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Beyond Presumptions and Peafowl: Reconciling the Legal Principle of Equality with the Pedagogical Benefits of Gender Differentiation

MICHAEL J. KAUFMAN†

INTRODUCTION

Darwin's theory of natural selection and Aristotle's theory of equality have critical corollaries. Unfortunately, the Supreme Court has disregarded both of them in its Equal Protection Clause jurisprudence.

Darwin's theory of natural selection describes the punitive effect of environmental pressures on individual members of a species that do not possess the traits most conducive to survival within that species.[1] The theory of sexual selection, which generally describes how the female member of the species chooses a male mate, is a corollary of

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1. *See generally* CHARLES DARWIN, ON THE ORIGIN OF SPECIES (1859) [hereinafter ORIGIN OF SPECIES]; CHARLES DARWIN, THE DESCENT OF MAN, AND SELECTION IN RELATION TO SEX (1871) [hereinafter DESCENT OF MAN].

natural selection.[2] Darwin devised his theory of sexual selection in an effort to explain gender differences, using the peafowl as a classic example of this phenomenon.[3] Female peafowl are attracted by, and mate with, male peafowl that have the largest and most colorful tails, traits which are not conducive to peafowl survival against environmental pressures. In fact, colorful plumage tends to attract predators, and large tails decrease the male peafowl's ability to fly to escape predators. Nevertheless, the female peafowl selects the visually attractive male, thereby ensuring that its genes will be more likely to survive in subsequent generations. The peafowl led Darwin to conclude that gender differences are the natural result of the process of differential reproduction.[4]

Although biologists have traveled light-years from Darwin's observations of the peafowl, they recently have reaffirmed the undeniable natural differences between males and females. Geneticists have discovered that the human X-chromosome has developed "a unique biology that was shaped by its evolution as the sex chromosome shared by males and females."[5] Indeed, there is dramatic new

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2. Sexual selection is defined as differential reproduction owing to variation in the ability to attract mates. *See* DOUGLAS J. FUTUYMA, EVOLUTIONARY BIOLOGY 586-94 (3d ed. 1998). The appearance and behaviors of organisms are adapted for both survival and reproductive attractiveness. *See* MARLENE ZUK, SEXUAL SELECTIONS: WHAT WE CAN AND CAN'T LEARN ABOUT SEX FROM ANIMALS 6-7. Darwin posited that color variation was an important aspect of attracting mates. *Id.* With regard to reproductive attractiveness, Darwin showed that females exercise more choice than males in their selection of mates because their limited ability to propagate gives them a greater investment in the reproductive process. *See id.* at 8-10, 55. Males, by contrast, are not so limited in the number of offspring they can produce. *See id.* But because females are limited in the number of offspring they can produce, they are inclined to be selective in choosing a mate who will continue the strongest traits of the species. *See* JOAN ROUGHGARDEN, EVOLUTION'S RAINBOW 125 (2004). Females select "attractive" males because their male offspring are likely to have the same attractive traits necessary to attract females of subsequent generations and because males display the quality of their genes through their attractiveness. DESCENT OF MAN, *supra* note 1, at 258-59.

3. *See* DESCENT OF MAN, *supra* note 1, at 120; MATT RIDLEY, THE RED QUEEN: SEX AND THE EVOLUTION OF HUMAN NATURE 342-43 (1994).

4. *See generally* DESCENT OF MAN, *supra* note 1; RIDLEY, *supra* note 3.

5. Mark T. Ross et al., *The DNA Sequence of the Human X Chromosome*, 434 NATURE 325, 325 (2005).

evidence of significant differences in the genetic composition of men and women.[6] The significant gender differences in brain development have already been proven, and those differences largely contribute to gender differences in learning strategies.[7]

Aristotle's maxim of equality, positing that like cases should be treated in a like manner,[8] also has a necessary corollary often ignored by the United States Supreme Court: unlike cases should be treated in an unlike manner. If, as we are now learning, male cognition is unlike female cognition, then those unlike cases should not be treated the same in the eyes of the law. Yet, in interpreting the Equal Protection Clause of the United States Constitution's Fourteenth Amendment,[9] the Supreme Court has disregarded critical corollaries to both Aristotle's equality principle and Darwin's evolutionary principle. In so doing, the Court has failed to examine whether there are provable gender differences in persons that would legitimate differences in their legal treatment. Instead of seriously considering the biological and developmental differences among the sexes, the Court has presumed that all persons are alike regardless of gender, especially with respect to education.

That unexamined premise forces another presumption: any governmental action that treats persons differently based on gender is presumed to violate the Constitution's Equal Protection Clause. The latter presumption of unconstitutionality, however, finds no support in the principle of equality itself. If there are in fact relevant and significant biological differences in gender, then the legal presumption in favor of treating persons alike regardless of

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6. *See* Laura Carrel & Huntington F. Willard, *X-inactivation Profile Reveals Extensive Variability in X-linked Gene Expression in Females*, 434 NATURE 400 (2005).

7. *See* DOREEN KIMURA, SEX AND COGNITION (1999); ANNE MOIR & DAVID JESSEL, BRAIN SEX: THE REAL DIFFERENCE BETWEEN MEN AND WOMEN (1991) (behavioral differences in boys and girls reflect a basic difference in the brain); RIDLEY, *supra* note 3 (gender differences far exceed racial differences); *see also* discussion *infra* Part II.B.2.

8. ARISTOTLE, NICHOMACHEAN ETHICS, bk. E, 1131a (H.G. Apostle trans., 1984).

9. U.S. CONST. amend. XIV, § 1.

gender is a presumption in favor of laws that treat unlike cases in a like manner.

The presumption of unconstitutionality, which is often rationalized by the rhetoric of equality, is actually based on a normative standard that governmental programs should not injure people because of their gender. That standard may appear laudable, but it is not based on equality. In fact, that normative standard and its attendant presumptions allow the Court to presume the constitutionality of governmental programs that actually injure women *because* such programs disregard the proven inherent conditions that make women different from men. In short, our courts presume that all peafowl are created equal, and any law treating them differently violates the Equal Protection Clause. Yet, not all peafowl are equal. Presuming that they are equal is an affront to those persons the law tries to protect and to the principles and goals of equality.

This Article will demonstrate that the Supreme Court's Equal Protection Clause jurisprudence is in need of significant evolution. Part I demonstrates that in its significant equal protection decisions the Court has explicitly or implicitly presumed that American students are equal in their educational opportunities and learning strategies. By presuming students are equal in status and condition, the Court burdens the government with justifying any differential treatment of students based on their gender, reasoning that heightened scrutiny of gender-based education programs guarantees "equal protection" to the affected students. This presumption has helped the Court to invalidate government programs that disadvantage students because of their gender.[10]

Yet, this Article demonstrates the fundamental fallacy of the Court's presumption of equality. The maxim of equality, that "like" cases must be treated alike, but "unlike" cases must be treated differently, underlies the Court's equal protection jurisprudence. Indeed, the Court construes the Equal Protection Clause as "essentially a

10. *See, e.g.*, United States v. Virginia, 518 U.S. 515 (1996) (presuming the unconstitutionality of Virginia's exclusion of women from its unique military academy).

direction that all persons similarly situated should be treated alike."[11] However, the Court erroneously presumes that gender-based educational programs automatically violate the Equal Protection Clause, ignoring the corollary to the maxim of equality. The presumption that all students are equal is valid only if they are in fact alike regardless of gender. But the Court rarely questions whether male and female students are in fact alike as a descriptive matter. Because the Court fails to examine students' different educational conditions, it presumes that all students are alike regardless of gender and therefore should be treated alike by educational programs. Mounting research suggests, however, that male and female students learn and develop differently; by continuing to treat all students the same, the Court violates the fundamental nature of equality and of equal protection.

Part II explains how the Court's failure to consider the significant gender differences in the educational condition of American students is harmful for at least two reasons, one rhetorical, the other substantive. First, the Court appeals to the rhetoric of equality, but simultaneously undermines the concept by making a disingenuous effort to understand the most relevant measures of equality. Second, by failing to consider the actual learning strategies of women, the Court disregards the existence of significant gender differences in these strategies, contrary to virtually all credible evidence.

The remainder of this Article explores the consequences of a proposed new Equal Protection Clause analysis that recognizes the natural differences between male and female students. In lieu of the three-tier analysis,[12] which is based on unfounded judicial presumptions of equality, this article

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11. City of Cleburne v. Cleburne Living Ctr., 473 U.S. 432, 439 (1985) (citing Plyer v. Doe, 457 U.S. 202, 216 (1982)).

12. *See id.* Specifically, according to the rational basis, intermediate scrutiny, and strict scrutiny tests, respectively: (1) whether the challenged law serves a legitimate, important, or compelling governmental interest; (2) whether the challenged law is rationally related to a legitimate interest, whether the government has an exceedingly persuasive justification for the challenged law, or whether the challenged law is narrowly tailored to achieve the compelling governmental interest. Norman T. Deutsch, *Nguyen v. INS and the Application of Intermediate Scrutiny to Gender Classifications: Theory, Practice & Reality*, 30 PEPP. L. REV. 185, 188-90 (2003).

recommends that courts examine two issues in every case: (1) the challenged law, and (2) the persons challenged by the law.

First, courts would articulate the differential treatment that the law mandates and determine whether that treatment is legitimate, much like the first prong of the traditional analysis. But then courts would determine whether actual differences exist in fact between those who are and are not affected by the law. It would require lower courts to make, and appellate courts to review, an evidentiary determination about whether those persons affected differently by the law are in fact different in their natural or social condition. If the party challenging the law can show either that the law's interests are not legitimate, or that the law treats persons alike when they are in fact different (or different when they are in fact alike), then the law is unconstitutional. Under this model, the law would treat like cases alike and unlike cases differently, true to the equality principle.

In light of the actual gender differences among students, the equality maxim requires the Court to presume the unconstitutionality of gender-based educational programs that treat students "alike" regardless of those differences. Programs that treat students alike regardless of their gender treat "unlike" students in a "like" manner. The presumption against such programs should be just as strong as the existing presumption against programs that treat "like" cases in an "unlike" name.

Accordingly, this article suggests that there should be no judicial presumption against government programs that treat male and female students differently because of their different learning strategies. The government also should not bear the burden of justifying such gender differences. To the contrary, recognizing that significant gender differences exist in education, the government should have the burden of justifying any educational programs that fail to acknowledge those differences. The equality maxim demands no less.

Gender-based educational programs also are consistent with best educational practices. The educational strategy termed "differentiation" requires educators to tailor their instructional practices to meet the different learning

strategies that exist among a group of students.[13] The evidence demonstrates that differentiation of instruction based on learning strategies generally is effective; differentiation of instruction based on male and female learning strategies is successful as well.[14] Accordingly, a governmental program that encourages differentiation of instructional practices for male and female students would treat unlike learners in an appropriately unlike manner. Furthermore, educating female students in a separate environment from male students might treat unlike learners in an appropriately unlike manner, but only so far as the different treatment is tailored to the actual differences in learning opportunities or strategies.

I. THE COURT'S PRESUMPTION OF EQUALITY IS UNFOUNDED

A. *The Court's Equal Protection Clause Presumptions*

The Supreme Court's three-tiered Equal Protection Clause analysis[15] evolved from the Court's suspicion that legislation classifying persons based on race was designed to disadvantage members of a racial minority.[16] Under that analysis, a governmental educational program that affects a "suspect class," like an underrepresented racial minority, will be strictly scrutinized to determine whether it violates the Fourteenth Amendment.[17] The source for such heightened scrutiny is often traced to Footnote Four in

13. *See, e.g.*, CAROL ANN TOMLINSON & SUSAN DEMIRSKY ALLAN, LEADERSHIP FOR DIFFERENTIATING SCHOOLS AND CLASSROOMS (2000).

14. *See id.*; *see also* M. GURIAN, BOYS AND GIRLS LEARN DIFFERENTLY! (2001).

15. *See* Deutsch, *supra* note 12.

16. *See, e.g.*, Korematsu v. United States, 323 U.S. 214, 216 (1944); *see also* Lucy Katz, *Public Affirmative Action & the Fourteenth Amendment: The Fragmentation of Theory after Richmond v. J.A. Croson, Co. and Metro Broadcasting, Inc. v. Federal Communications Commission*, 17 T. MARSHALL L. REV. 317, 339 (1992).

17. Peter Westen, *The Empty Idea of Equality*, 95 HARV. L. REV. 537, 561 (1982) (citing Carey v. Brown, 447 U.S. 455, 460 (1980)); *see also Korematsu*, 323 U.S. at 216 (1944) ("[A]ll legal restrictions which curtail the civil rights of a single racial group are immediately suspect."); Loving v. Virginia, 388 U.S. 1, 11 (1967) ("[D]istinctions between citizens solely because of their ancestry [are] odious to a free people whose institutions are founded upon the doctrine of equality." (quoting Hirabayashi v. United States, 320 U.S. 81, 100 (1943)).

United States v. Carolene Products.[18] Yet, that footnote was designed at most to suggest exceptions to the presumption of constitutionality usually given to legislation.[19] The *Carolene Products* Court cautioned that the presumption of constitutionality may be "narrower" where the challenged legislation is within a "specific prohibition of the Constitution," or where the law "restricts those political processes which can ordinarily be expected to bring about the repeal of undesirable legislation [or is] directed at particular religious [minorities], . . . national [minorities] . . . racial minorities . . . [or] discrete and insular minorities."[20]

While the Court questioned whether "exacting judicial scrutiny" might be appropriate in these circumstances, it never suggested overturning the usual presumption that legislation is constitutionally valid. The Court did not remotely argue that the legislation be presumed unconstitutional in these situations. Nevertheless, under the "strict scrutiny" standard developed since *Carolene Products*, any state regulation that classifies people based on their race is presumed to violate the Equal Protection Clause; that presumption is unassailable unless the state can show that the challenged law is finely tailored to achieve a compelling or substantial state interest.[21] For instance, in *Gratz v. Bollinger*, the Court reaffirmed that any governmental program that classifies persons based on race is presumed to violate the Equal Protection Clause, even if it is designed to assist a "suspect class."[22]

Not only did the Court misconstrue *Carolene Products* to create a presumption against the constitutionality of

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18. 304 U.S. 144, 152 n.4 (1938); *see, e.g.*, City of Richmond v. J.A. Croson Co., 488 U.S. 469, 495 (1989); Regents of the Univ. of Calif. v. Bakke, 438 U.S. 265, 290 n.28 (1978).

19. *Carolene Products*, 304 U.S. at 152, n.4; *see also* JOHN HART ELY, DEMOCRACY AND DISTRUST (1980) (expanding upon the footnote's suggestions to create a theory of judicial review based upon the Court's role in protecting the democratic political process).

20. *Carolene Products*, 304 U.S. at 153.

21. *See, e.g.*, Gratz v. Bollinger, 539 U.S. 244, 270 (2003); Grutter v. Bollinger, 539 U.S. 306, 326 (2003). *See generally* Angelo N. Ancheta, *Contextual Strict Scrutiny and Race Conscious Policy Making*, 36 LOY. U. CHI. L.J. 21 (2004).

22. *Gratz*, 539 U.S. at 270.

racial classifications, it then compounded its error by extending that presumption to legislation that differentiates based on gender. Under the "intermediate" standard of scrutiny, all state educational programs distinguishing people based on gender also are presumed to be "unequal"; that presumption of unconstitutionality is unrebuttable unless the state can provide an "exceedingly persuasive justification" for its law.[23] In *Mississippi University for Women v. Hogan*, the Supreme Court made clear that any governmental classification based on gender is subject to heightened scrutiny, even if the classification unquestionably advantages women.[24] Although the Court suggested that the test for determining the validity of gender-based classifications must be devoid of stereotypical notions of the characteristics of men and women, its declaration was stronger: the presumption of unconstitutionality must be "applied free of fixed notions concerning the roles and abilities of males and females."[25]

In its caution to eliminate stereotyping from the constitutional analysis, the *Hogan* Court also eliminates any serious consideration of the actual different "abilities" of males and females.[26] Even the dissenters in *Hogan* accepted the presumption that all gender-based classifications in educational institutions violate the Equal Protection Clause.[27] They quarreled instead with the degree of persuasiveness required to justify the challenged gender classification. Thus, Justice Powell agreed with the majority that male students were like female students, but argued that the benefits of single-sex institutions justified Mississippi's different treatment of male and female students.[28] Neither the majority nor the dissenters explored the very different question of whether male and female students could be proven to be sufficiently different in their

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23. *See, e.g.*, Miss. Univ. for Women v. Hogan, 458 U.S. 718, 724 (1982); *see also* Mass. Bd. of Ret. v. Murgia, 427 U.S. 307, 312 (1976).

24. *Hogan*, 458 U.S. at 718, 728; *see also* Coban v. Mohammed, 441 U.S. 380, 394 (1979); Orr v. Orr, 440 U.S. 268, 279 (1979); Reed v. Reed, 403 U.S. 71, 75 (1971).

25. *Hogan*, 458 U.S. at 724-25.

26. *Id.* at 725.

27. *Hogan*, 458 U.S. at 728 (Powell, J. dissenting).

28. *See id.* at 735.

learning so as to make a presumption in favor of their different treatment appropriate.

Absent gender- or race-based distinctions, the Court presumes that legislation is constitutional in that it treats like cases in a like manner and unlike cases in an unlike manner.[29] The Court recognizes "[t]he general rule that legislation is presumed to be valid and will be sustained if the classification drawn by the statute is rationally related to a legitimate state interest."[30] Yet, in *Plyer v. Doe*,[31] *City of Cleburne*,[32] *Romer v. Evans*,[33] and *Lawrence v. Texas*,[34] the Court invalidated legislation based upon this so-called "rational basis" test. Ironically, in these cases, the Court showed a willingness to determine whether there were differences among the conditions of the persons classified by each of those challenged laws that would warrant their different treatment or render unconstitutional their similar treatment.

B. *The Supreme Court's Equal Protection Clause Presumptions Are Not Supported by the Equality Maxim*

As Aristotle fully understood, his maxim that like cases should be treated in a like manner,[35] and that unlike cases should be treated in an unlike manner[36] requires both a descriptive analysis of the "likeness" of citizens and a

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29. All other state regulations will be upheld under the most lenient scrutiny, so long as the regulation is rationally related to furthering a legitimate state interest. *See* Westen, *supra* note 17, at 569.

30. *City of Cleburne*, 473 U.S. at 440.

31. 457 U.S. 202 (1982) (declaring unconstitutional a Texas law that denied children of illegal aliens the benefits of a public education).

32. 473 U.S. 432 (1985) (overturning a local zoning decision that denied a construction permit for a home for the mentally disabled).

33. 517 U.S. 620 (1996) (invalidating a Colorado constitutional amendment that would have precluded homosexuals from lobbying for legislation that extended civil rights law protections to them).

34. 539 U.S. 558 (2003) (striking down Texas' criminalization of consensual homosexual sodomy).

35. *See* ARISTOTLE, *supra* note 8; *see also* Westen, *supra* note 17, at 543 (citing ARISTOTLE, POLITICS, bk. III.9 1280a, bk. III.12 1282b-3a, bk. V.1 1301a-b (Benjamin Jowett trans., 1921)).

36. *See* ARISTOTLE, POLITICS, *supra* note 35, at bk. III.9. 1280a, book III.12.

normative analysis of the propriety of their treatment by the law.[37] Even if a regime presumes that all persons are entitled by their nature to equal protection of the laws, important judgments about which cases are in fact alike and which cases should be treated alike cannot be resolved without standards independent of equality.

Once these judgments are made, however, the equality maxim appears to call into question laws that treat like cases in an unlike manner. Presuming the constitutionality of laws that treat like cases in a like manner seems to be consistent with the equality maxim. Yet, the equality maxim also appears to question laws that treat unlike cases in a like manner. The maxim should lead to a presumption against the constitutionality of those laws. Laws that treat like cases in a like manner and unlike cases in an unlike manner should enjoy a presumption of constitutionality under the equality principle.

In a seminal series of publications, Professor Peter Westen shows that Aristotle's principle of equality is circular,[38] and cannot be employed to resolve any jurisprudential question without reference to "substantive" values or rights wholly apart from equality itself.[39] Professor Westen dissects each part of the Aristotelian equality principle. First, the formula requires a determination of whether two or more persons are, or should be deemed, alike for the purpose of applying the equality principle.[40] Because no two persons are truly alike, that determination depends on a judgment about the relevance

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37. Aristotle recognized that each regime would have to reach the political judgment about whether its citizens were "like" or "unalike." *See* ARISTOTLE, *supra* note 8, at 1131a. He understood that linking justice with equality begged the political question of the relevance of similarities and differences: "All men agree that what is just in distribution should be according to merit of some sort, but not all men agree as to what that merit should be . . . ." *Id.*

38. Westen acknowledges that this insight into the circular nature of "equality" is not new. Westen, *supra* note 17, at 574-78. Indeed, he posits that Aristotle's equality maxim has had staying power partly because it expresses an unassailable tautology. *Id.*

39. *Id.* at 561; *see also* PETER WESTEN, SPEAKING OF EQUALITY: AN ANALYSIS OF THE RHETORICAL FORCE OF EQUALITY IN MORAL AND LEGAL DISCOURSE (1990) [hereinafter SPEAKING OF EQUALITY]; Peter Westen, *The Meaning of Equality in Law, Science, Math and Morals: A Reply*, 81 MICH. L. REV. 604 (1983) [hereinafter Westen, *Reply*].

40. Westen, *supra* note 17, at 543.

of the undeniable differences between people. People are alike only if their differences are judged irrelevant by some external standard.[41]

Second, Westen shows that "treatments can be alike only in reference to some moral rule."[42] The same moral rule or independent legal standard that determines the relevance of people's similarities and dissimilarities also determines whether people should or should not be treated alike under the law. A law cannot be judged, therefore, by the extent to which it treats people equally. Westen concludes that the constitutional concept of equal protection under the law is "an empty vessel with no substantive moral content of its own."[43] Accordingly, an idea of justice based solely on the principle of equality is meaningless without a "substantive moral or legal standard that determine[s] what is one's 'due.'"[44]

Shortly after Westen authored his seminal work, a host of scholars feverishly attempted to inject some independent meaning into the idea of equality.[45] Westen, however, effectively discarded these arguments.[46] More recently, Professors Christopher Peters and Kent Greenwalt have tried to resurrect the principle of equality.

Professor Peters argues that the principle of "prescriptive equality" is not meaningless. Under this

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41. *Id.* at 544.

42. *Id.* at 547.

43. *Id.*

44. *Id.* at 557. Any principle of justice based on this empty idea of equality is vacuous as well. The foundation of justice is "giving every person his due." *Id.* at 556. The equality principle's declaration that persons who are alike should be treated alike indicates that treating people equally means giving them their "due." To argue that justice requires that persons who are alike should be treated alike, therefore, has no genuine meaning unless the argument contains some moral basis for determining whether they are alike in such a way as to make morally proper their similar treatment. *Id.* at 557.

45. *See, e.g.*, Erwin Chemerinsky, *In Defense of Equality: A Reply to Professor Westen*, 81 MICH L. REV. 575 (1983); William Cohen, *Is Equal Protection Like Oakland? Equality as a Surrogate for Other Rights*, 59 TUL. L. REV. 884 (1985); Anthony D'Amato, *Is Equality a Totally Empty Idea?*, 81 MICH. L. REV. 600 (1983); Kent Greenawalt, *How Empty is the Idea of Equality?*, 83 COLUM. L. REV. 1167 (1983); Westen, *Reply*, *supra* note 39.

46. *See generally* Westen, *Reply*, *supra* note 39.

principle, the "bare fact that a person has been treated in a certain way is a reason in itself for treating another identically situated person in the same way."[47] Once it is determined that two persons are identically situated, Peters contends, the equality principle has meaning because it requires their identical treatment. Peters concedes, however, that if this prescriptive principle does have any meaning, that meaning is misguided because it may lead to treating equals equally, even if that treatment is unjust.[48] For example, Professor Peters imagines a situation in which eleven drowning people compete for only ten available spots on a lifeboat.[49] Because prescriptive equality demands that all of them be treated equally, none of them may receive spots in the lifeboat and all of them equally may drown.[50] Accordingly, Peters concludes that the principle of equality is either irrelevant or harmful when there are conditions of scarcity.[51]

Professor Greenwalt agrees with Peters that the principle of equality does not always lead to "right action."[52] Still, Greenwalt contends that the equality principle has presumptive force because it "might pull some people to treat equals equally, although other considerations would suggest a different outcome."[53] For example, the principle of equality creates a presumption favoring equal distributions of lifeboat spots, but that presumption may be rebutted by stronger values, like saving lives.[54]

These scholars' efforts to resurrect the equality principle ultimately are unavailing. First, as Westen established in anticipating these efforts, any judicial allegiance to a deeply rooted presumption favoring equal treatment is ultimately indeterminate and obfuscates

47. Christopher J. Peters, *Equality Revisited*, 110 HARV. L. REV. 1210, 1223 (1997).

48. *See id.* at 1229.

49. *See* Peters, *supra* note 47, at 1238.

50. *See id.*

51. *See id.*

52. Kent Greenawalt, *"Prescriptive Equality": Two Steps Forward*, 110 HARV. L. REV. 1265, 1277 (1997).

53. *Id.* at 1277.

54. *See id.* at 1273, 1277.

judgments independent of equality.[55] The equality principle cannot support a presumption opposing laws that treat persons differently because all laws treat some people differently from others for some purposes. Second, and more importantly, the Court's presumption favoring equal treatment for all is inconsistent with the maxim of equality itself. Once again, the equality principle requires not only that like cases be treated in a like manner, but also that unlike cases be treated in an unlike manner.

Absent from the debate about the meaning of equality is any serious discussion of whether cases are in fact alike. Greenwalt, Peters and even Westen focus their attention on the presumption favoring the like treatment of like cases. They assume that the cases at issue are alike, and question whether the law treats them in a like manner. Hence, Peters' arguments about the possible injustice of treating like cases in a like manner (i.e., all drowning persons are treated the same, but they all die), do not question the basis for determining whether the cases are in fact "alike." Greenwalt also argues that deeply rooted feelings favor like treatment, but only after it is determined that the cases at issue are in fact alike. Yet, the equality maxim contains absolutely no presumption favoring like treatment. To the contrary, that maxim demands unlike treatment where it is determined that the persons affected by the treatment are in fact not alike.

As Westen shows, the question of whether individuals are "alike" cannot be answered by the principle of equality, but depends on standards anterior to equality. Because no two persons are alike, the judicial system must create a mechanism for determining the significance of differences among individuals. The mechanism must have a descriptive and a normative component. The descriptive component provides a legitimate method of assessing actual, real-world conditions of relevant difference. The normative component provides a legitimate method of assessing which differences should be recognized as morally significant. The moral or normative proposition that all men are created equal, for instance, may help to explain the presumption that all individuals are like cases and thus should receive like

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55. *See* Westen, *supra* note 17, at 574-76, 579.

treatment. Yet, that normative proposition is not a descriptive one. In fact, the premise that all men are created equal says nothing about whether individuals are in fact "alike" for any particular purpose. The premise that all individuals should be treated equally regardless of race or gender permeates the Supreme Court's Equal Protection Clause jurisprudence. That premise, however, obfuscates the fact that individuals are not in fact alike, and creates the unfounded presumption favoring laws that treat unlike cases as if they were alike.

II. THE SUPREME COURT'S PRESUMPTION OF GENDER EQUALITY IN LEARNING STRATEGIES IS UNFOUNDED

Westen's most important contribution to serious thought about equality may well be his critique of the abuses of the "equality" principle in legal and political discourse surrounding the constitution's Equal Protection Clause.[56] Once it is conceded that the Equal Protection Clause does not require all persons to be treated alike, that clause, like the equality principle itself, cannot be interpreted without relying upon a legal or moral standard anterior to equality. Even scholars who doubt Westen's premise that equality is meaningless cannot deny his assertion that many judicial interpretations of the Equal Protection Clause rely on the empty rhetoric of equality to support otherwise unexamined and unsupportable presumptions.[57] This insight is particularly helpful in understanding the Supreme Court's recent equal protection decisions regarding gender-conscious educational programs.

A. *The Court's Tradition of Masking Differences in Educational Opportunities*

The Court has a history of slighting differences between people that warrant differential treatment under the law, beginning with its apparent remediation of the racially

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56. The Equal Protection Clause in the Constitution's Fourteenth Amendment provides: "No State shall . . . deny to any person within its jurisdiction the equal protection of the laws." U.S. CONST. amend. XIV, §1.

57. *See, e.g.*, Cohen, *supra* note 45, at 902 (arguing that judges use equality as a rationale for deciding cases which are really based on other substantive values in order to "avoid larger issues").

discriminatory educational policies in *Brown v. Board of Education*[58] to the apparent assistance for racial minorities in *Grutter*[59] and *Gratz*.[60] The Court's misuse of the equality principle in racial discrimination cases has become the precedent for its misuse of the equality principle in gender discrimination cases.[61]

Brown cannot be justified by the equality principle alone. The Court declared that racially segregated educational facilities are "inherently unequal";[62] however, as Westen shows, there is no such thing as "inherent" inequality.[63] The actual reasoning of *Brown* is that state laws which impose racial segregation in public education violate the Equal Protection Clause because they injure African-American school children.[64] Under this logic, even if such laws were to provide equal educational resources, they would nevertheless be unconstitutional because they would have a "detrimental effect" on African-American students by perpetuating stereotypes harmful to African-American students: (1) they reinforce a stigma of inferiority; (2) they generate a feeling of lesser status; (3) they retard the mental and educational development of African-American students; and (4) they deny to African-American students the educational benefits of attending a racially-integrated school.[65]

On a fundamental level, *Brown* assumed that African-American children were "like" white children in their right to be free from the "injury" of segregated schools or from being denied the opportunity to attend a diverse school.[66] But *Brown* can be understood only by looking to these important substantive values apart from equality. The notion that African-American students should be treated

58. 347 U.S. 483 (1954).

59. 539 U.S. 306 (2003).

60. 539 U.S. 244 (2003).

61. *See infra* Section III.B.

62. *Brown*, 347 U.S. at 495.

63. *See generally* Westen, *supra* note 17.

64. *Brown*, 347 U.S. at 494.

65. *Id.*

66. *See id.*

just like white students is used to legitimize the reality that their educational opportunities are not at all alike.

The empty rhetoric of equality also is evident in the Court's decisions regarding the constitutionality of race-conscious school admissions policies, presumably intended to assist racial minorities. Justice Powell's "touchstone" opinion in *Regents of the University of California v. Bakke* begins with the assertion that "equal protection cannot mean one thing when applied to one individual and something else when applied to a person of another color."[67] Yet, as Westen shows, equal protection always means one thing when applied to one individual, and something else when applied to another individual, if those two individuals are adjudged to be different in a relevant respect.[68] Indeed, Justice Powell himself indicates that "the attainment of a diverse student body" is a compelling interest that justifies the treatment of one race differently from another.[69]

The Supreme Court reaffirmed Justice Powell's view in 2003 in *Grutter v. Bollinger* and *Gratz v. Bollinger*, cases involving the admissions policies at the University of Michigan and its law school.[70] The Court recognized that when it strictly scrutinizes all governmental "uses of race," it does so in order to take "relevant" differences between the races into account.[71] The Court acknowledges that "[c]ontext matters" and not every "decision influenced by race is equally objectionable."[72] In other words, African-American applicants to college and graduate school may not be "like" white applicants to college and graduate school because African-American students may bring an element of diversity to the educational institution different from that brought by a white student.

Yet, because all governmental programs treat some people differently from others, the question again reduces to whether the Supreme Court is willing to legitimize the distinction made between applicants. In *Grutter*, the Court

67. 438 U.S. 265, 289-90 (1978).

68. *See* discussion *supra* Part I.B; *see* Westen, *supra* note 17.

69. *Bakke*, 438 U.S. at 311-315.

70. *Grutter*, 539 U.S. at 325; *Gratz*, 539 U.S. at 270-272.

71. *Grutter*, 539 U.S. at 327.

72. *Id.*

recognizes that the State of Michigan has valuable reasons for treating applicants of one race differently from those of another, reasons which survive strict scrutiny. The Supreme Court, however, has found only two political values to be so compelling as to justify governmental policies which treat persons differently because of their race: (1) remedying past discrimination against members of a racial minority; and (2) attaining a diverse student body. Reduced to the equality principle, the Court indicates that African-American students are like white students in every other circumstance except victimization by specific, proven, past acts of racial injury and the capacity to bring diversity. Yet, the Court presumes that white students are otherwise like non-white students in their educational opportunities.

Suppose the Court did acknowledge that the educational opportunities available to African-American students are different from those available to white students because of their different history of injury from a legally-enforced "racial caste system" in education, their different condition of injury from "conscious and unconscious race bias," their different condition of injury from educational segregation, and their different condition of injury from inadequate educational resources. In her dissent in *Gratz*, Justice Ginsburg recognizes that, "[o]ur jurisprudence ranks race as a 'suspect' category, 'not because [race] is inevitably an impermissible classification, but because it is one which usually, to our national shame, has been drawn for the purpose of maintaining racial inequality."[73] Put another way, racial classifications should not be presumed to be "impermissible" where they are designed to eradicate rather than to maintain the actual condition of racial inequality. Governmental programs that treat races differently are not invalid under the Constitution if there is a legitimate determination that the races are in fact different. For Justice Ginsburg, the starting point for a serious Equal Protection Clause analysis is whether the individuals who are affected by a governmental program are in fact different.

73. 539 U.S. at 301 (Ginsburg J., dissenting) (citing Norwalk Core v. Norwalk Redev. Agency, 395 F.2d 920, 931-32 (2d Cir. 1968)).

B. *The Court's Presumption of Equality Masks Gender Differences in Learning Strategies*

1. *The Court Presumes That All Students Are Alike In Their Learning Strategies, Regardless Of Gender.* The principle of equality also masks the substantive values supporting the Supreme Court's equal protection decisions affecting gender in educational institutions. In *United States v. Virginia*,[74] the Supreme Court held that the Equal Protection Clause precluded the State of Virginia from reserving exclusively to men the unique educational opportunities offered by its all-male Virginia Military Institute. The Court offered its prescription for resolving the constitutionality of any state "classification" based on gender: "[f]ocusing on the differential treatment or denial of opportunity for which relief is sought, the reviewing court must determine whether the proffered justification is 'exceedingly persuasive.' The burden of justification is demanding and it rests entirely on the State."[75]

Once again, the Court appears to establish a presumption of equality: women should be treated the same as men, unless the reasons for the "differential" treatment can be persuasively justified. Nevertheless, the presumption of equality here is only another rhetorical device. Virginia's maintenance of a single-sex military academy does not violate the Equal Protection Clause merely because it treats like cases in an unlike manner. Indeed, the Court declares that men and women are different in significant ways: the physical differences are "enduring"; men and women are not "fungible"; a community of one sex is "different" from a community of both sexes.[76] The court even describes the differences between men and women as "inherent."[77]

If, as the Court concludes, men and women are fundamentally different, any consistent principle or presumption of equality might have led the Court to

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74. 518 U.S. 515 (1996).

75. *Virginia*, 518 U.S. at 532-33.

76. *Virginia*, 518 U.S. at 533 (quoting Ballard v. United States, 329 U.S. 187, 193 (1946)).

77. *Id.*

demand a justification for any law that does not treat them differently. Yet, the Court also recognized that women may be justly treated unlike men for some purposes, but not for others. Hence, "[s]ex classifications" (i.e., treating women unlike men) are good (morally proper forms of discrimination) if they are designed to compensate women for economic disabilities, to promote employment opportunities or to "advance the full development of the talent and capacities of our Nation's people."[78] On the other hand, the Court declares that legislation that treats men differently from women is unjust if it is designed "to create or perpetuate the legal, social, and economic inferiority of women."[79]

To some extent, the Court acknowledges Westen's point: women and men are alike in some significant ways and not alike in significant ways; women may be justly treated the same as men in some ways and may be justly treated differently from men in other ways. The Court seemed to recognize that the Virginia statute could not be declared unconstitutional simply because it treated some men differently from some women. Instead, the statute was unconstitutional because it injured women by denying to them a substantive right which was wholly separate from equality: the right to an educational opportunity.[80] If there is a principle that emerges from this case, it is not the equality principle. Rather, it is the recognition of the injury to women caused by denying them a unique educational opportunity.

Similarly, the equality principle alone cannot resolve the question of the legitimacy or constitutionality of instructional practices which treat female students differently from male students in the classroom. The

78. *Id.*

79. *Id.* at 534.

80. It is not clear whether the right being denied is the right to an educational opportunity, or the right to a *unique* educational opportunity. In a footnote, the *Virginia* Court observed: "We do not question the Commonwealth's prerogative evenhandedly to support diverse educational opportunities. We address specifically and only an educational opportunity recognized by the District Court and the Court of Appeals as 'unique,' . . . an opportunity available only at Virginia's premier military institute, the Commonwealth's sole single-sex public university or college." *Virginia,* 518 U.S. at 534 n.7.

rhetoric of equality seems to render suspicious any differences between the education of men and women. Suppose, however, that there are significant differences in the way in which males and females learn. If female learners are adjudged to be unlike male learners in significant respects, then treating them in a like manner in an educational institution would appear to disserve the equality principle. If it is determined that men and women are different learners, then there should be a presumption against treating them the same way in the classroom. The equality principle begs the question of whether male learners are like female learners in such a way to make unjust any program that treats them as if they were not alike.

2. *The Presumption That Female Students Are Like Male Students In Their Learning Strategies Is Unfounded.* The question of whether men and women are different learners can be answered by descriptive evidence. In fact, all of the available credible brain research indicates that female students are fundamentally different from male students in their learning strategies.[81]

a) *Gender Differences in Brain Development.* While the general construction of the human brain[82] is essentially the

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81. *See, e.g.*, CAROL GILLIGAN, IN A DIFFERENT VOICE: PSYCHOLOGICAL THEORY AND WOMEN'S DEVELOPMENT (1982); GURIAN, *supra* note 14.

82. GURIAN, *supra* note 14, at 18-33:

> Every human brain has one hundred billion neurons (as many cells as there are stars in the Milky Way), and one hundred trillion glial, or connecting, cells. An adult human brain is eight pounds of dense matter in three major layers: the cerebrae cortex at the top; the limbic system in the middle; and the brain stem at the bottom, connecting with the spinal cord . . . .
>
> In general, the three layers of the brain are known for distinct functions (though all functioning areas of the brain constantly interact). The brain stem is where fight-or-flight responses are harbored . . . This most primitive part of our brain is essential for our survival.
>
> Our limbic system is generally where emotion is processed. A sensory stimulant comes into the brain through our eyes, ears, skin, or other organs, and we experience an emotive response to it . . . .
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> . . . .
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> . . . The top of the brain is divided between the left and the right hemisphere. The left is primarily associated with verbal skills—

same across genders, differences in male and female brain development appear in the structure, function, response, and chemical and hormonal composition of the brain. Differences also arise in laboratory situations where human subjects are tested on their cognitive ability to perform certain tasks.

Brain development is best understood as a spectrum of development, rather than two poles designated female and male.[83] Some children's brains develop more consistently with typical female characteristics; others' develop typically male characteristics.[84] Such development usually breaks down by gender, with girls manifesting female characteristics and boys manifesting male characteristics. Yet, some children demonstrate characteristics in the opposite gender's development spectrum.[85] The major sex differences in brain development, structure, and function lie in patterns of ability rather than in levels of intelligence.[86] In other words, two individuals may have different cognitive abilities, but have the same level of intelligence.

(1) *Developmental Differences.* Differences in the male and female development spectrums are most evident in the pace at which boys' and girls' brains mature. In most cases, girls' brains mature earlier than boys.[87] An example of this is myelination, the process by which the nerves that spiral around the shaft of other nerves in the brain are coated with myelin. Myelin allows electrical impulses to travel down the nerves with efficiency.[88] Myelination occurs into the early twenties, but is completed earlier in women than in men.[89] Similarly, the *Arcuate fasciculus*, the curving bundle of nerve fibers in the central nervous system, develops earlier in girls and facilitates females' speech in

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> speaking, reading, and writing—and the right is primarily associated with spatial skills, such as measuring, perceiving direction, and working with blocks or other objects.

Id. at 18.

83. GURIAN, *supra* note 14, at 16.

84. *See id.*

85. *See id.*

86. *See* Doreen Kimura, *Sex Differences in the Brain*, 12 SCI. AM. 32, 32-37 (2002), *available at* http://www.sciam.com/print_version.cfm?articleID=00018E9D-879D-1D06-8E49809EC588EEDF.

sentence form earlier than in males.[90] Because these differences involve the pace of development, male brains eventually catch up to female brains in the myelination process as well as in the development of the *Arcuate fasciculus*.[91]

Nonetheless, the evidence indicates that parts of the female brain are more developed than the male brain, particularly the prefrontal lobes, where sensory processing often occurs.[92] Girls are able to absorb more sensory data than boys. On average, they hear better, smell better, and receive more information through fingertips and skin.[93] Because female brains also have stronger connections between neurons in the cerebellum and spinal cord, girls generally have superior language ability and fine-motor skills.[94]

(2) *Structural Differences*. The differences in the size, weight, and thickness of specific areas of the brain also generate gender-specific cognitive abilities. The cerebral cortex, which contains neurons that support higher intellectual functions is thicker on the right side of the brain in males and thicker on the left side in females.[95] As such, males are likely to be right-brain dominant while females tend to be left-brain dominant.[96] The corpus callosum, the bundle of nerves that connects the brain's right and left hemispheres, is approximately twenty percent larger in females than in males, giving girls better connections between hemispheres of the brain.[97] The amygdala, part of the limbic system involved in emotional processing, is larger in male brains, and in turn causes

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87. *See* GURIAN, *supra* note 14, at 19.

88. *See id.* at 26.

89. *See id.*

90. *See id.* at 20.

91. *See id.* at 20-21.

92. *See id.* at 27.

93. *See id.*

94. *See id.* at 20.

95. *See id.* at 21.

96. *See id.*

97. *See id.*

males to be more aggressive than females.[98] The hippocampus, the ridge along the lower section of each lateral ventricle of the brain responsible for memory storage, is also larger in female brains than in male brains.[99] The number and speed of neuron transmissions in this area are higher in the female brain than in the male brain.[100] This difference accounts for enhanced memory storage in females.[101]

While these basic differences in structure have been identified over the last decade, recent discoveries in additional structural differences have emerged in the past year. Researchers at the University of New Mexico and University of California-Irvine have employed imaging techniques to show that men's and women's brains are wired differently.[102] The research documents differences in the quantity of gray and white matter in the male and female brain.[103] Men and women need both white matter and gray matter to have normal thought processes.[104] Gray matter is the thinking part of the brain, and processes information on the surface of the brain; white matter is the connection between the regions of the brain, which enable the brain to function as a whole.[105] Men have 6.5 times more gray matter than women, and women have about nine times more white matter than men.[106] Using MRI samples, the researchers found that in men, the greatest volume of

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98. *See id.* at 20.

99. *See id.* at 22.

100. *See id.*

101. *See id.*

102. *See* Jackie Jadrnak, *Male, Female Brains Differ*, ALBUQUERQUE J., Jan. 24, 2005, at A1 (citing Richard Haier et al., *Structural Brain Variation and General Intelligence*, 23 NEUROIMAGE 425 (2004)), *available at* 2005 WLNR 1049177.

103. *See id.*; Krista Pino, *Research Finds Male, Female Brains Differ*, DAILY LOBO, Jan. 27, 2005 (citing Richard Haier et al., *Structural Brain Variation and General Intelligence*, 23 NEUROIMAGE 425 (2004)), *available at* http://www.dailylobo.com (select "Search" hyperlink; then select "Krista Pino" as "Author" and Jan. 27, 2005 as "Issue").

104. *Id.*

105. *Id.*

106. *Id.*

gray matter was in bilateral frontal lobes and in the left pariental lobes.[107] In female subjects, the strongest amount of gray matter was in the right frontal lobe and the largest cluster was found in the area where language is processed.[108] Accordingly, the male brain churns information, while the female brain distributes information to different regions of the brain.[109] While the two methods achieve the same result, males and females generally use different patterns of brain activity to solve problems.

(3) *Chemical and Hormonal Differences.* Differences in brain development and cognition also arise from distinct chemical and hormonal levels in male and female brains. Males and females have different amounts of most brain chemicals. For example, the male brain secretes less serotonin than the female brain.[110] Lower levels of serotonin in the male brain make males more impulsive and fidgety than females.[111] On the other hand, the female brain secretes more ocytocin than the male brain, which makes the female more capable of quick and immediate empathic response to others' pain and needs.[112]

Although both the male and female brains possess all the human hormones, the degree of dominance of hormones differs in each gender's brain.[113] Females are dominated by estrogen and progesterone, and males are dominated by testosterone. Progesterone is the female growth and bonding hormone.[114] Testosterone is the male growth and sex-drive and aggression hormone.[115] Estrogen is more present in females, lowering their aggression, competition, self-assertion, and self-reliance.[116] Testosterone is much

107. *Id.*

108. *Id.*

109. *See id.*

110. GURIAN, *supra* note 14, at 28.

111. *Id.*

112. *Id.*

113. *Id.*

114. *Id.*

115. *Id.*

116. *Id.* at 21.

more present in males, and in males increases aggression, competition, self-assertion, and self-reliance.[117]

The varying degree of these hormones in the brain accounts for differences in male and female classroom behavior and peer interaction. Upon meeting new people, females tend to bond first and ask questions later, while males tend to be aggressive.[118] In group situations, a girl is more likely to manage social bonds through egalitarian alliances, while a boy tends to manage social energy through a hierarchy achieved by striving for dominance.[119]

The hormone, melatonin, also leads to different classroom strategies. The concentration of melatonin in females is much greater than in males.[120] Melatonin, a hormone produced by the pineal body, lightens skin pigmentation and is inhibited by sunlight.[121] The greater concentration of melatonin in females may partially explain why females have an increased sensitivity to bright light. Differences in males and females' occipital lobe may explain why females see and work better in low light, while males see and work better in brighter light.[122]

Evidence also suggests that the dimorphic effects of sex hormones on brain organization occur early in life.[123] Early in development, male testosterone slows the growth of the brain's left hemisphere and accelerates the growth of the right hemisphere.[124] Researcher Baron-Cohen filmed one-year-old children at play and measured the eye contact they made with their mothers.[125] He looked at various social factors (birth order and parental education among others), as well as the level of testosterone the child had been

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117. *Id.* at 26.

118. *Id.* at 28.

119. *Id.*

120. *See id.* at 23.

121. *Id.*

122. *Id.*

123. *See* KIMURA, *supra* note 86, at 32.

124. *See* Hara Estroff Marano, *The New Sex Scorecard*, PSYCHO. TODAY, Aug. 2003, at 38, 44 (citing SIMON BARON-COHEN, THE ESSENTIAL DIFFERENCE (2003)).

125. *Id.*

exposed to in his fetal life.[126] The research showed that the more testosterone children were exposed to in the womb, the less they were able to make eye contact with their mother.[127] Testosterone levels during fetal life also influenced the children's language skills.[128] High levels of prenatal testosterone correlated with smaller vocabularies in children at eighteen months and again at twenty-four months.[129] Conditions such as congenital adrenal hyperplasia (CAH), in which the fetus is exposed to unusually high levels of adrenal androgens, suggest another significant gender connection between prenatal hormone differences and learning.[130] Girls with CAH score better on standardized spatial testing than their unaffected siblings.[131] These girls also prefer the same kind of toys that boys prefer.[132]

Sex hormones vary naturally across the time of month in women, and across the time of year in men.[133] Variations in cognitive patterns relate directly to fluctuations in these gender-specific hormone levels.[134] The level of estrogen in women is highest mid-cycle and elevates again for a few days prior to the next menstruation.[135] Studies have found that women score better at spatial tasks when their estrogen levels are lowest, and excel in fluency and fine motor tasks when their estrogen levels are highest.[136] Men's testosterone levels change throughout the year.[137] They are usually higher in the autumn and lower in the spring.[138]

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126. *Id.*

127. *Id.*

128. *Id.*

129. *Id.*

130. *See* Doreen Kimura, *Biological Constraints to Parity Between the Sexes*, PSYNOPSIS, Winter 2001, at 3.

131. *See id.*

132. *See id.*

133. *See* Doreen Kimura, *Sex Hormones Influence Human Cognitive Pattern*, 23 NEURO ENDOCRINOLOGY LETTERS, Dec. 2002, at 67, 76.

134. *See id.*

135. *See id.*

136. *Id.*

137. *See id.* at 77.

138. *See id.*

Men with low to normal levels of testosterone generally perform better on spatial tests than men with normal to high levels.[139] Men perform better on spatial problems in the spring than they do in the fall.[140]

(4) *Functional Differences*. Functional gender differences in the brain also shed light on the different cognitive processes employed by males and females. The male and female brain use different cell and blood activity within the brain.[141] Through positron emission tomography scans (PET) and magnetic resonance imaging (MRI), researchers have concluded that boys use the right hemisphere of their brains to a greater degree than the left; girls use the left more than the right.[142] The left hemisphere processes language, reading, writing, math, verbal thoughts and memory, temporal, sequential language, linguistic consciousness, conscious self-image, defense mechanisms, projection, self-deception, and denial.[143] The right hemisphere interprets emotional contents; tone of voice; facial expressions; gestures; melodic speech; social, musical, visual, spatial, and environmental awareness; unconscious self-image, body image, and emotional and visual memory.[144] While boys use the right side of their brain to work on abstract problems, girls use both sides of their brains.[145] This difference makes males more comfortable with spatial relationships.[146] The left hemisphere is usually more developed in the female brain, which creates female comfortability with listening, communication, and language-based learning.[147] Hence, when women and men are asked to do a rhyming task, men

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139. *See id.*

140. *See id.*

141. GURIAN, *supra* note 14, at 29.

142. *Id.*

143. *Id.* at 22.

144. *Id.* at 24.

145. *Id.*

146. *See id.*

147. *See id.*

primarily use the left side of the brain while women use both sides of the brain.[148]

The PET and MRI technology also reveals that the resting female brain is as active as the active male brain.[149] There is fifteen percent more blood flow in the female brain than in the male brain.[150] The female brain uses more resources faster, more often, and in more places in the brain, which gives the female brain a learning advantage.[151] Males tend to manage stimulants with more of "task focus." Because the male brain is not as activated in as many places as the female brain, it becomes overwhelmed by stimulation more quickly than the female brain, causing it to decide on the importance of stimulants for the task at hand.[152] The male brain has an advantage in this functional difference because it takes a quick, direct route to a goal.[153] The disadvantage is that if the task fails, the male has fewer resources at work to redirect himself.[154] Male brains not only operate with less blood flow than girls' brains, they are also structured to compartmentalize learning.[155] Thus, girls tend to multitask better than boys do, with few attention span problems and greater ability to make quick transitions between lessons.[156]

More specifically, different parts of the brain function at a higher level in females than in males. Females have greater functioning in memory and sensory intake.[157] Girls can store a greater quantity of seemingly random information for a short time period. Boys are able to store data more often, but only if the information is organized or

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148. Joel Hughes, *Brain Research Finds Gender Link: Med School Team Discovers Sexes Think Differently*, YALE DAILY NEWS, Feb. 16, 1995, *available at* http://www.yaledailynews.com/article.asp?AID=8295.

149. GURIAN, *supra* note 14, at 29.

150. Michael Gurian & Kathy Stevens, *With Boys and Girls in Mind*, 62 EDUCATIONAL LEADERSHIP: CLOSING ACHIEVEMENT GAPS 21, 22 (2004).

151. GURIAN, *supra* note 14, at 29.

152. *Id.* at 30.

153. *Id.*

154. *Id.*

155. Gurian & Stevens, *supra* note 150, at 122.

156. *Id.*

157. GURIAN, *supra* note 14, at 30.

has specific importance to them.[158] On the other hand, boys can store trivia better than girls and for a longer period of time.[159] The precise area of the brain responsible for grammatical structures and word production is more active in females and accounts for improved verbal communication skills in females.[160] Similarly, the frontal lobe in the female brain is more active than in the male brain.[161] The frontal lobe facilitates speech, thought, and emotion and produces neurons for skilled movement.[162] The higher activity in this area in females accounts for their improved verbal communication skills.[163]

Other parts of the brain are more active in males than in females. The Basal Ganglia, which controls movement sequences, is quicker to engage in the male brain than in the female brain.[164] Accordingly, males generally respond quickly to attention demands in a physical environment.[165] The limbic system in a female brain is at rest to a greater extent than in a male brain.[166] Because the female limbic system is less active, it moves sensory data up to the neocortex more rapidly than in the male system.[167] The neocortex is in the upper part of the brain, where most complex thought occurs. Unlike girls, boys take emotive material processed by the limbic system, and route it down from the limbic system to the brain stem, found in the lowest portion and most primitive part of the brain, where fight-or-flight responses are harbored.[168]

(5) *Differences Found in the Lab.* Sex differences in problem solving have been studied in adults in laboratory

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158. *Id.* at 31.

159. *Id.* at 31.

160. *Id.* at 20.

161. *See id.* at 21.

162. *Id.*

163. *Id.*

164. *Id.* at 20.

165. *Id.*

166. *Id.* at 22.

167. *Id.*

168. *Id.* at 22, 29.

situations.[169] On average, men perform better than women at certain spatial tasks.[170] In particular, men are superior at tests that require the subject to imagine rotating or manipulating an object.[171] Men also outperform women in mathematical reasoning tests and in navigating their way through a route.[172] In one study, men completed a computer-simulated maze more quickly and with fewer errors than women did.[173] In another study using a tabletop map, men learned a route in fewer trials and with fewer errors, but women remembered more of the landmarks.[174] These results suggest that women use landmarks as a strategy to orient themselves in everyday life more than men do.[175] Studies have shown that women actually have superior landmark memory.[176]

Researchers have also tested the ability of individuals to recall objects and their locations within a confined space. In these studies, women were better able to remember whether items had changed places or remember the locations of pictures on cards that were turned over in pairs.[177] At this kind of object location, in contrast with other spatial tasks, women appear to have an advantage. While it used to be thought that sex differences in problem solving do not occur until puberty, recent evidence suggests that some cognitive and skill differences are present much earlier. Researchers have found that three and four-year-old boys are better at targeting and mentally rotating figures within a clock face than are three-year-old girls.[178]

Studies show therefore that men outperform women at tasks that require hitting a target or intercepting a moving

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169. KIMURA, *supra* note 84.

170. *Id.*

171. *Id.*

172. *Id.*

173. *Id.*

174. *Id.*

175. *Id.*

176. *Id.*

177. *Id.*

178. *Id.*

target.[179] This advantage does not depend on strength, or active knowledge of sports history.[180] Instead, research suggests that this divergence is rooted in the male ability to coordinate spatial targets with large amplitude aiming movements.[181]

While some research indicates that women are superior in most verbal tasks, this is not necessarily the case.[182] Adult women do better on tasks that test verbal memory and verbal fluency, but not on vocabulary or verbal reasoning.[183] Verbal fluency is the ability to generate particular words or phrases.[184] Verbal memory is the ability to recall material, employing words in lists or meaningful paragraphs.[185]

b) *Gender Differences in Brain Development Create Gender Differences in Learning Strategies.* Learning style is defined as an individual's characteristic way of processing information, feeling, and behaving in learning situations.[186] Similarly, knowing is defined as the way an individual processes and acquires information.[187] Through numerous studies, researchers have found that men and women utilize gender specific knowledge processing. While the research indicates that there is little variance in knowledge based academic performance, men and women do use different techniques in processing information.

Researchers have found that males are generally visual, tactile or kinesthetic learners, while women are auditory learners. In a study of high school (adolescent-age)

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179. Kimura, *supra* note 129, at 66, 67.

180. *Id.*

181. *Id.*

182. *Id.*

183. *Id.*

184. *Id.*

185. *Id.*

186. Marge Philbin, Elizabeth Meier, Sherri Huffman and Patricia Boverie, *A Survey of Gender and Learning Styles*, 32 SEX ROLES 485 (1995); *see also* TOMLINSON & ALLAN, *supra* note 13, at 20-23.

187. Michelle K. Ryan & Barbara David, *Gender Differences in Ways of Knowing*, 49 SEX ROLES 693 (2003).

students, researchers investigated gender differences among the learning styles of 1,367 adolescents from five countries (Bermuda, Brunei, Hungary, Sweden, and New Zealand).[188] Statistical analysis included a multivariate analysis of variance with twenty-two dependent variables (learning-style elements) and between two subject variables (gender and country).[189] In nine of the twenty-two learning style variables, male students were found to be more visual, tactile or kinesthetic learners, whereas female students tended to be more auditory learners.[190] Female students were consistently more conforming, authority-orientated, and parent-motivated or self-motivated than their male classmates were.[191]

Nonetheless, when researchers examined the individual findings of the participants, and used them to prepare individual homework assignments on the basis of each student's learning preferences, there were no two identical learning-style profiles within each gender group for the twenty-two variables.[192] This result indicates, that although girls and boys' learning styles differ from each other in many ways, individuals within the gender groupings were even more unique than either group as a whole.[193] When students were taught with an individualized learning-style responsive instructional approach, the students' standardized achievement attitude test scores improved significantly.[194] Accordingly, educators who respect and address the learning-style difference found across genders and among individuals in the classroom have achieved significant achievement gains for their students.[195]

Not only do males and females seem to have gender specific preferences regarding which sense is invoked in the

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188. Andrea Hingfeld & Rita Dunn, *High School Male and Female Learning-Style Similarities and Differences in Diverse Nations*, 96 J. EDUC. RES. 195 (2003).

189. *Id.* at 195.

190. *See id.* at 203-04.

191. *See id.*

192. *See id.* at 204.

193. *Id.*

194. *Id.*

195. *Id.*

intake of knowledge, researchers have found that males and females differ in their approach to learning motives and strategies. Motive refers to the reason why students approach learning tasks, while strategy refers to the methods and habits they engage in to accomplish the task.[196] Motives and strategies can be divided into three categories: surface, deep, and achievement motives and strategies.[197] Surface motives include fear of failure in the desire to achieve an academic degree. Such a motive may generate surface strategies such as memorizing learning material without first comprehending it.[198] Deep motives, on the other hand, entail an intrinsic interest in the subject, and a desire for understanding the material.[199] The deep motive usually drives students to deep strategies like taking the initiative to find out more about a topic and seeing links among different concepts.[200] Finally, the achievement-motivated student is driven to competition with peers, and employs strategies such as choosing modules that he or she feels confident in, and studying material deeply insofar as it is pertinent to an academic assessment.[201]

Although the differences were small, a study tracking National University of Singapore students' cumulative average point scores (CAP) indicated that males utilized deep motive strategies and achievement motive strategies more than females.[202] Males scored higher on abstract conceptualization, which indicated a preference for deep strategies, logical thinking, and rational evaluation. In contrast, when females used a deep approach, they looked for personal connections and relevance with the learning material.[203] The researchers hypothesized that female

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196. Lim Yuen Lie et. al., *How do Male and Female Students Approach Learning at NUS?*, CDTL BRIEF (Ctr. For Dev. of Teaching and Learning, Sing.), Jan. 2004, at 1.

197. *See id.*

198. *Id.*

199. *Id.*

200. *Id.*

201. *Id.*

202. *See id.* at 2.

203. *Id.*

students scored lower on deep strategies because they found it more difficult to relate some course material to their personal experiences.[204]

Similarly, Sabine Severiens and Geert Ten Dam cite to Baxter Magolda's study on ways of knowing, which concluded that women, when reasoning about knowledge, tend to focus on relational aspects, while men take a more individualistic approach.[205] Baxter Magolda performed a longitudinal study in which both collegiate women and men were questioned about their ways of knowing.[206] Over the course of the study, Baxter Magolda observed her students developing from an absolute and factual way of knowing to a relative and contextual way.[207] But while going through these stages, women appeared to use different patterns of reasoning compared to men.[208] In general, the patterns more often used by women can be characterized by a focus on relational aspects. While reasoning about knowledge, women seem to be receptive to other perspectives and to integrate those perspectives into their own.[209] The pattern more often used by men includes an individual focus.[210] Men are more often focused on their own learning processes and perspectives.[211] In Sabine Severiens and Geert Ten Dam's study which compared two theories of knowing, learning patterns were indeed gender related, but more for men than women.[212] More than half the women used the receiving, interpersonal, and interindividual patterns while nearly all men used the mastering, impersonal, and individual patterns of reasoning.[213]

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204. *See id.*

205. Sabine Severiens & Geert Ten Dam, *Gender and Learning: Comparing Two Theories*, 35 HIGHER EDUC. 329 (1998) (citing M.B. BAXTER MAGOLDA, KNOWING AND REASONING IN COLLEGE: GENDER-RELATED PATTERNS IN STUDENTS' INTELLECTUAL DEVELOPMENT (1992)).

206. *Id.* at 331.

207. *Id.*

208. *Id.*

209. *Id.*

210. *Id.*

211. *Id.*

212. *Id.* at 343.

213. *Id.*

The idea of gender related differences in the way people acquire and process information, with men utilizing separate knowing and women utilizing connected knowing, was challenged in a study by Michelle Ryan and Barbara David.[214] The researchers defined separate knowing as the process utilized when learners distance themselves from the object of knowledge and place an emphasis on objectivity, reason, doubting, analysis, and evaluation.[215] In contrast, connected knowing emphasized understanding, empathy, acceptance, and collaboration.[216] The data collected from this study supported an analysis of ways of knowing which were context dependent, and which questioned the notion that knowing is intrinsically related to gender.[217] The participants' connected and separate knowing was found to be highly dependent upon the social context and not on gender per se.[218] Whereas, when gender differences were found in separate knowing, with men showing higher levels of separate knowing than women, this difference occurred when gender was made salient.[219] When participants were asked to focus on the groups to which they did or did not belong, and on the similarities and differences between themselves and the other group members, a different pattern emerged.[220] Those participants in the in-group context displayed significantly higher levels of connected knowing than did those participants in the out-group context.[221] Difference in scores from the in-groups context also indicated that they placed a greater emphasis on connected knowing than on separate knowing.[222]

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214. Michelle K. Ryan & Barbara David, *Gender Differences in Ways of Knowing: The Context Dependence of the Attitude Towards Thinking and Learning Survey*, 49 SEX ROLES 693, 693 (2003).

215. *Id.*

216. *Id.*

217. *See id.* at 698-99.

218. *Id.* at 698.

219. *Id.*

220. *Id.*

221. *Id.*

222. *Id.*

Not only do men and women differ as to their preferences of style of learning and ways of knowing, they also employ different study strategies to learn material.[223] When researchers have examined spontaneous study strategies of male and female students, results show that men use more covert study strategies and women use more overt study strategies.[224] In an analysis of spontaneous study, where participants (applicants for Medical school) were asked to comprehend and answer questions about philosophical and statistical texts, researchers gauged the manner in which male and female students approached the texts, as well as the effect of the strategies they employed on their learning outcomes.[225]

When men and women approached the philosophical text, their study strategies differed. Of male participants, almost twelve percent did not produce any physical records (covert strategy), whereas only two percent of women produced no records.[226] Female participants, on the average, took notes more eagerly than the male subjects (overt strategy).[227] The proportions of those participants who drew concept maps, or underlined the text, were the same among both genders.[228] There were no differences between men and women in their overall achievement levels.[229] Instead, it appeared that both genders performed better in text comprehension the more generative study strategies they used.[230]

When men and women's study strategies in the statistical text were analyzed, again, the gender groups differed in their study strategies. Comparable to the results from the philosophical text, the percentage of male participants who did not use any overt study strategy in

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223. *See* Virpi Slotte, Kirsti Lonka & Sari Lindblom Ylänne, *Study-Strategy Use in Learning from the Text: Does Gender Make Any Difference?*, 29 INSTRUCTIONAL SCI. 255 (2001).

224. *See id.* at 261.

225. *See id.* at 256.

226. *Id.* at 261.

227. *Id.*

228. *Id.*

229. *See id.* at 262.

230. *See id.* at 265.

learning from the statistical text was considerably higher than the female participants.[231] Female participants took summary notes on the average more often than the male participants, and the proportion of participants who drew concept maps was slightly higher among women than among men.[232] In both studies (of philosophical text and of statistical text) clear gender differences in spontaneous strategy use were found. Again, while the participants' (men and women) study strategies differed in approaching the statistical text, female and male participants did not differ in text comprehension.[233] The evidence indicates that gender differences lie in patterns of study activity rather than on levels of performance.[234]

Such evidence is consistent with the overwhelming data demonstrating that gender differences in brain development lead most females to employ learning strategies that are significantly different from most males. If, in fact, there are—as a rule—significant gender differences in learning strategies, how should these differences inform the Supreme Court's Equal Protection Clause jurisprudence?

III. THE PRESUMPTION AGAINST EDUCATIONAL PROGRAMS THAT DIFFERENTIATE BASED ON GENDER IS CONTRARY TO THE EQUALITY MAXIM

A. *The Equality Maxim's Proper Place in Equal Protection Clause Analysis.*

Genuine allegiance to the equality maxim in interpreting the Equal Protection Clause would lead courts to four analytical parameters.

First, governmental action that treats persons differently would be unconstitutional where those persons are determined to be the same. For example, a governmental program that allows only white students to

231. *Id.*

232. *Id.*

233. *See id.*

234. *See id.*

attend a state law school would be unconstitutional because it treats white students differently from nonwhite students where such students are determined to be the same.[235] Similarly, as the court held in *Frontiero v. Richardson*,[236] a Congressional scheme that gave to servicemen the benefit of claiming their spouses as medical dependents but denied that benefit to servicewomen constituted an "unconstitutional discrimination against servicewomen."[237] In his plurality opinion, Justice Brennan concluded that gender should be a "suspect class" and that the statute's classification of gender in the interest of administrative convenience could not be sustained. In his concurrence, Justice Powell (together with Justice Burger and Justice Blackman) resisted the inclusion of women within "suspect classes," but agreed that the statute created an unconstitutional distinction between men and women without a rational basis. Significantly, although Justice Brennan argued forcefully for giving women "suspect class" status, he concluded ultimately that the statute at issue would fail the rational basis standard as well.[238] Justice Brennan contends that "any statutory scheme which draws such a sharp line between the sexes, *solely* for the purpose of achieving administrative convenience, necessarily commands 'dissimilar treatment for men and women who are . . . similarly situated,' and therefore involves the 'very kind of arbitrary legislative choice forbidden by the [Constitution].'"[239] The Equal Protection Clause thus prohibits treating women differently from men, so long as they are determined to be the same.[240]

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235. *See e.g.*, Sipuel v. Bd. Of Regents, 332 U.S. 631, 632, 632-33 (1948) (Equal Protection Clause requires Oklahoma to provide some codes to instate legal education to both black and white students); Missouri *ex rel.* Gaines v. Canada, 305 U.S. 337, 351 (1938) (holding that the state's provision of legal education within the state for white students only violated the Equal Protection Clause).

236. 411 U.S. 677 (1973).

237. *Frontiero*, 411 U.S. at 679.

238. *See id.* at 684 (citing Reed v. Reed, 407 U.S. at 76, 77).

239. *Id.* at 609 (quoting Reed, 404 U.S. at 77, 76 (1971)).

240. *See also* United States v. Virginia, 518 U.S. 515, 555-56 (1996) (holding that the Virginia Military Institute's refusal to admit women to its unique institution constituted a denial of equal protection).

Second, governmental action that treats persons alike who are determined to be alike would be consistent with the equality principle within the Equal Protection Clause. For example, a governmental program requiring families to pay a user fee for bus transportation to school treats all families determined to be alike in their proximity to the school in the same way.[241] Similarly, a state statute that mandates the retirement of public employees at a certain age treats persons determined to be alike in their age in the same way.[242]

Third, governmental action that treats persons differently who are determined to be different would also be consistent with the maxim of equality. In *Rostker v. Goldberg*,[243] the Court upheld the Congressional decision to exclude women from registration for the draft for military combat positions. The Court concluded that the "gender classification" realistically reflects the fact that the sexes are not "similarly situated for purposes of a draft or registration for a draft."[244] In *Schlesinger v. Ballard* as well, the Court upheld a Navy policy that gave females a longer period than males to attain promotions necessary to continued military service.[245] The Court reasoned that "the different treatment of men and women naval officers . . . reflects, not archaic and overbroad generalizations, but instead, the demonstratable fact that male and female line officers in the Navy are not similarly situated with respect to opportunities for professional service."[246]

In *Rostker*, the Court declared: "[t]he Constitution requires that Congress treat similarly situated persons similarly, not that it engage in gestures of superficial equality."[247] This same logic, of course, would lead to a

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241. *See* Kadrmas v. Dickinson Public School, 487 U.S. 450 (1988) (holding that North Dakota's requirement of a user fee for school bus transportation did not deny students unable to afford the fee equal protection).

242. *See* Mass. Bd. of Ret. v. Murgia, 427 U.S. 307, 314-17 (1976).

243. 453 U.S. 57 (1981).

244. *Id.* at 78.

245. 419 U.S. 498 (1975).

246. *Id.* at 507-08.

247. 453 U.S. at 79.

presumption of constitutionality for governmental programs that treat persons differently because of their race or gender where racial or gender differences are determined to exist.

Finally, governmental programs that treat persons alike who are determined to be different would be unconstitutional, in violation of the equal protection's principal of equality. For instance, Virginia's statue subjecting all voters to a poll tax would be unconstitutional to the extent it was determined that persons subjected to that similar tax are in fact dissimilar in a significant way.[248] By that same logic, governmental programs that treat all persons the same regardless of race or gender would be unconstitutional where it was determined that there were significant racial or gender differences.

As these possibilities demonstrate, a presumption against laws that treat unlike cases in a like manner is just as consistent with the maxim of equality within the Equal Protection Clause. That maxim certainly does not support the current presumption against the unconstitutionality of laws that treat students differently based on gender unless the Court determines that such students are in fact alike. Yet, the Court generally does not perform any serious analysis of whether the persons affected by the law are in fact like cases. The *Carolene Products* footnote, which was designed to justify treating some classes differently from others, has led the Court to presume that those classes *should* be treated the same as others. Perhaps the assumption that persons should be treated the same regardless of race or gender has led the Court to presume that they are in fact the same. Accordingly, the Court presumes that governmental programs that classify persons based on race or gender are unconstitutional absent a showing that the different treatment is at least persuasively justified by some important governmental policy. Yet, the Court never really determines whether the persons treated are in fact like cases. The Court is willing to engage in moral determinations about whether differential legal treatments are appropriate, but generally is unwilling to engage in factual determinations about

248. *See* Harper v. Va. State Bd. of Elections, 383 U.S. 663, 670 (1966).

whether persons affected by governmental programs are actually different.

In fact, the Court has hinted at its ability to do so. In *Michael M. v. Superior Court*,[249] the Court declared that, "the Equal Protection Clause does not . . . require 'things which are different in fact . . . to be treated in law as though they were the same.'"[250] Significantly, the Court addressed the question of whether men and women were in fact different in such a way as to make appropriate a statute criminalizing the act of sexual intercourse with a minor female, but not the act of sexual intercourse with a minor male. In doing so, the Court declared: "We need not be medical doctors to discern that young men and young women are not similarly situated with respect to the problems and risks of sexual intercourse. Only women may become pregnant, and they suffer disproportionately the profound physical, emotional and psychological consequences of sexual activity."[251] The Court also reasoned that the risk of pregnancy deters females from engaging in sexual intercourse with minor males and constitutes a "natural" gender difference justifying the law's different treatment. In light of the "natural" differences between men and women, the Court concluded that "[a] criminal sanction imposed solely on males thus serves to 'equalize' the deterrents on the sexes."[252] Because men and women are not alike, the Equal Protection Clause does not require that the law treat them as if they were.

B. *Governmental Programs That Recognize Racial Differences In Education Opportunities Should Not Be Presumed To Be Unconstitutional.*

The recognition of actual racial differences in educational opportunities would justify (if not mandate)

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249. 450 U.S. 464 (1981).

250. *Id.* at 464 (1981) (citing Rinaldi v. Yeager, 384 U.S. 305, 309 (1966)); *see also* Parham v. Hughes, 441 U.S. 347, 354 (1979); Califano v. Webster, 430 U.S. 313 (1977); Schlesinger v. Ballard, 419 U.S. 498 (1975); Kahn v. Shevin, 416 U.S. 351 (1974); Weinberger v. Wiesenfeld, 420 U.S. 636, 653 (1975).

251. *Michael M.*, 450 U.S. at 471.

252. *Id.* at 473.

governmental programs that treated African-Americans differently from white Americans in the aspects to which they are adjudged to be different. Any educational program that failed to recognize and remedy these differences in educational opportunities would be presumed unconstitutional because the law would treat unlike cases in a like manner.

In its *Gratz* decision, however, the Supreme Court effectively presumes the unconstitutionality of any serious effort by the government to recognize racial differences in educational opportunities. In *Gratz*, the Supreme Court declared unconstitutional the University of Michigan's undergraduate admissions policy, reasoning: "[w]e find that the University's policy, which automatically distributes 20 points, or one-fifth of the points needed to guarantee admission, to every single 'underrepresented minority' applicant solely because of race, is not narrowly tailored to achieve the interest in educational diversity. . . ."[253] The undergraduate policy fails because, unlike the law school's policy upheld in Grutter, it does not provide for "meaningful individualized review of applicants."[254] Instead, the undergraduate program violates the Equal Protection Clause because it treats "*every* underrepresented minority the same. . . ."[255]

Appealing again to the sentiment of equality, the court concludes that the University's race-conscious policy subjects non-minority applicants to "unequal treatment." The Court's rhetoric conceals its substantive judgment about the presumed similarities between underrepresented minorities and other applicants. Based on the rhetoric of equality, the Court presumes that underrepresented minorities should be treated like all other applicants. To presume that race-conscious remedies violate the equality principle is to presume that no racial differences exist. If underrepresented minorities are not actually like other applicants in their educational opportunities, then treating them as if they were like those other applicants cannot be fairly justified by the equality principle.

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253. *Gratz*, 539 U.S. at 270.

254. *Id.* at 276 (O'Connor, J. concurring).

255. *Id.*

As Justice Ginsburg suggests in her *Gratz* dissent, to judge educational programs which benefit African-Americans the same way as programs which injure them is to ignore the history and contemporary reality of differences in educational opportunity.[256] Although the Court employs the rhetoric of equality, its holding is really based on its political judgment that significant racial differences in educational opportunity should have little constitutional significance.

C. *Governmental Programs That Recognize Gender Differences in Learning Strategies Should Not be Presumed to be Unconstitutional.*

Contrary to the Supreme Court's presumptions, all of the available credible research indicates that there are material differences in the cognitive processes generally employed by men and women.[257] For example, research indicates that in the elementary grades, gender differences in the biological development of the brain generally enable girls to see and to read better than boys in low light, while boys are able to see and to read better than girls in bright light.[258]

Accordingly, a governmental program that provides for "bright light" throughout a public school may violate the equality principle as much as a governmental program that prevents female students from taking science classes. A policy providing uniform "bright light" treats unlike cases in a like manner. It treats female students the same as male students, even though their opportunities to learn at an "equal" level of light are fundamentally different. The consistent use of bright light injures female students by

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256. *Id.* at 298-302 (Ginsburg, J. dissenting).

257. *See* YUPIN BAE ET AL., TRENDS IN EDUCATIONAL EQUITY OF GIRLS AND WOMEN, 60-69 (2000); MYRA SADKER & DAVID SADKER, FAILING AT FAIRNESS: HOW AMERICA'S SCHOOLS CHEAT GIRLS 138 (1994); GURIAN, *supra* note 14, at 57-59 (explaining how the brain affects why girls on average do not like math as much as boys and boys generally do not like reading and writing as much"); *id.* at 36-37, 59, 66, 294; Linda L. Peter, *What Remains of Public Choice and Parental Rights: Does the VMI Decision Preclude Exclusive Schools or Classes Based upon Gender?*, 33 CAL. W. L. REV. 249 (1997).

258. *See supra* notes 120-22 and accompanying text.

denying them an educational opportunity. Yet, the courts likely would not presume that such a program violates the Equal Protection Clause. Nor would any showing of an "exceedingly persuasive justification" have to be made to justify this apparent "equal" treatment of boys and girls. On the other hand, an educational policy which enables male students, but not female students, to take science classes treats people differently even though men and women may be adjudged to be the same in their capacity to learn science. That policy will receive heightened judicial scrutiny because it appears to treat like cases in an unlike manner.

The real issue in both cases, however, is not equality; it is whether governmental programs injure female students by denying them an educational opportunity. The programs should both be suspect, not because they are unequal, but because they injure female students' opportunities to learn. If male and female students are adjudged to be alike in their entitlement to the opportunity to learn, then any governmental program which denies that opportunity would not treat like cases in a like manner. The substantive value is the opportunity to learn, not equality.

A program of gender-segregation in education, therefore, may be fairly attacked simply because it appears to be "unequal." In *Mississippi University for Women v. Hogan*, the Supreme Court expressly declined to reach "the question of whether States can provide 'separate but equal' undergraduate institutions for males and females."[259] There is a significant body of research suggesting that girls and boys alike benefit from segregated classrooms.[260] The

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259. 458 U.S. 718, 720 n.1 (1982).

260. Peter, *supra* note 257, at 264 (citing SADKER & SADKER, *supra* note 257, at 234); Meg Milne Moulton & Whitney Ransome, Op-Ed., *With few distractions, students will do better*, ATLANTA JOURNAL-CONSTITUTION, Aug. 26, 2003, *available at* http://www.ncgs.org/type2.php?pid=news ("[I]n a 2000 survey of 4,200 girls' school graduates, more than eighty percent reported they were better prepared to succeed in the coed world precisely because they went to a single-sex school."). Without boys in the classroom, girls speak up more, take more science and math courses, obtain more advanced degrees and hold more high ranking positions in large companies. *Id. See also* Kay Bailey Hutchinson, *The Lesson of Single-Sex Public Education: Both Successful and Constitutional*, 50 AM. U.L. REV. 1075, 1077 (2001) (citing Susan Estrich, *Ideologues Decry Single-Sex Education, But Girls Benefit*, DENV. POST, May 22, 1998, at B11); Julia Morgan School for Girls, *Why a Girls' School?*, *available at* http://www.juliamorganschool.org/girls.html ("Girls at single-sex schools . . .

American Civil Liberties Union, however, argues that "[s]ingle-sex education is at best a 'sound-good method' because it is based upon misconceptions about the abilities and preferences of girls and boys rather than empirical evidence."[261] The debate in the courts and in the political sector will no doubt be peppered with appeals to equality. Yet, the principle of equality is unhelpful; it both supports and opposes gender segregation in education. The real issue is whether gender-segregation injures women by denying them a substantive right to educational opportunity, and whether the courts will recognize that injury.

Similarly, a governmental program that differentiates between male students and female students within a co-educational environment is consonant with equal protection where the differentiation corresponds with the proven gender differences in learning strategy. In the context of instructional practices, differentiation is an educator's response to a learner's needs.[262] Educators differentiate by "attending to the learning needs of a particular student or small group of students rather than the more typical pattern of teaching the class as though all individuals in it were basically alike."[263] Differentiation presumes that students are not alike in their learning, and therefore instructional practices should be adjusted to meet those differences.[264] Students differ in their readiness to grapple

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typically score thirty percent higher on SAT tests than the girls' national average. In addition, almost 100 percent of girls' school graduates go on to college and are twice as likely to earn doctorates.); Peter *supra* note 257, at 264, n.107 (suggesting that boys also benefit from single-sex education because they are more likely to focus on their studies, express themselves more freely and pursue nontraditional arts and literature degrees).

261. Laura W. Murphy, *Single-Sex Notice of Intent, Comments to the Department of Education* (2002), http://www.aclu.org/womensrights/edu/131561eg20020708.html. The ACLU observed that if similar characteristics found in single-sex schools, such as smaller classrooms, extensive resources, well-trained teachers, and advanced educational methods were available in public (co-ed) schools, measurable differences between single-sex education and co-educational programs would disappear. *Id.* The ACLU also argues that single-sex schools undermine Title IX, violate the Equal Protection Clause of the U.S. Constitution and foster sex discrimination. *Id.*

262. TOMLINSON & ALLAN, *supra* note 13, at 3.

263. *Id.* at 4.

264. *Id.* at 5.

with a particular idea or skill, in their interests and in their learning strategies.[265] In the differentiated classroom, the teacher identifies those differences and responds to them by providing tailored content, activities and assessment tools. Differentiation does not always require different tasks for every learner, but it does require "just enough flexibility in task complexity, working arrangements, and modes of learning expression that varied students find learning a good fit much of the time."[266]

In shaping their instructional practices to meet the different needs of their students, educators must identify differences in student readiness, engagement and learning strategies. In order to differentiate based on student readiness, the teacher "constructs tasks or provides learning choices at different levels of difficulty."[267] Differentiation based on engagement requires educators to adjust their instructional techniques in accordance with the external interests of each student or group of students. Students with an interest in fine arts for example may be exposed to the content of a "history lesson" through the eyes of painters from the historical period, whereas students with an athletic interest may receive the same "history lesson" from the perspective of the period's athletes. Finally, in a differentiated classroom, educators attempt to identify and respond to their students' different learning strategies. Instructional practices are designed to fit students' learning styles, intelligences and talents. For example, students identified as "kinesthetic" learners may be exposed to World War I history by crawling on their knees through a maze of desks in the classroom designed to simulate the trenches of warfare.

There is a rich body of thought and empirical evidence indicating that differentiation in education works.[268] In particular, differentiation to meet the needs of gender differences in learning strategies can be effective in

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265. *Id.* at 9.

266. *Id.* at 7.

267. *Id.* at 9.

268. *See* TRACEY HALL, NAT'L CTR. FOR ACCESSING THE GEN. CURRICULUM, DIFFERENTIATED INSTRUCTION: EFFECTIVE CLASSROOM PRACTICES REPORT (2002).

enhancing the learning of both genders.[269] A judicial presumption against an effective educational program that recognizes proven differences in male and female learning strategies thus serves neither the goals of equality nor education.

CONCLUSION

The classical Greek philosophers believed that educational practices should be altered to meet the needs of the regime, not the particular learning strategies of the students. In *The Republic*, Plato argues that one of the primary tasks of educators is to level the various natural instincts and affections within each student.[270] For purposes of education, students who have the same "mental capacity" for a particular vocation possess the same "nature."[271] The class of individuals with the same capacity for a certain profession should receive the same education, and that education must be different from that provided to

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269. *See e.g.*, GURIAN, *supra* note 14; EDWIN S. ELLIS & LOU ANNE WORTHINGTON, NAT'L CTR. TO IMPROVE THE TOOLS OF EDUCATORS, UNIV. OF OR., RESEARCH SYNTHESIS ON EFFECTIVE TEACHING PRINCIPLES AND THE DESIGN OF QUALITY TOOLS FOR EDUCATORS (1994) (describing how effective teaching and effective learning include gender differentiation techniques); National Center for Accessing the General Curriculum, *Differentiated Instruction: Effective Classroom Practices Report* 2 (June 2002); Kim L. Pettig, *On the Road to Differentiated Practice*, 8 EDUCATIONAL LEADERSHIP 14 (2002) (documenting proven strategies for teachers and schools considering adopting the principles of differentiated instruction); Sally M. Reis et al., *Equal Does Not Mean Identical*, 56 EDUCATIONAL LEADERSHIP 74 (1998) (advocating that students with different abilities, interests, and levels of motivation should be offered differentiated instruction that meets their individual needs to raise achievement); Theodore R. Sizer, *No Two Are Quite Alike:* 57 EDUCATIONAL LEADERSHIP 6 (1999) (describing advantages of "personalizing instruction to meet the needs of students in classrooms); Tomlinson, HOW TO DIFFERENTIATE INSTRUCTION IN MIXED-ABILITY CLASSROOMS. (2001) (Teachers who attend to individual differences in their students, including gender differences, are successful.); TOMLINSON, & ALLAN, *supra* note 13.

270. *See* PLATO, THE REPUBLIC, BOOK III, *reprinted in* STEVEN M. CAHN, CLASSIC AND CONTEMPORARY READING IN THE PHILOSOPHY OF EDUCATION 59-60 (1997) [hereinafter CAHN]; PLATO, THE REPUBLIC, BOOK V, *reprinted in* CAHN, *supra* note 270, at 74-77.

271. *See* PLATO, THE REPUBLIC, BOOK V, *reprinted in* CAHN, *supra* note 270 at 76.

the class of students who have the same capacity for a different profession.[272]

In order to lend credibility to his arguments, Plato goes as far as to suggest that women and men who have the capacity for the same particular vocation have the same natures and should receive the same education. Plato concludes that "we shall not have one education for men, and another for women, especially as the nature to be wrought upon is the same in both cases. No, the education will be the same. . . ."[273] All who are determined to be fit for the office of guardian, for example, will receive the same guardian education, regardless of gender. Those who are not determined to be fit for the office of guardian will receive a very different education, regardless of gender.

Similarly, Aristotle argued that education should not be adjusted to meet individual differences in learning. He concluded that education in any particular regime "should be one and the same for all."[274] Although Aristotle also recognized that educational strategies such as music should be differentiated to meet each student's level of maturity, he allowed for systemic differences in education based only on the differences in the style government.[275]

The gender-differentiation approach to education has its strongest roots in the educational psychology of Jean Jacques Rousseau. In the *Emile*, Rousseau applies to education his "fundamental maxim" that the "supreme good is not authority, but freedom."[276] Rousseau contends that students should be educated according to their natural developmental stages. In order to teach, educators therefore must understand and attend to the "distinctive genius" of each child.[277] In language that is compatible with current brain research and best educational practices, Rousseau

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272. *See id.*

273. *Id.* ("[T]here are some women who are fit, and others who are unfit, for the office of guardians.").

274. ARISTOTLE, POLITICS, BOOK VIII, ¶1, *reprinted* in CAHN, *supra* note 270, at 137.

275. *See id.* at 141 ("[T]he young ought to be trained in [music].").

276. JEAN JAQUES ROUSSEAU, EMILE, BOOK II, *reprinted in* CAHN, *supra* note 270, at 167.

277. *Id.* at 170-71.

warns that: "Each mind has a form of its own in conformity with which it must be directed. If you are a wise man, you will observe your pupil carefully before saying a word to him. In the first instance leave his essential character full liberty to manifest itself. . . ."[278] Where educators find differences in the character of their pupils, they must tailor their educational strategies to correspond to those differences.

In this context, Rousseau attacks the ancient Greek suggestion that women should be given the same education as men.[279] According to Rousseau, "[t]he sameness and the difference" between genders "cannot but have an effect on mentality."[280] The differences in "mentality" do not suggest in any way superiorities or political inequalities. Yet, those differences do exist and thus do require different educational approaches.

After criticizing Plato and Aristotle for ignoring the "differences of sex" and sacrificing the "sweetest sentiments of nature" to the "artificial sentiment of loyalty to the regime," Rousseau concludes: "Once it has been shown that men and women are essentially different in character and temperament, it follows that they ought not to have the same education."[281]

Like the ancient Greeks, the Supreme Court can be criticized for sacrificing the "sweetest sentiments of nature" to the "artificial sentiment" of equality. Once it has been shown that men and women are essentially different in their learning strategies, it follows that they ought not to have the same education. By disregarding the very question of whether there are provable gender differences in learning, and presuming instead that no such differences shall exist, the Supreme Court disserves the precepts of both science and jurisprudence. As Rousseau surmised, and as Darwin and his progeny have shown, women are different from men in their learning strategies. Nonetheless, the Court persists in presuming that

278. *Id.* at 171.

279. *See id.* at 190.

280. *Id.*

281. *Id.*

educational programs that recognize, and differentiate for, proven gender differences in learning violate the Equal Protection Clause. The government programs presumed by the Court to be constitutional are those that often deny to women meaningful educational opportunities precisely because they fail to recognize that all peafowl are not alike.