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## **Dolores Garcia: PANEL THREE - EDUCATIONAL AND SOCIAL SCIENTIFIC PERSPECTIVES ON ALL-FEMALE EDUCATION**

Dolores Garcia

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DOLORES GARCIA: What I would like to share with you today is a review of the literature on single-sex schooling and also outline the study that I have been conducting over the course of the past two years, which is the source of my dissertation entitled, "Single-Sex Public Schooling for Girls: Implications for Educational Policy." I became interested in this topic prior to going to Columbia University because I am a product of single-sex schooling.

In reviewing the literature on single-sex schooling, I became aware of the fact that every single study is based on private, independent, or parochial schools.<sup>1</sup> Consequently, the samples of girls in these studies are white, privileged, intelligent, middle- to upper-class girls.<sup>2</sup> The findings of these studies are that the girls who attend single-sex schools have higher self-esteem, higher academic achievement, and higher professional and academic aspirations.<sup>3</sup> My question is: If this is so for these privileged

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<sup>1</sup> Valerie K. Vojdik, *Girls' Schools After VMI: Do They Make The Grade?*, 4 DUKE J. GENDER & POL'Y 69, 92 (1997) (noting two studies from the United States Department of Education's High School and Beyond which compared Catholic students in single-sex and coeducational high schools).

<sup>2</sup> Daniel Gardenswartz, *Public Education: An Inner-City Crisis! Single-Sex Schools: An Inner City Answer?*, 42 EMORY L.J. 591, 600 (1993) (indicating that the increase of minority children in the public school system has led to an increase of middle and upper-class children whose parents prefer to send their children to private schools).

<sup>3</sup> Jolee Land, *Not Dead Yet: The Future of Single-Sex Education After United States v. Virginia*, 27 STETSON L. REV. 297, 314 (discussing that all female schools "have fostered verbal assertiveness, higher career aspirations and more intellectual self-esteem. . ."). See also Christopher H. Pyle, *Women's Colleges: Is Segregation By Sex Still Justifiable After United States v. Virginia?* 77 B.U. L. REV. 209, 238 (1997) (indicating that a lack of self esteem in

girls in these schools, why are we not also providing this opportunity for girls who are relegated to inner-city public schools, some of which are very bad. I became interested in the issue of opportunity, access, and choice, for inner-city families. I believe strongly in single-sex schooling for both boys and girls. However, I can only research one group for my dissertation, and I chose to look at girls. Single-sex schooling, obviously, is a viable option in the private sector for a privileged segment of our society.<sup>4</sup> Again, my question is: Aren't inner city black, Hispanic, and other children of color also worthy of such an opportunity where they, too, can experience high academic achievement, high aspirations and high self-esteem?

Coeducation is taken for granted, as most people's educational experiences are coeducational.<sup>5</sup> Therefore, anything other than coeducation is assumed to be unnatural and unhealthy. Not only is this an assumption made by lay people, it is also an assumption made by educational researchers.<sup>6</sup> Coeducation is one of the least researched topics

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females could be attributed to being coeducated with hyper-aggressive boys). Carrie Corcoran, *Single Sex Education After VMI: Equal Protection and East Harlem's Young Women's Leadership School*, 45 U. PA. L. REV. 987, 1027 (1997) (arguing that single-sex education for girls helps them combat low self-esteem problems and that females who attend single-sex schools frequently have better self-images).

<sup>4</sup> See Gardenswartz *supra*, note 2 and accompanying text.

<sup>5</sup> See *U.S. v. Virginia*, 116 S. Ct. 2264, 2293 (1996) (Scalia, J., quoting *Mississippi University for Women v. Hogan*, 458 U.S. 718, 736 (Powell, J. dissenting) (1982)) (stating that "[f]rom grade school through high school, college, and graduate and professional training, much of our history has been educated in sexually segregated classrooms."). See also Mary Moore, U.S. DEPT. OF EDUC., *SINGLE-SEX SCHOOLING: PERSPECTIVES FROM PRACTICE AND RESEARCH* 6 (1993) (stating that "[c]oeducation has long been established in the United States as both policy and practice.") "By the end of the 19th century, education had almost completely become coeducational." *Id.*

<sup>6</sup> See generally, Diane Avery, *Institutional Myths, Historical Narratives and Social Science Evidence: Reading the "Record" in the Virginia Military Institute Case*, 5 S. CAL. REV. L. & WOMEN'S STUD. 189, 280 (1996) (noting how the government attempted to use empirical research on gender differences as a basis for invalidating the VWIL plan as unnatural).

in education.<sup>7</sup> There is little empirical investigation of coeducation.<sup>8</sup> In terms of the review of the literature on single-sex schooling, the research, unfortunately is rather old. There's nothing really contemporary on single-sex schooling.<sup>9</sup> The majority of the studies, however, have been conducted outside of the United States because there are more single-sex opportunities, both public and private, in other countries.<sup>10</sup> The results, as I am sure you will hear, are conflicting; however, I have not read in any study -- and the panelists at the end of the table can share this with me if they have these findings -- that girls have ever been found to fare worse than their counterparts in coeducational settings.<sup>11</sup> These girls are either found to perform at higher levels, or there is no significant difference in their performance.<sup>12</sup> In other words, single-sex schooling is not harming them in any way. There are several critiques of single-sex schooling in terms of controlled studies.<sup>13</sup> The critiques are that the sample sizes are

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<sup>7</sup> See Cornelius Riordan, *Single-Gender Schools: Outcome For African and Hispanic Americans*, 10 RES. IN SOC. OF EDUC. & SOCIALIZATION 177, 177 (1994) (stating that “[t]he pros and cons of mixed- and single-sex schooling . . . have received little attention.”).

<sup>8</sup> *Id.* at 179 (stating that “[c]riticism [of single-sex schools] [] are based on limited theoretical and empirical knowledge regarding single-sex and mixed-sex schools.”).

<sup>9</sup> *But see id.* at 180 (stating that “studies are beginning to emerge specifically confirming the effectiveness of single-sex education for women in developing countries.”).

<sup>10</sup> Kristin S. Caplice, *The Case For Public Single-Sex Education*, 18 HARV. J.L. & PUB. POL'Y 227, 284 (1994) (noting that the United States has only 93 women's colleges and five men's colleges and that on the primary and secondary school level, coeducational schools greatly outnumber single-sex schools). *See also* Corcoran, *supra* note 3, at 987 (recognizing that the best schools in England are single-sex schools).

<sup>11</sup> *See infra* note 12 and accompanying text.

<sup>12</sup> *See* Caplice, *supra* note 10, at 238 n.31 (citing to educational statistics by the U.S. Department of Education, which challenge the notion that blame should be placed on the coeducational school environment if gender discrimination is believed to be “taught at school.”). *But see id.* at 230 (arguing that “both sexes, because they develop physiologically, intellectually, and emotionally at different tempos, can benefit equally from single-sex instruction.”).

<sup>13</sup> *See Single Sex Schools: Testing Legal Grounds in California*, DAILY REPORT CARD, Oct. 10, 1997 (noting a New York Times report which criticizes testing done on single-sex schooling because such studies lack vigorous controls).

not large enough.<sup>14</sup> Also, controls such as student variables, family variables, and school variables are factors as well. However, the major control variable that is lacking in many of the single-sex schooling studies is initial ability.<sup>15</sup> Many of the studies are conducted at the time when the children are leaving the school. And it is very easy to say that the girls in the single-sex schools are doing much better than the girls in the coed schools, but we do not have a baseline comparison.<sup>16</sup> So initial ability is one of the major faults in terms of controls in single-sex schooling research.<sup>17</sup> The focus of most single-sex schooling research, in terms of comparing girls in single-sex schools and girls in coed schools, is on how these school types affects academic, or/and social affective outcomes.

I would like to talk about the study that I have been conducting over the course of the past two years. My study proposed to document the similarities and differences between girls at a highly academic, single-sex public school and a comparable coeducational public school. There are only two single-sex public high schools in the country.<sup>18</sup> I conducted my study in one of them.<sup>19</sup> My study is unique in four ways. My study focuses on minority girls. My analytic sample includes white girls, African-American girls, and Asian girls. I attempted to include Hispanic girls as well; however, the "N" (number of girls) -- or the number of

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<sup>14</sup> See Caplice, *supra* note 10, at 241-42 (voicing the claim made by critics who maintain that sociological studies that show single-sex schools as superior to coeducational schools in certain academic areas are "skewed" and "overstated" because most single-sex schools are small and private and have other qualities that become specific "strikes against coeducation" when built into these studies).

<sup>15</sup> See generally Valorie K. Vojdik, *Gender & the Higher Education Classroom: Maximizing the Learning Environment, Girls' Schools After VMI: Do They Make the Grade?*, 4 DUKE J. GENDER L. & POL'Y 69, 87-90 (1997) (supporting the proposition that too many variables exist outside of gender such as socioeconomic status and race to rely on single-sex schooling research: because these variables cannot be accounted for in studies there is no way to accurately compare differences in single-sex and coeducational schools).

<sup>16</sup> *Id.*

<sup>17</sup> *Id.*

<sup>18</sup> See Corcoran, *supra* note 3, at 989 n.9 (noting that the only two single-sex public high schools are the Girls High in Philadelphia and Western in Baltimore).

<sup>19</sup> Girls High School in Philadelphia, Pennsylvania

Hispanic girls in either of the schools was too low for me to get any kind of statistical significance. Therefore, although I could not include them in the study, I do have the data for them.

My study compares single-sex and coed public schools, and to my knowledge there is not a study in this country that compares single-sex and coed public schools. The research on coeducation states that the only group that truly benefits from coeducation are white males.<sup>20</sup> For that reason, I have included a comparison between the girls in the single-sex school and the white males in the coed schools. Unlike most other studies, I have introduced controls for preexisting differences. I had baseline data from transcripts on the students in both schools from the 8th grade, before they entered high school. The two schools in my study are unique because they are selected schools. They are both college prep schools with admissions criteria.<sup>21</sup> So, they both have admissions criteria. Ironically, the coeducational school across the street was an all-boys school.<sup>22</sup> Central High School has been all-boys since 1838, and it was in 1983 that by court mandate they had to allow girls to enter the school. So, the school has not even been coeducational for over twenty years. The admissions criteria for both schools are: the students have to perform at the 85th percentile on a standardized test, either a national standardized test or a local standardized test; the students must have A's or B's and there is an exception for an occasional C; they must have good attendance records. This is the admission criteria at both schools. The schools are very similar in their curriculum. When I was looking at the curriculum at both schools in terms of AP courses offered, honors courses, credentials of the faculty, so forth and so on, the SES (socioeconomic status) level in the schools, both schools, are also very similar.

In terms of methodology, my analytic sample only included the 12th graders who had been in their respective schools for the entire four

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<sup>20</sup> See generally Sharon K. Mollman, *The Gender Gap: Separating the Sexes In Public Education*, 68 IND. L.J. 149 (1992) (stating that "research shows that the presence of girls in the classroom 'enhance[s] male achievement.'").

<sup>21</sup> Girls High School and Central High School in Philadelphia, Pennsylvania.

<sup>22</sup> Central High School was an all-boys school before becoming coeducational.

years. In order for me to make any type of assertions about school effects, I needed to make sure that the students had their entire high school education at that particular school. So, anyone who was not at the school since the 9th grade was excluded from the analytical sample. My variables of interests are academic achievement, self-esteem, and aspirations. For the data on academic achievement, I am looking at SAT scores, which are probably the quintessential academic achievement data for high school performance. I am also looking at cumulative grade point average and at anticipated college enrollment in terms of whether or not the students are going to highly selective colleges or selective colleges. I am also looking at self-esteem. There are two highly recommended, highly reliable and valid self-esteem instruments, and I have selected to choose one of them. For aspirations, I am looking at personal, professional, as well as academic aspirations. I also introduced control variables because a major critique in many single-sex schooling studies is that there are lack of controls.<sup>23</sup> I controlled for socioeconomic status and initial ability, which addresses one of the major critiques of previous studies;<sup>24</sup> as well as the quality of previous education. The analysis that I have used is regression analysis.<sup>25</sup>

In summary, I would like to end with a quote which happens to open my dissertation and it's taken from Sadker and Sadker, which has been mentioned several times today, in their book *Failing at Fairness*, "If the cure for cancer is forming in the mind of one of our daughters, it is less likely to become a reality than if it is forming in the mind of one of our sons. Until this changes, everybody loses."<sup>26</sup> Thank you.

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<sup>23</sup> See generally *Single-Sex Schools: Testing Legal Grounds in California*, THE DAILY REPORT CARD, Oct. 10, 1997 (noting that a New York Times report indicated that studies about girls in single-sex schools lack controls).

<sup>24</sup> See *supra* note 14 and accompanying text.

<sup>25</sup> See Marjorie Heins, *Massachusetts Civil Rights Law*, 76 MASS. L. REV. 77, 94 (1991) (noting that regression analysis "corrects for nondiscriminatory variables that might also account for the apparent adverse impact of a particular practice."); see also John J. Ross, *The Employment Law Year in Review*, 547 PLI/LIT 9, 108 n.210 (1996) (noting that "regression assumes likeness in all aspects not controlled for.").

<sup>26</sup> MYRA SADKER & DAVID SADKER, *FAILING AT FAIRNESS: HOW AMERICA'S SCHOOLS CHEAT GIRLS 14* (Charles Scribner's Sons 1994).