



THE AAUW REPORT



# How SCHOOLS SHORTCHANGE GIRLS



EXECUTIVE SUMMARY

A STUDY OF MAJOR FINDINGS ON GIRLS AND EDUCATION

COMMISSIONED BY THE AMERICAN ASSOCIATION OF UNIVERSITY WOMEN EDUCATIONAL FOUNDATION  
AND RESEARCHED BY THE WELLESLEY COLLEGE CENTER FOR RESEARCH ON WOMEN

**F**or those who believe that equitable education for all young Americans is the greatest source of our nation's strength, *The AAUW Report: How Schools Shortchange Girls* will not be reassuring. Commissioned by the AAUW Educational Foundation and developed by the Wellesley College Center for Research on Women, the study challenges the common assumption that girls and boys are treated equally in our public schools.

Ironically, AAUW's first national study—undertaken in 1885—was initiated to dispel the commonly accepted myth that higher education was harmful to women's health. This latest report presents the truth behind another myth—that girls and boys receive equal education.

While most of us are painfully aware of the crisis in American education, few understand or acknowledge the inequities that occur daily in classrooms across the country. Didn't we address that problem in Title IX of the 1972 Education Amendments, which prohibits discrimination in educational institutions receiving federal funds? Many of us worked hard to ensure that this legislation would be passed. Its passage, however, did not solve the problem.

This report is a synthesis of all the available research on the subject of girls in school. It presents compelling evidence that girls are not receiving the same quality, or even quantity, of education as their brothers.

The implications of the report's findings are enormous. Women and children are swelling the ranks of the poor, at great cost to society. Yet our education policymakers are failing to address the relationship between education and the cycle of poverty. The shortchanging of girls is not even mentioned in the current educational restructuring debate.

A well-educated work force is essential to the country's economic development, yet girls

are systematically discouraged from courses of study essential to their future employability and economic well-being. Girls are being steered away from the very courses required for their productive participation in the future of America, and we as a nation are losing more than one-half of our human potential. By the turn of the century, two out of three new entrants into the work force will be women and minorities. This work force will have fewer and fewer decently paid openings for the unskilled. It will require strength in science, mathematics, and technology—subjects girls are still being told are not suitable for them.

*The AAUW Report* presents a base for a new and enlightened education policy—a policy that will ensure that this nation will provide the best possible education for all its children. It provides policymakers with impartial data on the ways in which our school system is failing to meet the needs of girls and with specific strategies that can be used to effect change. The wealth of statistical evidence must convince even the most skeptical that gender bias in our schools is shortchanging girls—and compromising our country.

The AAUW Educational Foundation is proud to present *The AAUW Report: How Schools Shortchange Girls*, made possible through the generosity of the many supporters of the Eleanor Roosevelt Fund. This report is destined to add a new dimension to the education debate. The evidence is in, and the picture is clear: shortchanging girls—the women of tomorrow—shortchanges America.



Alice McKee

President

AAUW Educational Foundation



# WHY A REPORT ON GIRLS?



The invisibility of girls in the current education debate suggests that girls and boys have identical educational experiences in school. Nothing could be further from the truth. Whether one looks at achievement scores, curriculum design, or teacher-student interaction, it is clear that sex and gender make a difference in the nation’s public elementary and secondary schools.

The educational system is not meeting girls’ needs. Girls and boys enter school roughly equal in measured ability. Twelve years later, girls have fallen behind their male classmates in key areas such as higher-level mathematics and measures of self-esteem. Yet gender equity is still not a part of the national debate on educational reform.

Neither the *National Education Goals* issued by the National Governors Association in 1990 nor *America 2000*, the 1991 plan of the President and the U.S. Department of Education to “move every community in America toward these goals,” makes any mention of providing girls equitable opportunities in the nation’s public schools. Girls continue to be left out of the debate—despite the fact that for more than two decades researchers have identified gender bias as a major problem at all levels of schooling.

Schools must prepare both girls and boys for full and active roles in the family, the community, and the work force. Whether we look at the issues from an economic, political, or social perspective, girls are one-half of our future. We must move them from the sidelines to the center of the education-reform debate.

A critical step in correcting educational inequities is identifying them publicly. *The AAUW Report: How Schools Shortchange Girls* provides a comprehensive assessment of the status of girls in public education today. It exposes myths about girls and learning, and it supports the work of the many teachers who have struggled to define and combat gender bias in their schools. The report challenges us all—policymakers, educators, administrators, parents, and citizens—to rethink old assumptions and act now to stop schools from shortchanging girls.

Our public education system is plagued by numerous failings that affect boys as negatively as girls. But in many respects girls are put at a disadvantage simply because they are girls. *The AAUW Report* documents this in hundreds of cited studies.

When our schools become more gender-fair, education will improve for all our students—boys as well as girls—because excellence in education cannot be achieved without equity in education. By studying what happens to girls in school, we can gain valuable insights about what has to change in order for each student, every girl and every boy, to do as well as she or he can.

**Research shows that policies developed to foster the equitable treatment of students and the creation of gender equitable educational environments can make a difference—if they are strongly worded and vigorously enforced.**

V. Lee, H. Marks, and T. Knowles, “Sexism in Single-Sex and Coeducational Secondary School Classrooms”; S. Bailey and R. Smith, *Policies for the Future*



# WHAT THE RESEARCH REVEALS



## What Happens in the Classroom?

- ◆ Girls receive significantly less attention from classroom teachers than do boys.
- ◆ African American girls have fewer interactions with teachers than do white girls, despite evidence that they attempt to initiate interactions more frequently.
- ◆ Sexual harassment of girls by boys—from innuendo to actual assault—in our nation’s schools is increasing.

A large body of research indicates that teachers give more classroom attention and more esteem-building encouragement to boys. In a study conducted by Myra and David Sadker, boys in elementary and middle school called out answers eight times more often than girls. When boys called out, teachers listened. But when girls called out, they were told to “raise your hand if you want to speak.” Even when boys do not volunteer, teachers are more likely to encourage them to give an answer or an opinion than they are to encourage girls.

Research reveals a tendency, beginning at the preschool level, for educators to choose classroom activities that appeal to boys’ interests and to select presentation formats in which boys excel. The teacher-student interaction patterns in science classes are often particularly biased. Even in math classes, where less-biased patterns are found, psychologist Jacquelynne Eccles reports that select boys in each math class she studied received particular attention to the exclusion of all other students, female and male.

Teaching methods that foster competition are still standard, although a considerable body of research has demonstrated that girls—and many boys as well—learn better when they undertake projects and activities cooperatively rather than competitively.

Researchers, including Sandra Damico, Elois Scott, and Linda Grant, report that African American girls have fewer interactions with teachers than do white girls, even though they attempt to initiate interactions more often. Furthermore, when African American girls do as well as white boys in school, teachers often attribute their success to hard work while assuming that the white boys are not working up to their potential.

Girls do not emerge from our schools with the same degree of confidence and self-esteem as boys. The 1990 AAUW poll, *Shortchanging Girls, Shortchanging America*, documents a loss of self-confidence in girls that is twice that for boys as they move from childhood to adolescence. Schools play a crucial role in challenging and changing gender role expectations that undermine the self-confidence and achievement of girls.

Reports of boys sexually harassing girls in schools are increasing at an alarming rate. When sexual harassment is treated casually, as in “boys will be boys,” both girls and boys get a dangerous, damaging message: “girls are not worthy of respect; appropriate behavior for boys includes exerting power over girls.”

*These issues are discussed in detail and the research fully annotated in Part 4/Chapter 2 of The AAUW Report.*

## What Do We Teach Our Students?

- ◆ The contributions and experiences of girls and women are still marginalized or ignored in many of the textbooks used in our nation's schools.
- ◆ Schools, for the most part, provide inadequate education on sexuality and healthy development despite national concern about teen pregnancy, the AIDS crisis, and the increase of sexually transmitted diseases among adolescents.
- ◆ Incest, rape, and other physical violence severely compromise the lives of girls and women all across the country. These realities are rarely, if ever, discussed in schools.

Curriculum delivers the central messages of education. It can strengthen or decrease student motivation for engagement, effort, growth, and development through the images it gives to students about themselves and the world. When the curriculum does not reflect the diversity of students' lives and cultures, it delivers an incomplete message.

Studies have shown that multicultural readings produced markedly more favorable attitudes toward nondominant groups than did the traditional reading lists, that academic achievement for all students was linked to use of nonsexist and multicultural materials, and that sex-role stereotyping was reduced in students whose curriculum portrayed males and females in nonstereotypical roles. Yet during the 1980s, federal support for reform regarding sex and race equity dropped, and a 1989 study showed that of the ten books most frequently assigned in public high school English courses only one was written by a woman and none by members of minority groups.

The "evaded" curriculum is a term coined in this report to refer to matters central to the lives of students that are touched on only briefly, if at all, in most schools. The United States has the highest rate of teenage childbearing in the Western industrialized world. Syphilis rates are now equal for girls and boys, and more teenage girls than boys contract gonorrhea. Although in the adult population AIDS is nine times more prevalent in men than in women, the same is not true for young people. In

a District of Columbia study, the rate of HIV infection for girls was almost three times that for boys. Despite all of this, adequate sex and health education is the exception rather than the rule.

Adolescence is a difficult period for all young people, but it is particularly difficult for girls, who are far more likely to develop eating disorders and experience depression. Adolescent girls attempt suicide four to five times as often as boys (although boys, who choose more lethal methods, are more likely to be successful in their attempts).

Perhaps the most evaded of all topics in schools is the issue of gender and power. As girls mature they confront a culture that both idealizes and exploits the sexuality of young women while assigning them roles that are clearly less valued than male roles. If we do not begin to discuss more openly the ways in which ascribed power—whether on the basis of race, sex, class, sexual orientation, or religion—affects individual lives, we cannot truly prepare our students for responsible citizenship.

*These issues are discussed in detail and the research fully annotated in Part 4/Chapters 1 and 3 of The AAUW Report.*

## How Do Race/Ethnicity and Socioeconomic Status Affect Achievement in School?

- ◆ Girls from low-income families face particularly severe obstacles. Socioeconomic status, more than any other variable, affects access to school resources and educational outcomes.
- ◆ Test scores of low-socioeconomic-status girls are somewhat better than for boys from the same background in the lower grades, but by high school these differences disappear. Among high-socioeconomic-status students, boys generally outperform girls regardless of race/ethnicity.

**Despite medical studies indicating that roughly equal proportions of girls and boys suffer from learning disabilities, more than twice as many boys are identified by school personnel as in need of special-education services for learning-disabled students.**

U.S. Department of Education, Office for Civil Rights, 1988

◆ Too little information is available on differences among various groups of girls. While African Americans are compared to whites, or boys to girls, relatively few studies or published data examine differences by sex *and* race/ethnicity.

**Women with five or more years of college, working full time, make only sixty-nine cents for every dollar earned by men with an equal number of years of education. BUT, wage differentials favoring men are considerably less or disappear altogether for women in their early thirties who have earned eight or more mathematics credits in college.**

Adelman, U.S. Department of Education, 1991

esteem—require further examination by sex, race/ethnicity, and socioeconomic status.

*These issues are discussed in detail and the research fully annotated in Part 2/Chapter 3 of The AAUW Report.*

### **How Are Girls Doing in Math and Science?**

◆ Differences between girls and boys in math achievement are small and declining. Yet in high school, girls are still less likely than boys to take the most advanced courses and be in the top-scoring math groups.

◆ The gender gap in science, however, is *not* decreasing and may, in fact, be increasing.

◆ Even girls who are highly competent in math and science are much less likely to pursue scientific or

technological careers than are their male classmates.

Girls who see math as “something men do” do less well in math than girls who do not hold this view. In their classic study, Elizabeth Fennema and Julia Sherman reported a drop in both girls’ math confidence and their achievement in the middle school years. The drop in confidence *preceded* the decline in achievement.

Researcher Jane Kahle found that boys come to science classes with more out-of-school familiarity and experience with the subject matter. This advantage is furthered in the classroom. One study of science classrooms found that 79 percent of all student-assisted science demonstrations were carried out by boys.

We can no longer afford to disregard half our potential scientists and science-literate citizens of the next generation. Even when girls take math and science courses and do well in them, they do not receive the encouragement they need to pursue scientific careers. A study of high school seniors found that 64 percent of the boys who had taken physics and calculus were planning to major in science and engineering in college, compared to only 18.6 percent of the girls who had taken the same subjects. Support from teachers can make a big difference. Studies report that girls rate teacher support as an important factor in decisions to pursue scientific and technological careers.

*These issues are discussed in detail and the research fully annotated in Part 2/Chapter 2 of The AAUW Report.*

### **Tests: Stepping Stones or Stop Signs?**

◆ Test scores can provide an inaccurate picture of girls’ and boys’ abilities. Other factors such as grades, portfolios of student work, and out-of-school achievements must be considered in addition to test scores when making judgments about girls’ and boys’ skills and abilities.

◆ When scholarships are given based on the Scholastic Aptitude Test (SAT) scores, boys are more apt to receive scholarships than are girls who get equal or slightly better high school grades.

◆ Girls and boys with the same Math SAT scores do not do equally well in college—girls do better.

In most cases tests reflect rather than cause inequities in American education. The fact that groups score differently on a test does not necessarily mean that the test is biased. If, however, the score differences are related to the validity of the test—for example, if girls and boys know about the same amount of math but boys' test scores are consistently and significantly higher—then the test is biased.

A number of aspects of a test—beyond that which is being tested—can affect the score. For example, girls tend to score better than boys on essay tests, boys better than girls on multiple-choice items. Even today many girls and boys come to a testing situation with different interests and experiences. Thus a reading-comprehension passage that focuses on baseball scores will tend to favor boys, while a question testing the same skills that focuses on child care will tend to favor girls.

*These issues are discussed in detail and the research fully annotated in Part 3 of The AAUIW Report.*

### **Why Do Girls Drop Out and What Are the Consequences?**

- ◆ Pregnancy is not the only reason girls drop out of school. In fact, less than half the girls who leave school give pregnancy as the reason.
- ◆ Dropout rates for Hispanic girls vary considerably by national origin: Puerto Rican and Cuban American girls are more likely to drop out than are boys from the same cultures or other Hispanic girls.
- ◆ Childhood poverty is almost inescapable in single-parent families headed by women without a high school diploma: 77 percent for whites and 87 percent for African Americans.

In a recent study, 37 percent of the female drop-outs compared to only 5 percent of the male drop-outs cited “family-related problems” as the reason they left high school. Traditional gender roles place greater family responsibilities on adolescent girls than on their brothers. Girls are often expected to “help out” with caretaking responsibilities; boys rarely encounter this expectation.

However, girls as well as boys also drop out of school simply because they do not consider school pleasant or worthwhile. Asked what a worthwhile school experience would be, a group of teenage girls responded, “School would be fun. Our teachers would be excited and lively, not bored. They would act caring and take time to understand how students feel... . Boys would treat us with respect. If they run by and grab your tits, they would get into trouble.”\*

Women and children are the most impoverished members of our society. Inadequate education not only limits opportunities for women but jeopardizes their children's—and the nation's—future.

*These issues are discussed in detail and the research fully annotated in Part 2/Chapters 4 and 6 of The AAUIW Report.*

**There has been little change in sex-segregated enrollment patterns in vocational education: girls are enrolled primarily in office and business-training programs, boys in programs leading to higher-paying jobs in the trades.**

U.S. Department of Education, 1989

\*As quoted in *In Their Own Voices: Young Women Talk About Dropping Out*, Project on Equal Education Rights (New York, National Organization for Women Legal Defense and Education Fund, 1988), p. 12.



# RECOMMENDATIONS: ACTION FOR CHANGE



The research reviewed in *The AAUW Report: How Schools Shortchange Girls* challenges traditional assumptions about the egalitarian nature of American schools. Girls do not receive equitable amounts of teacher attention, are less apt than boys to see themselves reflected in the materials they study, and often are not expected or encouraged to pursue higher level math and science.

The current education-reform movement cannot succeed if it continues to ignore half of its constituents. We must move girls from the sidelines to the center of education planning. The issues are urgent; our actions must be swift and effective.

## The Recommendations

### Strengthened reinforcement of Title IX is essential.

1. Require school districts to assess and report on a regular basis to the Office for Civil Rights in the U.S. Department of Education on their own Title IX compliance measures.
2. Fund the Office for Civil Rights at a level that permits increased compliance reviews and full and prompt investigation of Title IX complaints.
3. In assessing the status of Title IX compliance, school districts must include a review of the treatment of pregnant teens and teen parents. Evidence indicates that these students are still the victims of discriminatory treatment in many schools.

**Teachers, administrators, and counselors must be prepared and encouraged to bring gender equity and awareness to every aspect of schooling.**

4. State certification standards for teachers and administrators should require course work on gender issues, including new research on women, bias in classroom-interaction patterns, and the ways in which schools can develop and implement gender-fair multicultural curricula.
5. If a national teacher examination is developed, it should include items on methods for achieving gender equity in the classroom and in curricula.
6. Teachers, administrators, and counselors should be evaluated on the degree to which they promote and encourage gender-equitable and multicultural education.
7. Support and released time must be provided by school districts for teacher-initiated research on curricula and classroom variables that affect student learning. Gender equity should be a focus of this research and a criterion for awarding funds.
8. School-improvement efforts must include a focus on the ongoing professional development of teachers and administrators, including those working in specialized areas such as bilingual, compensatory, special, and vocational education.
9. Teacher-training courses must not perpetuate assumptions about the superiority of traits and activities traditionally ascribed to males in our society. Assertive and affiliative skills as well as verbal and mathematical skills must be fostered in both girls and boys.

**10.** Teachers must help girls develop positive views of themselves and their futures, as well as an understanding of the obstacles women must overcome in a society where their options and opportunities are still limited by gender stereotypes and assumptions.

**The formal school curriculum must include the experiences of women and men from all walks of life.**

**Girls and boys must see women and girls reflected and valued in the materials they study.**

**11.** Federal and state funding must be used to support research, development, and follow-up study of gender-fair multicultural curricular models.

**12.** The Women's Educational Equity Act Program (WEEAP) in the U.S. Department of Education must receive increased funding in order to continue the development of curricular materials and models, and to assist school districts in Title IX compliance.

**13.** School curricula should deal directly with issues of power, gender politics, and violence against women. Better-informed girls are better equipped to make decisions about their futures. Girls and young women who have a strong sense of themselves are better able to confront violence and abuse in their lives.

**14.** Educational organizations must support, via conferences, meetings, budget deliberations, and policy decisions, the development of gender-fair multicultural curricula in all areas of instruction.

**15.** Curricula for young children must not perpetuate gender stereotypes and should reflect sensitivity to different learning styles.

**Girls must be educated and encouraged to understand that mathematics and the sciences are important and relevant to their lives. Girls must be actively supported in pursuing education and employment in these areas.**

**16.** Existing equity guidelines should be effectively implemented in all programs supported by the local, state, and federal governments. Specific attention must be directed toward including women on

planning committees and focusing on girls and women in the goals, instructional strategies, teacher training, and research components of these programs.

**17.** The federal government must fund and encourage research on the effect on girls and boys of new curricula in the sciences and mathematics. Research is needed particularly in science areas where boys appear to be improving their performance while girls are not.

**18.** Educational institutions, professional organizations, and the business community must work together to dispel myths about math and science as "inappropriate" fields for women.

**19.** Local schools and communities must encourage and support girls studying science and mathematics by showcasing women role models in scientific and technological fields, disseminating career information, and offering "hands-on" experiences and work groups in science and math classes.

**20.** Local schools should seek strong links with youth-serving organizations that have developed successful out-of-school programs for girls in mathematics and science and with those girls' schools that have developed effective programs in these areas.

**Continued attention to gender equity in vocational education programs must be a high priority at every level of educational governance and administration.**

**21.** Linkages must be developed with the private sector to help ensure that girls with training in nontraditional areas find appropriate employment.

**22.** The use of a discretionary process for awarding vocational-education funds should be encouraged to prompt innovative efforts.

**23.** All states should be required to make support services (such as child care and transportation) available to both vocational and prevocational students.

**24.** There must be continuing research on the effectiveness of vocational education for girls and the extent to which the 1990 Vocational Education Amendments benefit girls.

**Testing and assessment must serve as stepping stones not stop signs. New tests and testing techniques must accurately reflect the abilities of both girls and boys.**

**25.** Test scores should not be the only factor considered in admissions or the awarding of scholarships.

**26.** General aptitude and achievement tests should balance sex differences in item types and contexts. Tests should favor neither females nor males.

**27.** Tests that relate to “real life situations” should reflect the experiences of both girls and boys.

**Girls and women must play a central role in educational reform. The experiences, strengths, and needs of girls from every race and social class must be considered in order to provide excellence and equity for all our nation’s students.**

**28.** National, state, and local governing bodies should ensure that women of diverse backgrounds are equitably represented on committees and commissions on educational reform.

**29.** Receipt of government funding for in-service and professional development programs should be conditioned upon evidence of efforts to increase the number of women in positions in which they are underrepresented. All levels of government have a role to play in increasing the numbers of women, especially women of color, in education-management and policy positions.

**30.** The U.S. Department of Education’s Office of Educational Research and Improvement (OERI) should establish an advisory panel of gender-equity experts to work with OERI to develop a research and dissemination agenda to foster gender-equitable education in the nation’s classrooms.

**31.** Federal and state agencies must collect, analyze, and report data broken down by race/ethnicity, sex, and some measure of socioeconomic status, such as parental income or education. National standards for use by all school districts should be developed so that data is comparable across district and state lines.

**32.** National standards for computing dropout rates should be developed for use by all school districts.

**33.** Professional organizations should ensure that women serve on education-focused committees. Organizations should utilize the expertise of their female membership when developing educational initiatives.

**34.** Local schools must call on the expertise of teachers, a majority of whom are women, in their restructuring efforts.

**35.** Women teachers must be encouraged and supported to seek administrative positions and elected office, where they can bring the insights gained in the classroom to the formulation of education policies.

**A critical goal of education reform must be to enable students to deal effectively with the realities of their lives, particularly in areas such as sexuality and health.**

**36.** Strong policies against sexual harassment must be developed. All school personnel must take responsibility for enforcing these policies.

**37.** Federal and state funding should be used to promote partnerships between schools and community groups, including social service agencies, youth-serving organizations, medical facilities, and local businesses. The needs of students, particularly as highlighted by pregnant teens and teen mothers, require a multi-institutional response.

**38.** Comprehensive school-based health- and sex-education programs must begin in the early grades and continue sequentially through twelfth grade. These courses must address the topics of reproduction and reproductive health, sexual abuse, drug and alcohol use, and general mental and physical health issues. There must be a special focus on the prevention of AIDS.

**39.** State and local school board policies should enable and encourage young mothers to complete school, without compromising the quality of education these students receive.

**40.** Child care for the children of teen mothers must be an integral part of all programs designed to encourage young women to pursue or complete educational programs.



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