

Moral Development in Single-Sex Schools:

A Review of the Research

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In the recent campaigning one of Hillary Clinton's most important contributions to education as a Senator was rarely mentioned. In 2001, she co-sponsored with Republican Senators Kay Bailey Hutchinson from Texas, and Susan Collins from Maine along with Democrat Barbara Mikulski of Maryland an amendment to the "No Child Left Behind Act" which allowed federal funds to be used for innovative programs, including "programs to provide same-gender schools and classrooms (consistent with applicable law.)" Hillary Clinton is herself a graduate of the all women's Wesleyan College.

Since the passage of this amendment, the number of single-sex educational options has sky rocketed. In 1995 there were two single-sex public schools in the United States; currently there are 49. In 2001- there were 27 schools offering single-sex classrooms in public schools; currently in 2008 there are 360 such single-sex classes in schools. In the past three years alone, some 30-single-sex schools have opened; this in response to the federal regulations published on October 25, 2006 (after a four year delay) which answered the flurry of legal challenges that emerged after the 2001 amendment to NCLB passed. It outlined three requirements for offering single-sex classrooms which include providing a rationale for so doing, providing equal coeducational classes in close geographic proximity, and conducting research every two years to document their necessity and success.¹

Most of the studies since 2001 have focused on the effectiveness of single- sex schools in terms of students' achievement, not in terms of their character or moral formation.² Nevertheless one essential argument for single-sex schools from the private, religious sector is that as boy and girls have different social needs and; moral and character education is more

¹ NASSPE, The Legal Status of Single-Sex Public Education, 2008, National Association for Single-sex Public Education, Available: <http://www.singlesexschools.org/legal.html>, 11/5/2008 2008.

² P. 228 Anthony Bryk, Valerie Lee and Peter Holland, Catholic Schools and the Common Good (Cambridge: Harvard University Press, 1993).

effective in a single-sex-environment. When schooling began in the United States, students were segregated by sex in both public and private schools. The shift to coeducation by U.S. public schools occurred with relatively little controversy, largely driven by efficiency concerns of local school boards rather than by any deliberate educational philosophy. Private Catholic schools remained single-sex committed to the premise that this was better for the moral development of the child and especially the adolescent. Prior to 1980, very little research on the operation of Catholic high schools had been done for although many studies on schools were conducted; the Catholic school was seldom included in the sample or in the investigations. The Catholic schools did no basic research on their purported expertise at promoting moral development through their single-sex schools. Research in this area was mostly conducted by the British single-sex schools and other European countries.³ The 1960s and 1970s witnessed a rapid movement away from single-sex schooling in both private secondary and higher education as the demand for single-sex education began to decline because single-sex schools were viewed as a barrier to successful adolescent socialization; institutions either closed or converted to coeducation in order to stabilize enrollments. This came at a time when research on single– sex postsecondary institutions was just beginning to document positive effects, especially for women.⁴

The new commitment to single-sex schooling lies primarily in the research done by Dr. Leonard Sax documented in his classic book, *Why Gender Matters: What Parents and Teachers Need to Know about the Emerging Science of Sex Differences* (2004). He maintains that as boys and girls are biologically different, they learn differently and need significantly different teaching methods in order to learn effectively; therefore they need single-sex classes if they are to learn effectively. Sax points out that sex is a dichotomous biological variable in that humans are either female or male but gender is a continuous variable that is socially constructed. Boys and girls are searching to understand who they are. The psychosexual

³Baker, David, Cornelius Riordan and Mary Ellen Schaub. "The Effects of Sex-Grouped Schooling on Achievement: The Role of National Context. *Comparative Education Review*, 39(4), 468-482, 1999, Harker, R. "Achievement, gender and the single-sex/coed debate." *British Journal of Sociology of Education*, 21(2), 203-218, 2000.

Spielhofer, Thomas, Tom Benton & Sandi Schagen, "A study of the effects of school size and single-sex education in English Schools" Research Papers in Education, Vol 19, N. 2, June 2004

Thomas, Terri and Charles Ungerleider. Single Sex Schooling Final Report Canadian Centre for Knowledge Mobilisation, 2004.

⁴ P. 227, ;Bryk, Lee and Holland, Catholic Schools and the Common Good.

development of girls has changed over the generations; in the past they were worried about their character; today most girls are worried about their appearance.⁵

Sax also founded The National Association for Single-sex Public Education (NASSPE) as a non-profit organization in 2002. It is dedicated to the advancement of single-sex public education for both girls and boys and has organized international conferences since 2003 in which leading educators and teachers in single-sex schools share success stories.⁶ Schools that place boys in single-sex classrooms find the percentage of these students who meet math academic standards rising from 10% to 35%; and those meeting reading and writing standards rose from 10% to 53%.⁷ Girls in single-sex classes excel in Math and science.

Advocates of single-sex education fall in two camps; those who favor separating boys from girls because they are essentially different; and those who favor separating boys from girls because they have different social experiences and social needs. Leonard Sax represents the essential-difference view, arguing that boys and girls should be educated separately for reasons of biology: boys don't hear as well as girls and need their teachers to speak louder for them to learn well; boys' visual systems are better at seeing action, while girls are better at seeing nuance of color and texture, etc.

Teachers/administrators at the Young Women's Leadership School (TYWLS) in Harlem and other single-sex/single race schools subscribe to the social experience/needs view that would also support the research question of this paper that single-sex schools promote the moral development of their students. One could consider the TYWLS to be the birthplace of the current single-sex public school movement since it opened in 1996, and has provided the model for Leadership Schools in six other cities, including Chicago. Every girl in every senior class at TYWLS has graduated and been accepted into a four-year college.⁸ In a single-sex environment, proponents of single-sex schools say that girls receive encouragement for what they do rather than for how what they look.

Review of the literature

⁵ P. 241, Leonard Sax, Why Gender Matters (New York: Random House, 2004).

⁶ NASSPE Home site <http://www.singlesexschools.org>

⁷ Elizabeth Weil, "Teaching Boys and Girls Separately," The New York Times March 2, 2008.

⁸ Weil, "Teaching Boys and Girls Separately."

James Coleman's classic 1961 study of adolescent subculture reported in *The Adolescent Society* noted that coeducation might have damaging consequences stating that: "coeducation in some high schools may be inimical to both academic achievement and social adjustment."⁹ Using the data base *High School and Beyond* (a collection of data on a single cohort sophomores and seniors in both Catholic and public high schools, 42% of the Catholic schools were single-sex), in 1982, Coleman and colleagues Thomas Hoffer and Sally Kilgore wrote *High School Achievement: Public and Private Schools* summarizing their research findings. They concluded that Catholic Schools in comparison with public schools, produced higher cognitive achievement; were less racially segregated; and the achievement of students in Catholic high schools was less dependent on family background and personal circumstances than was true in the public schools; thus better approximating the 'common school ideal' purported by the public schools.¹⁰ According to Coleman, Hoffer and Kilgore, some of the most widely held premises underlying policy proposals for private education include the following: Private schools provide better character and personality development than do public schools and provide a safer, more disciplined and more ordered environment than public schools. They report, however, that the data provides little evidence of character and personality development except for a higher level of self-esteem and sense of fate control'.¹¹ It should be noted that their research did not separate the single-sex from the co-educational Catholic schools.

Valerie Lee and Anthony Byrk used the same HS&B data base but drew a subsample that evenly matched Catholic schools' (some co-educational and some single-sex) and public schools' statistical data and reported their findings in *Catholic Schools and the Common Good*. Adjusting for family background, religious characteristics, academic background and social composition of the school, they nevertheless found that every one of the statistically significant effects on achievement favored single-sex schools, although the pattern of effects is different for male and females. Students in girls' schools are more likely to associate with academically oriented peers and to express positive interest in both mathematics and English. The effect on boys is positive but not statistically significantly. Students in single-sex schools spend

⁹ Peter Daly and Neil Deffy, "Extension of Single-Sex Public School Provision: Evidential Concerns," *Evaluation and Research in Education* Vol. 18.1 & 2 (2004).

¹⁰ James Coleman, Thomas Hoffer and Sally Kilgore, *High School Achievement: Public, Catholic, and Private Schools Compared* (New York: Basic Books, Inc., 1982).

¹¹ P. 4, 180, Coleman, Hoffer and Kilgore, *High School Achievement: Public, Catholic, and Private Schools Compared*.

significantly more time on homework, especially girls, and are less likely than their counterparts in coed schools to enroll in vocational courses. In general, attending single-sex schools positively affects academic achievement. Nonacademic aspirations and affective outcomes (which relate closely to social emotional and moral development –have estimated effects generally favoring single-sex schools with larger effects accruing to students in girls schools.¹² They concluded that “students, especially girls, benefited academically and attitudinally from single-sex schooling.” “Girls at single-sex schools did better in science and reading than girls in coed schools...Students at single sex schools had not only superior academic achievement, but also had higher educational aspirations, more confidence in their abilities, and a more positive attitude toward academics, than did student at coed high schools.¹³ They found that “there were substantial gender and race differences on affective and social outcomes. Students in boys’ schools are more likely than the counterparts in coed schools to hold positive attitudes about socially active peers and athletes. Poor and minority students, boys and girls, do significantly better in single-sex schools. Attending single-sex schools positively affects academic achievement.¹⁴ They concluded their study with an admonition: “The particularly strong and pervasive effects for students in Catholic girls’ schools merit special attention. It would be one of the great ironies of educational reform if, in equalizing opportunities for young women by breaking down access barriers to the boys schools with greater resources and more facilities, we are inadvertently destroying one of our great resources – a set of educational institutions especially conducive to young women’s learning.”¹⁵

Rosemary Salomone in *Same Different, Equal: Rethinking Single-Sex Schooling* (2003) documents her work helping the Young Women’s Leadership Academy in Harlem and her study of three other single-sex schools in Philadelphia, and Baltimore. She summarizes the philosophic discussion as revolving around the concepts of *sameness, difference, dominance and essentialism* which provide the framework for arguing that single-sex schools advance or undermine educational equality for females as well as males.¹⁶ Looking at a body of research that is both quantitative and qualitative from around the globe, she notes that there are

¹² P. 232-34, Bryk, Lee and Holland, Catholic Schools and the Common Good.

¹³ Lee, Valerie and Anthony Bryk. “Effects of single-sex secondary schools on student achievement and attitudes.” Journal of Educational Psychology, 78:381-395.

¹⁴ P. 232-33 Bryk, Lee and Holland, Catholic Schools and the Common Good.

¹⁵ P. 241, Bryk, Lee and Holland, Catholic Schools and the Common Good.

¹⁶ P. 41 Rosemary Salomone, Same, Different, Equal: Rethinking Single-Sex Schooling (New Haven: Yale University Press, 2003).

recurrent and promising themes that provide positive directives for potential program design and research efforts: "Girls in particular derive academic and psychosocial benefits from single-sex programs. All-girls settings seem to provide girls a certain comfort level that helps them develop greater self-confidence and broader interests. Research findings further indicate that disadvantaged minority girls and boys may gain the most from same sex schooling."¹⁷

Cornelius Riordan in *Girls and Boys in School: Separate or Together* (1990) documents three different studies of single-sex schools he conducted using national samples of high school graduating classes from the National Longitudinal Study (NLS). These 22, 652 seniors from 1318 private and public single-sex and coeducational schools were studied various years until 1986. The findings favor single-sex schools. There is a "social psychological environment in single-sex schools that is conducive to high academic performance." Students in single-sex schools (both boys and girls) have higher educational expectations, spend more time on homework and have a high degree of order/or discipline.¹⁸ The survey also proved data on certain affective outcome such as self-esteem, sense of personal control, and a set of attitudinal questions on a variety of issues which are more positive for girls, Hispanics and African-Americans in single-sex schools - specifically they have higher self-esteem and self-control.¹⁹ Riordan argues against the wholesale closing of single-sex schools that was happening in the 1980s and suggests that a small number of experimental single-sex schools or classes be created at various educational levels, for single-sex schools should be considered as one of the most promising educational reform for more effective schooling.²⁰

Riordan has continued this research for the past twenty years using data from the National Center for Education Statistics and concludes that "Students in single-sex schools have higher achievement outcomes...show higher levels of leadership behavior in school, do more homework...have more favorable attitudes toward school... and have higher levels of discipline and order..."²¹ Most recently, Cornelius Riordan directed the U.S. Department of Education's systematic review of research literature on single-sex schooling that was conducted by the American Institutes for Research subcontracted to RMC Research

¹⁷ P. 240 Salomone, Same, Different, Equal: Rethinking Single-Sex Schooling.

¹⁸ P. 81, 147 Cornelius Riordan, Girls and Boys in School: Together or Separate? (New York: Teachers College Press, 1990).

¹⁹ P. 112 ibid

²⁰ P. 13 ibid. Riordan, Girls and Boys in School: Together or Separate?

²¹ Cornelius Riordan, "The Effects of Single-sex Schools" What Do We Know?" Congress on Single-sex Schools, ed. European Association for Single-sex Education (Barcelona, Spain: 2007), vol.

Corporation and completed in 2005. This is the best meta-analysis available of the effects of single-sex schools in the United States.

The objective of the review was to document the outcome evidence for or against the efficacy of single-sex education as an alternative form of school organization. Both quantitative and qualitative literature was reviewed. Although they began with 2221 initial studies, screening yielded 40 studies to be retained in the quantitative study and 4 in the qualitative study. Evidence was sought for the following research questions regarding single-sex schools: Where they more or less effective for current and long-term quantifiable academic achievement? where they more or less effective for concurrent and/or long-term quantifiable indicators of student adaptation and social-emotional development?; and were they more or less effective in addressing gender equity, school climate and culture?

They found a dearth of quality basic research studies (randomized experiments or correlational studies with adequate statistical controls), and a preponderance of studies conducted in Catholic single-sex high schools, especially studies of all girls' schools. The major focus of most studies was academic achievement; not socio/emotional or moral development.²² Nevertheless, the studies were reviewed and findings were coded as supporting-single-sex SS, supporting co-education CE, mixed or null. Although null results were the most common, one third of the studies reported positive effects for SS schools on all-subject achievement tests, i.e. mathematics, science, English and social studies. The review found positive results favoring SS schools regarding social-emotional development regarding locus of control, educational and career aspirations, positive behavior, political involvement, climate for learning, interest in grades and opportunities for leadership.²³ The results were particularly strong regarding social-emotional outcomes that favored females in single-sex school.²⁴

More recent studies have sought to identify variables that contribute to the positive effect of single sex schools on inner city students; many have used qualitative methods.

²² American Institutes for Research, Single-Sex Versus Coeducational Schooling: A Systematic Review (Washington, D.C.: U.S.Department of Education, Office of Planning, Evaluation and Policy Development, 2005).

²³ Research, Single-Sex versus Coeducational Schooling: A Systematic Review.

²⁴ P. 4 Riordan, "The Effects of Single-sex Schools" What Do We Know?"

David Hansen²⁵ observed in an inner-city all boy's high school over the course of three years, visiting over 100 classes, conducting formal and informal interviews with teachers and other members of the school. He identified the combined actions of administrators, teacher, parents and students that contributed to the formation of the strong, supportive, moral environment of the school that was part of its mission. It is this safe, supportive environment that allows the students to excel academically as well as develop self-discipline and right conduct.

A two-year ethnographic study of low-income and minority students in single-sex academies in California conducted by Lea Hubbard and Amanda Datnow²⁶ showed that improving achievement involves more than separating students by gender; interrelated to this and just as important are the student-teacher relationships and the resources available in these schools. The students in these schools benefited from the reduced class size, the equal access to the curriculum and the academic and socially enriching environment in the school; but the most important variable was the influence of caring educators who worked close with the students.

In conclusion, this systematic review of the research studies on single-sex schools lends some empirical support to the hypothesis that single-sex schools may be advantageous for both boys and girls in terms of promoting academic achievement with a greater degree of order and control in the classroom and fostering social-emotional development and promoting positive peer interactions. Nevertheless there is a great need for more research with better experimental designs focusing on measures of moral growth and character development as specific aspects of social-emotional development.

²⁵ Hansen, David. "The moral environment in an inner-city boys' high school" *Teaching and Teacher Education* 18 (2002) 183-204.

²⁶ Hubbard, Lea and Amanda Datnow. "Do Single-Sex Schools Improve the Education of Low-Income and Minority Students? An Investigation of California's Public Single-Gender Academies. *Anthropology and Education Quarterly*, 36(2), 115-131, 2005.

American Institutes for Research. Single-Sex versus Coeducational Schooling: A Systematic Review. Washington, D.C.: U.S. Department of Education, Office of Planning, Evaluation and Policy Development, 2005.

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