}

Malcolm X and, more recently, Charles Lawrence have identified the wrong at issue in \textit{Brown} as the message of white supremacy conveyed through the forcible division of the races.\textsuperscript{145} Malcolm X believed that "the problem with school 'segregation' was not the failure to integrate . . . but rather the dynamics of power and control that formed the historical context of racial separation."\textsuperscript{146} Black children felt inferior, not because they had their own school, but because white officials forced them to go to it and because it lacked the intangible, and often tangible, benefits that white schools enjoyed. Basing the illegality of school segregation on psychological data about its effects on the subordinated group,\textsuperscript{147} the Warren Court left open the possibility that some forms of separation might not cause constitutionally recognized harms.\textsuperscript{148}

From a constitutional perspective, then, the state could make a strong argument for allowing blacks to study in isolation if they prefer to do so and if pedagogical evidence shows that all-black schools further a compelling state interest. The same is true for voluntary all-female classes. Indeed, in the case of all-female classes, the government need only espouse "important" objectives.\textsuperscript{149} If teachers and male students create a sexist cul-

\textsuperscript{144} See Lawrence, supra note 138, at 444 ("Segregation serves its purpose by conveying an idea. It stamps a badge of inferiority upon blacks, and this badge communicates a message to others in the community, as well as to blacks wearing the badge, that is injurious to blacks."). \textit{Id.} at 439-40; Peller, supra note 101, at 782 (discussing Malcolm X's views of \textit{Brown}).

\textsuperscript{145} See Lawrence, supra note 138, at 444 ("Segregation serves its purpose by conveying an idea. It stamps a badge of inferiority upon blacks, and this badge communicates a message to others in the community, as well as to blacks wearing the badge, that is injurious to blacks."). \textit{Id.} at 439-40; Peller, supra note 101, at 782 (discussing Malcolm X's views of \textit{Brown}).

\textsuperscript{146} See James A. Washburn, Note, \textit{Beyond Brown: Evaluating Equality in Higher Education}, 43 \textit{Duke L.J.} 1115, 1120 (1994) ("If segregative conditions were found not to cause any feelings of racial inferiority, following the logic of \textit{Brown}, a law mandating racial segregation would be constitutional."). I do not share Washburn's assumption that the state could impose segregation on blacks under certain circumstances. I do believe, however, that the Warren Court left open the possibility that a minority group could choose educational separatism, if the races continued to enjoy equal facilities.

\textsuperscript{147} See \textit{Brown}, 347 U.S. at 493 (endorsing the view that "[s]egregation with the sanction of law . . . has a tendency to [retard] the educational and mental development of Negro children" because it makes them feel inferior to whites).

\textsuperscript{148} See infra notes 154-55 and accompanying text.
ture in coed classrooms and this culture pushes girls out of math and science before they reach an advanced level, voluntary all-female education may invest girls with a greater sense of self-worth than coeducation does. The broader import of *Brown*, divorced from the historical moment in which the Warren Court delivered its opinion, was to invalidate legally-mandated separation that "generates a feeling of inferiority [in a subordinated group] as to their status in the community."  

If coeducation has failed to nourish the "hearts and minds" of American girls, the courts will violate the spirit of *Brown* if they forbid voluntary participation in all-female classes.

3. The Blurred Line Between Compensation and Condescension

a. The State's Remedial Purpose

When boys challenge their exclusion from a program conferring benefits on girls, they advance a reverse discrimination claim against an affirmative action policy. The state has an important interest in remedying female students' lagging performance on standardized math and science exams and in encouraging girls to take advanced courses. However, opponents of girls-only math and science classes can attack this objective in two ways: first, by presenting factual evidence that the disparities between the sexes are small or non-existent; and, second, by rejecting the means chosen to achieve the state's goals. The first approach, which a male plaintiff is likely to adopt, suggests that the state wishes to advance females beyond parity, rather than merely leveling the playing field. The second argument raises the fear that gender segregation stigmatizes girls, even when the state offers a remedial rationale.

Ironically, considering the Fourteenth Amendment's mission to end discrimination against former slaves, the courts subject remedial gender preferences to less rigorous review than race-based compensatory schemes. All gender classifications, whether invidious or benign, undergo intermediate judicial scrutiny. There are several possible explana-

151. *See id.*
152. For example, although the 1992 AAUW Report reported that boys did better than girls in every math subject except algebra by the end of high school, the authors noted that "[g]ender differences in mathematics achievement are small and declining." *See How Schools Shortchange Girls*, supra note 31, at 24.
tions for the Court's adoption of a lower standard for sex-based distinctions than that used for race. The fact that women can claim few historical instances of oppression as pandemic and degrading as the enslavement of blacks explains why the court shows greater deference to classifications that may affect women negatively, but it does not justify the relative ease with which the state can defend gender-based affirmative action. Another justification for intermediate scrutiny stems from the reluctance of both liberal and conservative justices to deny the existence of sexual differences. Yet, hesitancy to embrace anti-differentiation in the context of gender does not amount to an unqualified endorsement of compensatory and affirmative action policies.

According to Hogan, the state cannot "'protect' members of one gender because they are presumed to suffer from an inherent handicap," nor can it create an automatic shield against further inquiry by articulating a remedial purpose. The Hogan Court invalidated the single-sex admissions policy at MUW's nursing school because it made "the assumption that nursing is a field for women a self-fulfilling prophecy." However, as Justice Burger noted in his dissenting opinion, the majority left open the possibility that "a State might well be justified in maintaining . . . the option of an all-women's business school or liberal arts program." Hogan thus contains the seeds of an anti-subordination argument, for it seems to distinguish between programs that ameliorate the position of a subordinated group and those that reinforce the status quo.

The Court has done little to clarify the boundary between permissible and impermissible notions about a subordinated group's position in soci-

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155. See, e.g., Virginia, 116 S. Ct. at 2276. The Court stated:

The heightened review standard our precedent establishes does not make sex a proscribed classification . . . . Physical differences between men and women . . . are enduring: "[T]he two sexes are not fungible; a community made up exclusively of one [sex] is different from a community composed of both."

156. Hogan, 458 U.S. at 725.

157. See id. at 728 (quoting Weinberger v. Wiesenfeld, 420 U.S. 636, 648 (1975)).

158. See id. at 730.

159. Id. at 735 (Burger, J., dissenting); see also id. at 723 n.7 (declining to "address the question of whether MUW's admissions policy, as applied to males seeking admission to schools other than the School of Nursing, violates the Fourteenth Amendment.")
Women may need their own math and science courses because they have suffered harassment and neglect in coed classrooms, or because males and females have incompatible learning styles. Yet, when educators explain the reasons for single-sex pilot programs, they often veer dangerously close to proscribed "generalizations about 'the way women are'"—slower to think, less likely to shout out answers, more eager to help their classmates. Black Americans anxious to improve the prospects for inner-city youth grapple with a similar dilemma. For example, Jawanza Kunjufu argues that black males feel alienated in schools pervaded by "white" teaching methods because blacks tend to be right-brained and thus to learn in relational ways that white teachers ignore. Such remarks exemplify the danger that, in emphasizing and even celebrating cultural difference, reformers will inadvertently stereotype and marginalize subordinated groups. If the distinction between genetic inferiority and socially-constructed disadvantage gets lost in the shuffle, the courts, the public, and perhaps the subordinated group itself will perceive only the message of helplessness. Stigmatic injury to females is too remote for a male plaintiff to raise, but a female student concerned about the quality of her academic credentials may suffer actual injury from an ill-considered remedial approach.

Walking the fine line between a legitimate compensatory purpose and illegitimate role-typing, schools face two evidentiary problems. First, although statistics corroborate girls' under-achievement in mathematical and scientific fields, much of the evidence of classroom bias is anecdotal. Second, schools that admit that their counselors and teachers have

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160. For example, in Califano v. Webster, the Court decided that a gender preference based on women's typically low earnings compared to men's was not an archaic and overbroad generalization. See 430 U.S. 313 (1977). Yet, that same term, the plurality in Califano v. Goldfarb, viewed the assumption that wives are usually dependent on their husbands' income as impermissible. See 430 U.S. 199 (1977).

161. See, e.g., Virginia, 116 S. Ct. 2264 at 2284.

162. See e.g., Davis, supra note 9 (quoting a Ventura High School math teacher who says that "boys are more task-oriented while girls are a little slower because they want to make sure everyone understands").

163. See Kunjufu, supra note 137, at 14, 34-35. Kunjufu explicitly characterizes black boys' dress, holistic learning style, musical taste, and verbal sparring rituals known as the "dozens" as cultural strengths. See id. at 14-18. He contends that "we cannot afford to have teachers placing negative value judgments on Black culture." Id. at 14. However, despite his affirmation of black male values, Kunjufu may perpetuate an undesirable gulf between black and white, male and female, by emphasizing that African-American boys must be taught differently.

164. See supra note 98 and accompanying text.

165. See generally Sadker & Sadker, Failing at Fairness, supra note 8, at ix-x (presenting evidence gleaned from "thousands of hours of classroom observation" in elementary through high school classes). The Sadkers used "objective and systematic" means
systematically ignored girls' needs expose themselves to crushing liability in suits by female plaintiffs. If evidence of specific instances of discrimination is required, public officials will have strong incentives to settle out of court.

A school may not need to make a particularized showing of bias against women, however. While "societal discrimination without more" does not sustain racial preferences, the landscape is less clear with regard to gender. In Califano v. Webster, for instance, the Court used intermediate scrutiny to uphold a statute allowing women to exclude more low-earning years than men could in the computation of retirement benefits. The Court did not demand evidence of past discrimination against every woman who benefited from the statute; rather, the classification survived because it held true in the aggregate. Moreover, past wage inequalities were compensable "whether [they arose] from overt discrimination or from the socialization process of a male-dominated culture." Califano thus indicates that extant research on gender disparities in test scores and classroom interaction adequately corroborates the remedial purpose of all-female math and science programs.

Secondary-school boys still enjoy an academic edge in math and science. As long as schools merely seek to level the playing field, the introduction of remedial classes for girls furthers an important social end that outweighs a male plaintiff's interest in gender neutrality. Moreover, the argument that single-sex education is legally available in private schools ignores an important function of public education: the provision of equal opportunities for all children, regardless of socioeconomic class. If state-funded schools shortchange girls, it should not be only affluent females who can seek a remedy for their flagging academic performance.

b. Substantial Relationship Between Means and Ends

Feminist detractors of the pilot programs attack the means the state has chosen to remedy female disadvantage, rather than the remedial goal of analyzing information gathered by trained "raters." However, much of the book is recounted in anecdotal form, which makes its accuracy difficult to assess.

167. Id. at 276 ("Societal discrimination, without more, is too amorphous a basis for imposing a racially classified remedy.").
169. See id.
170. See id. at 318 n.5.
171. Id. at 318 (quoting Kahn v. Shevin, 416 U.S. 351, 353 (1974)) (emphasis added).
172. See supra notes 46-47 and accompanying text.
In legal terms, female plaintiffs are likely to focus their opposition on the imperfect fit between the single-sex format and the goal of encouraging girls to excel in math and science. Does the mere presence of the boys cause the trouble? Does separating the girls substantially improve their performance? Or do we need far-reaching changes that make classroom culture more conducive to achievement by both sexes?

Critics of the current state of coeducational schooling worry about the harassment of girls by boys. But the attitudes of teachers, administrators, and parents seem to represent an even more pervasive concern. One study reports that counselors openly admit to discouraging female students from advanced mathematical study. Similarly, mothers may refrain from demanding a high level of performance from their daughters because they remember their own discomfort in male-dominated math and science classes. These factors, combined with the finding that teachers inhibit girls from developing independent thought patterns, say less about the need for a single-sex environment than they do about the importance of reforming coed classrooms.

However, while educators have not exhausted all of the alternatives to single-sex education, equal protection law does not require them to do so. Under intermediate scrutiny, the fit between means and ends must be "substantial," but the state does not have choose the least restrictive alternative. Moreover, despite speculation about the drawbacks of single-sex classes, studies showing that voluntary enrollment in all-female secondary schools and universities has positive effects on women’s self-esteem and subsequent achievement undermine the argument that voluntary segregation stigmatizes its participants. There may be significant differences between an institution that accepts only girls and a girls-only island in a coeducational facility, but research on the benefits of single-sex schools suggests that educational choice minimizes the stigma attached to segregation.

173. See supra notes 108-10 and accompanying text.
174. See supra notes 38-40 and accompanying text.
175. See supra notes 35-37, 43-45 and accompanying text.
176. See Stage et al., supra note 19, at 242-43.
177. See id. at 242.
178. See Fennema & Patterson, supra note 19, at 27.
181. See infra notes 184-90 and accompanying text.
182. See id.
For example, Valerie Lee and Helen Marks followed students from their sophomore year in seventy-five Catholic high schools until their junior year in college and determined that girls who attended all-female secondary institutions had fewer stereotypical views of gender roles, a greater orientation towards "challenge and prestige in the workplace," and more interest in politics than their counterparts from coed schools. The girls from single-sex high schools enrolled in prestigious universities in greater numbers and often chose mixed-gender undergraduate institutions, defying the notion that females adapt poorly to coed environments after being cloistered from boys.

Even a sustained preference for all-female instruction seems to have few debilitating effects. Statistics show that graduates of women's colleges are two to three times more likely to go to medical school than their coed counterparts, and Seven Sisters alumnae account for forty-three percent of the math doctorates and fifty percent of the engineering Ph.Ds earned by women.

As a student note about all-black education suggests, feelings of inferiority seem to arise from a lack of choice. Thus, "children [voluntarily enrolled] in African-American immersion schools may feel that they are no longer being ignored by their educational system—that they are a priority. The children might even feel special, and perhaps that feeling may drive them to try even harder to succeed." For similar reasons, girls taught in a single-sex environment seem to shed perceptions of science and math as masculine preserves and learn to speak their minds in the lecture hall and the laboratory.

183. See Lee & Marks, supra note 18, at 582-85. It is imperative to note that Lee has called single-sex math classes in coed schools "a bogus answer to a complex problem." See Hancock & Kalb, supra note 10, at 76. I cite Lee and Mark's study of Catholic high school students to rebut the idea that gender segregation always stigmatizes females, not to imply that Lee supports the girls-only math and science pilot programs.

184. See Lee & Marks, supra note 18, at 581, 583.

185. See Sadker & Sadker, Failing at Fairness, supra note 8, at 233 (citing Yadwiga Sebrechts, The Cultivation of Scientists at Women's Colleges, 4 J. NIH Res. 22-26 (1992)).

186. See Susan Estrich, Bias at the Blackboard, San Francisco Chron., May 29, 1994, at 14Z3 (listing Barnard, Bryn Mawr, Mount Holyoke, Smith, and Wellesley as examples of all-women's colleges whose graduates earn these advanced degrees).


188. Id.

189. See Marland, supra note 49, at 181.

190. See Sadker & Sadker, Failing at Fairness, supra note 8, at 248-49 (citing a Yale undergraduate thesis which "found that the women from single-sex schools were not only more assertive than women from coed institutions but they were more assertive than the men as well").
The Supreme Court’s holdings in the equal protection area invalidate the use of “gender as an inaccurate proxy for other, more germane bases of classification.”\textsuperscript{191} For example, in \textit{Craig v. Boren}, the Court found the relationship of males’ slightly higher rate of alcohol-related traffic accidents to the regulation of beer sales too insubstantial to necessitate a gender distinction.\textsuperscript{192} Independent variables contributing to the success of single-sex math and science programs arguably pose \textit{Craig}-type problems. The enthusiasm surrounding the inauguration of a special project, the use of novel teaching methods, and the gender make-up of the faculty might explain the increased confidence of girls in single-sex classes.

However, the state’s argument in \textit{Craig} involved leaps of logic that are not required in the case of all-girls math and science. Oklahoma offered statistics about \textit{driving} to corroborate a gender distinction in the regulation of beer \textit{sales} and asked the Court to infer that men who cannot buy alcohol legally will not drink and drive.\textsuperscript{193} The single-sex education argument is much less improbable. Even if the absence of boys is not the \textit{only} factor that raises girls’ achievement, it undeniably plays an important part. Teachers who treat the sexes equally can devote only fifty percent of their time to female students in a perfectly gender-balanced classroom, and studies like the AAUW Report show that, in fact, boys ask and answer almost every substantive question.\textsuperscript{194} In an all-female class, on the other hand, girls get one hundred percent of the attention.

Choosing the single-sex option may not be the best solution to girls’ math and science woes, but the existence of alternatives does not make programs founded on concrete pedagogical evidence unconstitutional. The pilot math and science classes target a discrete time window in the educational career of adolescents when peer pressure from the opposite sex is the greatest. The short-term, voluntary nature of the programs, in addition to their avowed aim of improving girls’ academic performance, affects the social message they convey. In short, they do not embody the evils against which \textit{Brown} or \textit{Hogan} sought to protect.

III. The Title IX Patchwork

Title IX erects a formidable hurdle to the establishment of single-sex classes in coed schools. Because it can be enforced administratively, the statute threatens educational institutions with the loss of federal funds for offending programs, even if no plaintiff alleges harm. The legislators who

\begin{itemize}
  \item \textsuperscript{191} Craig v. Boren, 429 U.S. 190, 198 (1976).
  \item \textsuperscript{192} \textit{See id.} at 204.
  \item \textsuperscript{193} \textit{See id.} at 200-01.
  \item \textsuperscript{194} \textit{See supra} notes 33-34 and accompanying text.
\end{itemize}
drafted Title IX stitched together an odd assortment of prohibitions and exemptions. The result is a statute that theoretically forbids any program that receives federal financial assistance from excluding, discriminating against, or denying benefits to any person on the basis of sex\textsuperscript{195} but that is, in fact, riddled with loopholes. For example, the act implicitly exempts from regulation the admissions policies of secondary and elementary schools,\textsuperscript{196} as well as public universities that have been traditionally and continually single-sex.\textsuperscript{197} It allows gender-based associations like fraternities and sororities,\textsuperscript{198} Boys' and Girls' State conferences,\textsuperscript{199} and beauty pageants,\textsuperscript{200} and exempts religious and military institutions.\textsuperscript{201}

Despite the legislature's deference toward a grab-bag of gender distinctions, courts have invoked Title IX to invalidate single-sex programs. For example, in Garrett v. Board of Education,\textsuperscript{202} a case involving three black male academies, the Eastern District of Michigan interpreted Title IX to preclude new gender-based admissions policies and suggested that prohibitions against "different aid, benefits, or services" bar special educational offerings for one sex.\textsuperscript{203} Exploring the legal status of girls' math and science classes in light of Garrett exposes a contradiction between the safeguards against asymmetry that are built into the text of Title IX and the goals articulated on the Senate floor. The Garrett court refused to accept "gender as a proxy for 'at-risk' students" or to equate under-achievement with the presence of the opposite sex.\textsuperscript{204} Moreover, it was unsympathetic to the defendant's use of a remedial argument based on the Title IX imple-

\textsuperscript{196} See 20 U.S.C. § 1681(a)(1) (stating that "in regard to admissions to educational institutions, this section shall apply only to institutions of vocational education, professional education, and graduate higher education, and to public institutions of undergraduate higher education"). Secondary and elementary school admissions policies are thus exempted by omission. See id.
\textsuperscript{197} See id. § 1681(a)(5).
\textsuperscript{198} See id. § 1681(a)(6)(A).
\textsuperscript{199} See id. § 1681(a)(7).
\textsuperscript{200} See id. § 1681(a)(9).
\textsuperscript{201} See id. § 1681(a)(3)-(4).
\textsuperscript{203} See id. at 1008-09. The court viewed the "exemption for admissions as applicable primarily to historically pre-existing single-sex schools [and not as] authorization to establish new single-sex schools." Id. at 1009. Moreover, it noted that "it is unclear . . . whether all of the course offerings at the Academies can be had at any one school and from the evidence before the Court it appears this is not the case." Id. at 1009. Thus, the plaintiff had a sufficient likelihood of proving that the male-only schools provided different aid and benefits to obtain a preliminary injunction. See id. at 1008-09.
\textsuperscript{204} Id. at 1007.
menting regulations, perhaps because urban girls face problems almost as great as those afflicting urban boys.205

The black male academies at issue in Garrett differed in significant ways from all-female math and science programs, however. Not the least of these differences was the lack of a controlled, scientific study showing the relationship between coeducation and the ills afflicting black males.206 While the Detroit School Board cited statistics demonstrating that ten percent fewer black girls drop out of school, it did not link this slight disparity to concrete data about teaching methods and male-female interaction in the classroom.207 Moreover, it could produce only anecdotal evidence about the success of male Afrocentric programs elsewhere in the country.208 Because such programs were new, the school board had no data on the sustained achievement of students enrolled in them, and because the ghetto presents unique racial and economic strains, research on boys' education in general does not suffice.209 The empirical case for the inner-city male academies is thus weaker than that for all-female math and science classes. Moreover, while conferring an exclusive benefit on boys flies in the face of Title IX's objectives, the legislative history indicates an intent to encourage female entry into traditionally male fields210 and is thus more sympathetic to the aims of the all-female math and science classes.

A. The Fate of the Black Male Academies

In August 1991, the Eastern District of Michigan issued a preliminary injunction halting plans to open three academies for boys.211 The acade-

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205. See id. at 1009-10 (declaring that, because the Office of Civil Rights did not accept the school board's proffered affirmative action rationale, the plaintiffs met their burden of showing the likelihood that their Title IX claim would succeed). Although the court did not expressly link the problems of urban females to the viability of a remedial rationale, the opinion suggests that the problems in need of remedy were not gender-specific. See id. at 1007.


207. See Garrett, 775 F. Supp. at 1007 ("The Board has proffered no evidence that the presence of girls in the classroom bears a substantial relationship to the difficulties facing urban males.").

208. Some programs for black males have produced positive effects. For example, at Matthew Henson Elementary School in Baltimore, boys in an all-male third-grade class improved their test scores, attendance, and discipline records. See Ray, supra note 5, at A16. Boys who had been absent as many as 35 to 40 days per year only missed two days of the all-male class. See id.

209. See Weber, supra note 187, at 1101. Of course, proponents of schools for black boys could argue, as could advocates of girls' math and science classes, that the lack of long-term data about the benefits of such programs underlines the need for further experimentation.

210. See infra notes 229-34 and accompanying text.

211. See Garrett, 775 F. Supp. at 1006.
mies would have offered an Afrocentric curriculum emphasizing male responsibility and preparation for futuristic careers for students in preschool through fifth grade.\textsuperscript{212} The Detroit School Board planned to pair students with male role models and to extend class hours into the weekend.\textsuperscript{213} Although the academies were technically open to boys of all races, they were located in black neighborhoods, and they specifically targeted the educational problems of black males.\textsuperscript{214}

Like its siblings in Baltimore, Milwaukee, and Dade County, Florida, the Detroit program responded to evidence that, in African-American communities, boys have lower educational attainment than girls.\textsuperscript{215} Fifty-four percent of black males in Detroit fail to finish high school, compared to forty-five percent of black females in that city, and the boys consistently score lower on standardized tests in reading and math.\textsuperscript{216} The crisis of the inner-city and the solutions devised to ameliorate it thus invert the gender imbalances in mainstream American schools. Rather than nakedly perpetuating male privilege, the Detroit School Board sought to benefit African-American males whose academic performance lagged behind that of black females and was exacerbated by the ever-present specter of violence and drug abuse.\textsuperscript{217}

The courts were not sympathetic to the plans of the Detroit School Board, however. When the parents of three female students requested injunctive relief, a district judge declared that the exclusion of females did not bear a substantial relation to improving black male academic performance.\textsuperscript{218} The court also found that, for three reasons, the plaintiffs had a likelihood of success on their Title IX claims.\textsuperscript{219} First, the admissions ex-

\textsuperscript{212} See id. at 1005.
\textsuperscript{213} See id. (describing the important features of Detroit’s male academies).
\textsuperscript{215} See Ray, supra note 5, at A16; Stout, supra note 5, at A22 (citing evidence that a disproportionate number of black males drop out of school).
\textsuperscript{216} See Note, supra note 214, at 1743 (noting that the black male dropout rate in Detroit is 10 percent higher than that of black females, that black boys do worse on standardized tests in reading and math, and that they receive 66 percent of all suspensions from school).
\textsuperscript{217} See Garrett, 775 F. Supp. at 1006; see also Note, supra note 214, at 1743.
\textsuperscript{218} See id. at 1007. While the uncertain connection between excluding girls and improving black male academic achievement constituted the grounds for concluding that the academies violated the Equal Protection Clause, the school board’s apparent lack of concern for the problems facing black girls also raised Title IX issues. If the school board had thought to provide the same intensive Afrocentric instruction and mentoring for girls, the “different aid, benefits, and services” problem would not have loomed so large. See id. at 1007-08.
\textsuperscript{219} See id. at 1009. The district court also considered the legal status of the male academies under the Equal Educational Opportunities Act, 20 USC § 1701 et seq. (1990), but distinguished the only applicable EEOA case, United States v. Hinds County Sch. Bd., 560
emption to Title IX for grades K through 12 applies only to established programs and not to new ones. Second, because the boys benefited from special classes and mentoring not available in Detroit’s coed facilities, the academies failed to protect the girls’ statutory right to the same benefits and services as males. Finally, the court deferred to the opinion of the U.S. Office of Civil Rights with regard to the academies’ remedial purpose. The school board alleged that “conditions have resulted in limited participation of urban males in educational programs and activities” and that, even absent a finding of discrimination, the all-male academies served an affirmative action goal. Nonetheless, the OCR’s opinion that “all male public elementary and secondary school programs violate Title IX” showed the plaintiffs’ likelihood of success on the merits.

The district court did not engage in a “separate but equal” analysis in Garret because Detroit offered “no schools for girls even comparable to the Male Academies.” However, in its discussion of Title IX, the court seemed more concerned with the girls’ statutory right to the same benefits and services as boys than with the proscription of single-sex admissions policies.

B. Affirmative Action and Remedial Purpose under Title IX

Although the Garret court largely ignored the remedial purpose that the Detroit School Board articulated, Title IX’s implementing regulations do authorize affirmative action programs in some circumstances. Because classes addressing girls’ educational disadvantages harmonize with Congressional concern about the invidious effects of sex discrimination on women, they satisfy Title IX more readily than do the black male academies.

F.2d 619 (5th Cir. 1977), on the grounds that while Title IX proscribes involuntary, permanent school assignments based on sex, it does not proscribe voluntary, experimental programs. See id. at 1010. Hinds does not control the legality of single-sex math and science classes for the same reason. See id.

See id. at 1009.

See id.

See id. at 1009-10 (noting that the Michigan State Department of Education had notified the defendant that the male academies violated Title IX).

Id. at 1009 (summarizing the defendant’s argument and quoting language from the Title IX implementing regulations, 24 C.F.R. § 106.3 (1997)).

See id. at 1009-10.

See id. at 1006.

See id. at 1009 (noting that the plaintiffs’ claims did not rest solely upon their exclusion from the boys’ academies, but also on the fact that special features of the boys’ curriculum were unavailable at coed schools).

See infra note 247 and accompanying text.

See infra notes 229-34 and accompanying text.
Senator Bayh introduced the Senate version of Title IX in 1972 by declaring that "[o]ne of the great failings of the American educational system is the continuation of corrosive and unjustified discrimination against women." 229 The problem he identified can be generalized as a denial of access: Sexist admissions policies kept women out of prestigious colleges and graduate programs, as did the inequitable distribution of scholarship money. 230 Not surprisingly, Bayh's speech did not contain a word about men being kept out of anything.

It is in light of Congress' dominant concern with the exclusion of women from lucrative career tracks that Title IX's limitations on single-sex education must be viewed. In the sphere of vocational education, for example, Bayh noted:

The discriminatory effect of sex segregation in vocational education is that many fields which are designated for females such as cosmetology or food handling are less technical and therefore less lucrative than fields such as TV repair and auto mechanics "reserved" for males. And yet it is only tradition which keeps women out of these fields. 231

Bayh noted similar imbalances in higher education, particularly in the advanced sciences. For example, in 1970, women constituted only 29.3 percent of the freshman class in the nation's thirty-five most selective colleges, 232 thirty-one percent of first-year enrollees in biochemistry, 233 and ten percent or less of the students at seventy-one medical schools across the country. 234

Although the speeches on the Senate floor in 1972 voiced concern about the underrepresentation of women in certain areas of academia, including math and science, the plain language of the statute does not lend itself to an anti-subordination reading. Statutory provisions stating that no person shall be denied benefits on the basis of sex necessarily circumscribe

229. 118 CONG. REC. 5803 (Feb. 28, 1972) (speech by Senator Bayh).
230. See, e.g., id. at 5805 (noting that financial aid awards to men were, on average, $215 higher); see also id. at 5806 (citing testimony that "at lower levels of ability, applications from men are markedly preferred over identical applications from women"); id. at 5808 (reporting that, according to a study done in 1971, 40 percent of boys with high school grades of C or lower gained admission to college, while only 20 percent of girls with the same grades were accepted); id. at 5809 (stating that fewer women were accepted to graduate school than men, even though undergraduate grade point averages for women were significantly higher).
231. See id. at 5806.
232. See id. at 5809.
233. See id. at 5805.
234. See id. at 5806.
remedies for group-based discrimination. Moreover, the legislative history demonstrates that Congress rejected quotas in favor of "equality of opportunity," and that Bayh himself distinguished "overt discrimination," which the Senate Bill targeted, from societal "sex-role expectations," toward which Congress exhibited greater ambivalence. The floor discussion nevertheless focused on statistics, and, in doing so, sowed the seeds of discord over what should be done if anti-differentiation failed to eradicate gender disparities.

The potential tension between the anti-subordination and anti-differentiation strands in the statutory scheme did not seem so troubling when the Education Act Amendments were passed because, in 1972, gender distinctions favored the dominant sex. Even the debate over mandatory coeducation often included the assumption that single-sex schools discriminated against women, either by refusing to admit them or by channeling them into stereotypical, low-paid jobs.

While Congress may have intended to allow experimentation by enacting a hodgepodge of exemptions, the incoherence of Title IX with regard to single-sex education gives the courts little guidance. The exemptions for public universities with traditionally single-sex admissions policies seem to have arisen from constituency politics. Defending Texas Woman's University, a public institution in their home state, Senators Bentsen and Tower expressly rejected the idea that the existence of such schools posed a civil rights concern. Bentsen contended:

The women attending [Texas Woman's University] do so voluntarily because they wish to have the experience of attending an all-female institution. If they did not want to attend, they could go to North Texas State or another institution of higher education in Texas. Is this really a civil rights issue? I do not think in this instance it is. [Texas Woman's University] has a cohesiveness that other institutions do not have. It is a unique and distinctive institution, and it should be allowed to exist.

235. See Title IX of the Education Act Amendments of 1972, 20 U.S.C. § 1681(a) (1994) ("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.").
236. See 118 Cong. Rec. at 5812.
237. See id. at 5805.
238. See, e.g., id. at 5807 (discussing the need to encourage all-male schools that had recently begun to admit women).
239. See, e.g., id. at 5806 (discussing single-sex vocational schools).
240. See id. at 5814 (recording a speech by Senator Bentsen).
241. Id. Senator Tower's support of the women's school arose from more personal than political sentiments. He reported that his wife "graduated from Texas Woman's University and received a very fine education from A to Z there." Id. (speech by Senator Tower).
Significantly, Bentsen did not see a contradiction between Title IX’s guarantees of educational equality and his emphasis on the “uniqueness” of Texas Woman’s University. With regard to the number and effectiveness of single-sex elementary and secondary facilities, Senator Bayh admitted that the Senate possessed no statistics and recommended postponing a Congressional decision until research on the issue was more complete. However, unlike Bentsen and Tower, Bayh predicted that the data would ultimately disfavor single-sex admissions.

Tensions between anti-differentiation and anti-subordination afflict Title IX’s implementing regulations as well. The regulations raise a barrier to gender-segregated math and science classes by prohibiting gender distinctions in course offerings, with the exception of vocal choruses, sex education, and contact sports like wrestling, and forbidding the provision of “different aid, benefits or services” based on sex. Even if boys and girls both enjoy a single-gender option, the regulations declare that a federally-funded school may not “[p]rovide services in a different manner.” Hence, a teacher who varies her instructional style between an all-female and an all-male class may do so illegally.

An intent to remedy gender imbalances arguably overcomes these problems. The Secretary of Education has established regulations providing that federal aid recipients shall take remedial action if they have “discriminated against persons on the basis of sex” and that recipients may implement affirmative action programs “to overcome the effects of conditions that resulted in limited participation . . . by persons of a particular sex.” The Detroit School Board relied unsuccessfully on this disparate impact language, and, while the Garrett court declined to discuss affirmative action under Title IX, it is not difficult to see why the black male academies did not prevail on such a theory. Aside from the conclusions of

242. See id.
243. See id. at 5807. Senator Bayh stated:
I have been amazed to learn that the Office of Education does not even keep statistics on how many elementary and secondary schools—even public schools—are restricted in admissions to one sex. After these questions have been properly addressed, then Congress can make a fully informed decision on the question of which—if any—schools should be exempted.
Id. But see Rhode, supra note 11, at 136-37 (“From the substantial amount of academic research on the subject [of single-sex education], the legislators’ professed ignorance seemed largely self-imposed.”).
244. See 118 Cong. Rec. at 5807 (quoting Senator Bayh) (“My view is that many of these exemptions will not be supportable after further study and discussion.”).
246. See id.
247. See id. at § 106.3(a)-(b).
a few educators that white female teachers misinterpret the behavior of African-American males, dismissing them as hoodlums or persons with learning disabilities, there is little concrete data showing that black males receive less or different attention from the school system than their female counterparts. Their slightly higher dropout rates constitute the only evidence that their participation in academic activity has been more "limited" than that of black girls, almost half of whom never wear a cap and gown.

In contrast, research on the treatment of female students establishes that, across the country, educators have violated the dictates of the implementing regulations by instructing girls in a "different manner" than boys in coeducational settings and by discriminating against girls in counseling and guidance. Even if the Secretary of Education does not find discrimination by individual schools, the low numbers of women in advanced math and science classes by the twelfth grade and the silence of those who do enroll constitutes "limited participation" within the meaning of the affirmative action provision.

Analysis of Title IX in the context of the recent retreat from single-sex pilot programs highlights the need for statutory flexibility to accommodate experimentation but counsels against embracing an anti-subordination principle that ignores a web of factors producing disadvantage. The role of socioeconomic status, which the AAUW calls the single most accurate predictor of educational outcomes, demands further research. In the case of the black male academies, the gender imbalance is dwarfed by larger disparities between African-American urban communities and the rest of society. Creating the false sense that only the boys in the inner city "need a vision and a plan for living" will do little to solve the problem. Yet,

249. See, e.g., JANICE E. HALE-BENSON, BLACK CHILDREN: THEIR ROOTS, CULTURE, AND LEARNING STYLES 1-2 (rev. ed. 1986) (asserting that the failure of the present system is shown by the disproportionate number of black children who are either labeled hyperactive and given tranquilizing drugs or labeled mentally retarded and placed in special education classes.)

250. See supra note 216 and accompanying text.

251. See id. at § 106.31(b)(2).

252. See id. at § 106.3(a)-(b) ("A recipient shall not discriminate against any person on the basis of sex in the counseling or guidance of students or applicants for admission.").

253. See id.

254. See HOW SCHOOLS SHORTCHANGE GIRLS, supra note 31, at 34. The AAUW reports that girls of low socioeconomic status do better than boys of similar status, regardless of race, and that, by eighth grade, very few children of low socioeconomic status score at advanced levels of reading or math. Reciprocally, very few affluent boys and girls score below basic levels. See id.

where gender dynamics do seem to explain inequality, the single-sex option merits exploration. Educators cannot assess the benefits of all-female learning if they are not allowed to experiment.

With all its ambiguities, Title IX might be interpreted to preclude experimentation with gender separation in math and science. The impediments that the statute and its implementing regulations create to segregated classes in coed schools, but not to single-sex admissions in grades K through 12, lacks a valid theoretical underpinning. Thus, although caution is imperative, legislators ought to amend the statute to clarify the legality of voluntary single-sex classes in subjects in which girls' participation has been discouraged.

IV. Single-sex Math and Science: Short-Term Gain But Long-Term Disaster?

A. Diversity, Assimilation, and Educational Reform

Freeing the discussion for a moment from the constraints of legal doctrine illuminates the reasons that some Americans believe the state should impose integration on subordinated groups. Those who read the integrationist mandate of Brown to forbid all separate educational facilities have watched the creation of black academies and theme houses with horrified bemusement. For example, Dr. Kenneth Clark, whose research on the psychological effects of racial segregation was cited in Brown, calls the decision to send black children to racially-exclusive institutions "academic child abuse."

The rise of coeducation was not fraught with the violence and passion that characterized the struggle for racial integration. Nevertheless, many feminists see a return to single-sex schools as a betrayal of hard-won victories over sex discrimination. Appeals to the tradition behind all-female schooling conjure memories, not only of the Seven Sisters' historic promises that such a program "suggests a false dichotomy between the roles and responsibilities of boys and girls." See id.

256. See, e.g., Drew S. Days, Brown Blues: Rethinking the Integrative Deal, 34 WM. & MARY L. REV. 53, 72 (1992) (observing that "[s]ome blacks and whites who had fought to end segregation viewed [the establishment of black Afro-American housing on integrated college campuses] as striking at the very heart of what Brown symbolized"). Days himself recognizes that integration came at a high cost to blacks, who bore the brunt of busing, teacher lay-offs, and increased discipline. See id. at 55. However, he argues that the interest in "saving black males from educational and social disaster" does not require the exclusion of whites. See id. at 61-62.


258. See supra notes 107-10 and accompanying text.
nence, but also of the argument that giving women the same education as men would divert menstrual blood to their brains.\textsuperscript{259} The value of integration may extend beyond equality of resources, prestige, and instruction. In \textit{University of California Regents v. Bakke},\textsuperscript{260} Justice Powell accepted the petitioner's characterization of educational diversity as a compelling state interest because it contributes to the "robust exchange of ideas."\textsuperscript{261} Exposure to the perspective of a black student forms a vital part of a white student's education; likewise, observing a schoolgirl competently prove a theorem affects a boy's perception of the opposite sex. If blacks and females shun the integrated classroom, part of this diversity will be lost, and academic conversation will be correspondingly diminished.

Nancy Denton and Douglas Massey suggest that the insularity of black neighborhoods has created a counterculture that quite literally speaks a different language than that of mainstream America.\textsuperscript{262} Sending children from these communities to schools that are exclusively black, as a matter of policy or geography, intensifies their social isolation and insures that they never acquire the cultural and linguistic tools necessary for success in the American economy.\textsuperscript{263} In a similar fashion, white children sheltered from contact with other races adopt their parents' views without having such assumptions and biases challenged in the classroom. Moreover, resegregation conveys the unfortunate message that blacks have given up the battle to integrate American classrooms and that tensions between the races are irreconcilable. Hence, while all-black schools seek to instill ethnic pride in their students, they risk imparting a lesson of despair about the prospects for racial reconciliation.

In the case of gender, however, one wonders whether a temporary window of segregation during the adolescent years would dangerously impoverish the learning process. Some theorists believe that \textit{de facto} separation already afflicts our coed institutions. David and Myra Sadker contend, for example, that within public schools, "[t]here are two separate, alien, unequal nations... walled off by gender but left undisturbed," and that this unofficial segregation manifests itself in separate cafeteria tables, sex-spe-

\textsuperscript{259} See \textit{Sadker \& Sadker, Failing at Fairness}, \textit{ supra} note 8, at 231 (discussing the ideas of Dr. Edward Clarke, author of \textit{Sex and Education} (1873)).
\textsuperscript{260} 438 U.S. 265 (1978) (Powell, J., plurality opinion).
\textsuperscript{261} See \textit{id.} at 312-13.
\textsuperscript{263} See \textit{id.} at 141.
specific playground games, and unequal classroom interaction.\textsuperscript{264} According to the Sadkers, educators must strive against these gender boundaries, not reinforce them.\textsuperscript{265} David Sadker criticizes single-sex math and science programs on the grounds that it is "a plan that misses two boats: ... the education of boys, and the reality that children need to learn how to cope in a coed world."\textsuperscript{266} However, several researchers, including Sadker, have expressed the view that single-sex classes represent a laboratory where teachers can acquire insights for later use in the coeducational setting.\textsuperscript{267} The desirability of such a short-term approach stems from the concern that, although limited separation may do adolescents some good, prolonged isolation from the opposite sex could spell disaster.\textsuperscript{268}

Even if girls benefit from the increased attention they receive in single-sex classes, depriving male students of the ability to witness female intellectual competence impoverishes them culturally and may reinforce

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\item \textsuperscript{264} See Sadker & Sadker, Failing at Fairness, supra note 8, at 58-59. Defenders of black separatism notice a similar problem with regard to race. Kevin Brown writes, for example:

[R]acial Realists [his term for black separatists] . . . are not so much choosing racial separation as they are recognizing the realities of racial separation in America's public schools. Despite the desires, aspirations, intentions, and efforts of millions of Americans, the forty-year effort to integrate America's public schools has failed to accomplish its objective. New reports indicate that racial separation of our public schools in 1990 was about the same as it was in 1972.

Kevin Brown, Essay, A Reply to Cummings: Are the Racial Realists Forced to Embrace the Legal Rationale of the Liberal and Integrationist Structures?, 20 Hastings Const. L. Q. 783, 785-76 (1993). The critical difference between Sadker and Brown lies in their solution to the problem of separate realities. For Brown, de facto racial segregation in the public school system justifies the creation of all-black schools. See id. at 786-87. For Sadker, by contrast, gender separation is to be resisted, not embraced. See infra notes 265-66 and accompanying text. Brown and Sadker ultimately are at odds because the "Racial Realist" agenda has led to efforts to create all-male schools attended overwhelmingly by blacks. While Brown asserts that "Racial Realists are concerned not about gender but about race," he admits that "even in areas where the students are predominantly black, separate schools for males without concomitant and equal facilities for females is likely to violate the Equal Protection Clause due to gender-based discrimination." Id. at 784-85. Brown's program threatens to negatively affect black girls. See Richard Cummings, All-Male Black Schools: Equal Protection, the New Separatism and Brown v. Board of Education, 20 Hastings Const. L. Q. 725, 736-41 (arguing that predominantly black all-male academies confer unequal benefits on black girls and that the teaching of Afrocentrism idealizes African cultures in which women have experienced political oppression).

\item \textsuperscript{265} See, e.g. David Sadker & Jacqueline Sadker, Separate—But Still Short-Changed, Wash. Post, Nov. 1, 1995, at A19; Gross, supra note 48, at 5C.

\item \textsuperscript{266} See Hancock & Kalb, supra note 10, at 76 (quoting David Sadker).

\item \textsuperscript{267} See, e.g., Sadker & Sadker, Separate—But Still Short-Changed, supra note 265, at A19; Gross, supra note 48, at 5C (discussing the view of AAUW Report author, Susan Bailey).

\item \textsuperscript{268} See Sadker & Sadker, Separate—But Still Short-Changed, supra note 265, at A19.
their perception of girls as a sexual commodity. Moreover, too few theorists have considered the role that women have played in policing harmful gender norms. The obsession with beauty, for example, may owe almost as much to values handed down from mother to daughter and enforced horizontally by same-gender peer groups as to pressure from men. It is naïve to think that giving girls their own classroom constitutes an instant antidote to the male-referential values that girls imbibe.

I do not believe, however, that the risks of attending single-sex education are as grave as those posed by racial resegregation. It would be rare for a child to mature in total isolation from the opposite sex. One can invent hypotheticals that parallel the extreme insularity of some ethnic neighborhoods: A girl raised by a single mother who has cut ties to her relatives might lack male authority figures and playmates. However, as a general rule, children experience cross-gender socialization at home and in after-school activities. Their world will be coeducational, even though their school is not. Moreover, if we accept the argument that single-sex education encourages females to express their ideas, voluntary gender segregation may have the effect of allowing women to participate more fully in the cultural conversation.

Assimilation—the melting pot, instead of the salad—has an inverse relationship to diversity. It is under the rubric of “assimilation” that Denton and Massey’s concern about Black English fits. In their view, integration represents a necessary avenue for African-Americans to shed their countercultural distaste for education and family responsibility and learn to speak the idiom that most employers require. Testing the accuracy of their vision of a pathological inner-city world lies beyond the scope of this article. However, it is worth asking whether the concept of assimilation has relevance to single-sex education.

Gary Peller contends that “everyday public school culture in integrated schools . . . [is] essentially a white culture.” It is also a male culture with male-defined tests and standards of achievement.

269. See id. (“Boys don’t need their own school to become the center of attention; they are already the center of attention in the coed classroom. Sometimes, all-boys’ schools actually fan the flames of sexism, making a bad problem worse.”).

270. See supra note 190 and accompanying text.

271. See MASSEY & DENTON, supra note 262, at 164-65.

272. See Peller, supra note 100, at 845-46.

273. The AAUW reports that textbook publishers have gradually begun to adopt rules relating to the inclusion of women in history and literature books. Yet, as late as 1990, texts designed to comply with California state guidelines still showed “subtle language bias, neglect of scholarship on women, omission of women as developers of history and initiators of events, and absence of women from accounts of technological developments.” How SCHOOLS SHORTCHANGE GIRLS, supra note 31, at 63. Although I accept that the omission
ons of female "difference" believe that women speak in a unique voice that gets suppressed when they are forced to adopt masculine thought processes. Although girls may learn better in a relaxed and cooperative setting, the presence of boys in classroom learning groups relegates less assertive females to the status of followers.

On the other hand, placing girls in a separate educational setting that emphasizes collaboration at the expense of speed, aggression, and decisiveness may prepare them poorly for the traits that employers reward. In the case of math and science classes, we need to ask whether quick, independent thinking constitutes an integral part of the exercise. Elizabeth Fennema notes, for example, that girls who attain high levels of math achievement often cite "teachers being 'sex-blind'" as their primary positive influence. Aside from the legal necessity of satisfying the "exceedingly persuasive justification" test, educators have practical reasons to scrutinize the content of single-sex classroom instruction.

The debate over Afrocentrism offers a useful parallel. Concerned that white educational culture presents African-Americans as the object but of women from academic materials has a negative influence on women's self-esteem, I believe that the solution to the problem is more complex than just including several chapters on female inventors and authors. I dissent from the idea that we simply should present anomalous high-achieving, public women from a time period in which most females stayed home, raising children or doing farm labor, depending on their social status. I do not think it is helpful in the long run to show the "silver lining" of women's achievement without showing the less palatable reality. See my discussion of Afrocentrism infra notes 279-83 and accompanying text.

The AAUW also documents the alleged existence of gender bias in standardized testing. Here, the evidence of a linkage between the exclusion of culturally "female" questions and the performance of female test-takers is somewhat tenuous. Test questions in verbal and mathematical sections of the PSAT and SAT refer more often to masculine subjects and male characters. See How Schools Shortchange Girls, supra note 31, at 53-57. The AAUW reports that this imbalance "has no demonstrable effect at all on examinee performance" on math word problems. See id. But see Sadker & Sadker, Failing at Fairness, supra note 8, at 153 (claiming that boys and girls perform better on questions relating to their gender and that this has a disproportionately negative impact on girls because there are few feminine questions). The Sadkers observed: "[A] recent group of SAT reading comprehension questions mentioned forty-two men but only three women. One . . . was anthropologist Margaret Mead, whose research was criticized throughout the passage." Id.

274. See generally, e.g., Carol Gilligan, In A Different Voice (1982) (presenting her findings about the different linguistic patterns men and women use to describe their disparate experiences of social reality).

275. See How Schools Shortchange Girls, supra note 31, at 72 (citing Belenky et al., Women's Ways of Knowing: The Development of Self, Body, and Mind (1986)).

276. See id. at 72-73 (noting that, in a recent study of elementary school children, the highest achievers displayed the fewest cooperative attitudes and that group activities in a coed setting tend to provide boys, but not less assertive girls, with leadership opportunities).

277. See Fennema, supra note 19, at 174.

never the subject of history and literature, black educators have developed a curriculum that "teaches basic courses by using Africa and the socio-historical experience of Africans and African-Americans as its reference points."\textsuperscript{279} The goal, according to one scholar, is "to show African-American students that they can maintain their cultural identity and still succeed in their studies."\textsuperscript{280} However, instead of giving the subordinated group a source of cultural pride grounded in documented historical events, Afrocentrism may invent a fictional past. Critics contend, for example, that the use of ancient Egypt as a focal point of black culture ignores evidence that "Egypt is a Middle Eastern, not an African, culture."\textsuperscript{281} Others worry that teaching melanism fosters the reverse racist notion that darker-skinned people possess superior intelligence.\textsuperscript{282} The debate Afrocentrism has spawned underscores the risk embodied in any type of special education: not that it stigmatizes a subordinated group by segregating them (for Afrocentric schools are nominally open to "anyone who wishes to attend on a racially-neutral basis"),\textsuperscript{283} but that it subjects them to questionable pedagogy. Just as shoddy theories cannot compensate for textbooks that mentioned African-Americans only in the context of the slave trade, public schools will do girls a grave disservice if they fail to teach them real math.

One of the most compelling arguments against single-sex math and science focuses on the external nature of the harm: the neglect, belittling, and harassment of girls by educators and male students.\textsuperscript{284} If boys' behavior represents a greater problem than the sexist attitudes of teachers and counselors, separating students on the basis of sex may be the most expedient solution. If adults' discouraging influence on the career aspirations of girls constitutes the pith of the matter, however, single-sex classes may have no salutary effect at all. In any case, a hasty resort to gender segrega-

\begin{thebibliography}{99}
\bibitem{279} Brown, \textit{supra} note 94, at 852.
\bibitem{280} \textit{Id}.
\bibitem{281} \textsc{Dinesh D'Souza}, \textit{IlIiberal Education} 115 (1991) (discussing the rejection of the Afrocentric view of Egypt by classicist Frank Snowden).
\bibitem{282} \textit{See} Steven Siegel, \textit{Ethnocentric Public School Curriculum in a Multicultural Nation: Proposed Standards for Judicial Review}, 40 N.Y.L. Sch. L. Rev. 311, 319-20 (1996) (opining that "[m]ost Afrocentric scholarship is not false, misleading, or racist" but that the melanin theory exemplifies a "radical Afrocentric curriculum ... motivated by rhetorical or ideological purposes"); \textit{see also} Tamara Henry, \textit{Afrocentric Curriculum on Trial: Teaching Self-Esteem or Racism? Milwaukee School Board Decides}, USA TODAY, Dec. 18, 1996, at 6D (noting that Leon Todd, a black member of the Milwaukee School Board, "complains that Afrocentric teachings distort history by attributing supernatural powers to blacks"). \textit{But see} Brown, \textit{supra} note 94, at 853 ("An Afrocentric perspective does not glorify everything blacks have done.").
\bibitem{283} Brown, \textit{supra} note 94, at 858.
\bibitem{284} \textit{See supra} notes 35-40, 43-45 and accompanying text.
\end{thebibliography}
tion begs the question of why girls should choose between bad coeducation and an all-female option. Perhaps we should fix the coed schools instead.

The 1992 AAUW Report advises educators to videotape classes to alert teachers to the sexist practices in which they unconsciously engage.285 Such an approach finds support in Fennema and Patterson's observation that, while math instructors can recognize one trouble-spot, they often refuse to acknowledge a pattern of differential treatment286 relying instead on generalizations about the inherited tendencies of the sexes. If teachers became aware that they respond to the boys who shout the loudest, instead of balancing classroom interaction, they might achieve something close to gender equity. Moreover, some of the cooperative techniques pioneered in all-female classes—hands-on learning, as opposed to rote memorization of lecture material, for example—might have beneficial effects on the academic performance of girls and boys.

B. Conclusion

In Part II of this essay, I suggested that, instead of making classes like Math-PLUS nominally gender-neutral, school boards should argue that the Constitution guarantees equality of opportunity, but not integration. If girls choose an all-female option, concerns about stigmatic role-typing lose much of their force. Moreover, because single-sex math and science programs derive from legitimate empirical research about girls' problems with self-esteem and academic performance in coed settings, they should satisfy the "substantial relationship" test.

The discussion of Title IX in Part III criticized Congress for enacting legislation that protects some single-sex activities, but not others, without a theoretical basis for doing so. A legislative clarification of a statute that controls educational purse strings, regardless of actual injury, is much needed and long overdue. However, my conclusion that there is no principled legal basis for forbidding voluntary gender separation does not amount to an endorsement of its practicality or desirability. Indeed, one of the chief problems with the anti-subordination argument is its tendency to encourage the use of benign classifications where gender-neutral approaches would be more advisable.

Single-sex education arguably poses fewer societal dangers than voluntary racial re-segregation. Yet, despite the relatively benign effects of single-sex classes compared to single-race schools, critics of the math and science pilot programs make a strong case for reforming, rather than dismantling, coeducation. Indeed, if teachers can alter classroom culture

without separating boys and girls, they can combat female underachievement without sacrificing the lessons in tolerance that diversity teaches.