

Addressing Achievement Gaps:

The Progress and Challenges of Women and Girls in Education and Work



Historical and Contemporary Contexts

Linda Basch of the National Council for Research on Women (www.ncrw.org) opened the conference by noting that women continue to face discrimination at work and in school. She

called for research that will help deconstruct the myths blocking the advancement of women in our society. Also needed, she said, are studies designed to help researchers analyze how women are affected by educational policy. Basch referred participants to a report recently published by NCRW, *Balancing the Equation: Where Are Women and Girls in Science, Engineering and Technology?*, available for purchase from NCRW.

Providing a historical perspective for the discussions to follow, **Linda Eisenmann**, professor of history and dean of the College of Arts and Sciences of John Carroll University, described beliefs that have been held over the past two centuries in the United States about women. She also discussed how these beliefs have colored opportunities for women. Eisenmann noted that until the 1860s, popular opinion held that women were not really interested in obtaining an education because there was little opportunity for them to use academic knowledge and skills other than reading and writing. Another perception which lasted into the early 1900s, was that women were not capable of advanced learning, and that the rigors of postsecondary studies tended to have a detrimental effect on them physically and emotionally. In her discussion,

THIS ISSUE — HIGHLIGHTS FROM THE ETS ACHIEVEMENT GAP SYMPOSIUM ON THE PROGRESS AND CHALLENGES OF WOMEN AND GIRLS IN EDUCATION AND WORK

More than 150 scholars, practitioners and educators from universities and think tanks across the nation gathered at ETS on May 4-5, 2005, to participate in a symposium focusing on the progress women and girls have made in education and work, and the challenges they still face. The symposium, part of a continuing series of conferences focused on the achievement gaps of minority and economically disadvantaged individuals, was cosponsored by the American Association for University Women (AAUW) and the National Council for Research on Women (NCRW).

Michael T. Nettles, ETS Vice President of the Policy Evaluation & Research Center (PERC), and Catherine M. Millett, ETS Research Scientist in PERC, organized and coordinated the event.

Over the two-day period, conference panels addressed the following topics:

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Eisenmann cited Edward Clarke's 1873 volume, *Sex in Education: Or, a Fair Chance for the Girls*, in which he claimed that "brain work" diverts energy from women's reproductive organs and, as a result, would threaten America's racial purity, since better-educated, chiefly White women would produce fewer children than the country's poorly educated immigrant women. Even after it was accepted that advanced education did not, in fact, harm women, society continued to believe that it was best to educate women in separate settings with a differential curriculum. At most state institutions, for example, women were enrolled in teacher training or home economics curricula.

Catherine Freeman, a research specialist at the National Center for Education Statistics (NCES), discussed findings from the recent NCES report, *Trends in Educational Equity for Women and Girls* (nces.ed.gov/pubs2005/2005016.pdf). She reported that, at all levels of education, females are now doing as well as or better than males on many education indicators. Moreover, they are less likely than males to drop out of high school and more likely to complete a postsecondary education. They have consistently outperformed males in reading and writing, but continue to lag slightly behind males in mathematics and the sciences. Although they have made substantial gains in educational achievement over the past 30 years, women are still underrepresented in some fields of study, as well as more generally in doctoral and first professional degree programs. They are also overrepresented among adult students with families, students in the lowest income levels, and students age 40 or older. And even though women have surpassed men in some aspects of academic preparation and educational attainment, as of 2001, women's full-time earnings were lower than those of men.

Susan McGee Bailey, executive director of the Wellesley Centers for Women (www.wcwonline.org), focused on research that fosters understanding of gender differences, especially as they affect citizenship. She stated that a gendered sense of citizenship is counterproductive in a democratic society, and argued that society needs to encourage girls as well as boys to take on leadership roles. Bailey also discussed numerous unresolved issues affecting women and girls, such as wages that continue to lag behind those of men, women's status in the workplace, the difficulty women face in trying to obtain adequate childcare, the continuing unequal distribution of work in the home, the low numbers of women participating in engineering and technology fields, and the need for a higher representation of women on higher education faculties. She stressed the need to (1) disaggregate data so that important information on various groups is not lost; (2) keep in mind that women and girls, as a group, includes multiple racial, ethnic and socioeconomic subgroups, among others; and (3) avoid the perspective that "helping girls hurts boys."

Assessments With Women and Girls in Mind

Four ETS testing specialists — Carol Jackson, Mary Grant, Catherine McClellan, and Jill Allspach — addressed test development and statistical analysis of females' performance on ETS-developed tests.

Carol Jackson, a test development specialist in mathematics, described how ETS reviews test questions for fairness. She highlighted an ETS fairness guideline that requires test developers to minimize the effects of construct-irrelevant knowledge or skills by avoiding questions based on knowledge of sports, military topics, or

specialized words (e.g., legalese, technical terms, scientific terminology, sport-specific terms, etc.). ETS test developers are also trained to avoid using language or material that stereotypes a population subgroup. After a test has been administered, ETS uses two statistical techniques to examine fairness. Differential item functioning (DIF) is a statistical technique used to flag test questions that might be unfair for certain groups of test takers, including women. Differential speededness refers to differing response rates between groups for items appearing at the end of the test (when some students may run out of time to complete the test). Test specialists also examine how the introduction of new content or new question formats into a test affect female performance on the test.

Licensure tests and the performance of men and women on these tests was the focus of **Mary Grant**'s discussion. Grant, a lead measurement statistician at ETS, explained that, unlike achievement tests, licensure or certification tests are designed to distinguish between candidates who know enough to be licensed and those who don't. They do not try to measure the whole range of ability, and their qualifying scores are set by licensing agencies such as states and professional boards. One way to measure how well a group did on a licensure test is to determine what percentage of the group achieved scores that met or exceeded the standard set by the licensing agency. Grant described the ETS teacher licensure tests in The Praxis Series™, which consist of multiple-choice and constructed-response questions. Some of the Praxis tests examine pedagogical knowledge; others are subject/content tests. They vary in length, depending on the format and the subject matter. Testifying to the feminization of the teaching profession, test takers in the sample Grant used to illustrate her

point were primarily female (56 to 89 percent), except for those taking the social studies exam (58 percent male). Between 70 and 85 percent were White.

As Director of the ETS Center for Educational Survey Assessments Research, **Catherine McClellan** works with the National Assessment of Educational Progress. NAEP is the only nationally representative and continuing survey assessment of what U.S. students know and can do in various subject areas. McClellan showed data comparing the performance of boys and girls, and noted that, while the data supported some expectations (for example, women outperform men in academic areas that are language-oriented, like reading and writing, and gender gaps in math and science tend to favor males), there were some surprises. For example, the gender gaps in science are small, the gender gaps in math are very small and statistically meaningless, and some gender gaps in math actually favor females.

In her discussion entitled "Gender Differences and Trends Over Time for the SAT® I: Reasoning Test," measurement statistician **Jill Allspach** provided an overview of the history of the SAT, from its beginnings in 1901 (when it consisted of nine essay exams and was administered to 973 candidates); to the 1968 SAT, which used multiple-choice items and was administered at national and foreign testing centers. She noted shifting patterns among test takers beginning in the 1970s: More ethnic minorities, more females, fewer males, and more older students began taking the exam. She also noted the slow erosion of gender differences in scores and in the proportion of girls completing more years of mathematics in high school.

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This issue of ETS Policy Notes offers a brief overview of the panels. The presentations themselves are available as downloadable pdf files at www.ets.org/achievementgap/agenda.html. A limited number of DVDs of the symposium are available, and can be obtained while supplies last. Contact PIC@ets.org with requests.

Achievement Throughout the Educational Pipeline

Using data from the Early Childhood Longitudinal Study (www.nces.ed.gov/ecls), University of Chicago sociology professor **Barbara Schneider** delved into the origins of gender inequality. The ECLS-Kindergarten Class study focuses on children's early school experiences from kindergarten through 5th grade, and provides descriptive information about their status as they enter school, their progress over the subsequent five years, and results of yearly cognitive assessments in reading, math and general skills. The study analyzes differences among racial/ethnic groups, level of parental education and expectations, as well as socio-economic status. Early differences imply that gender socialization takes place at home, before children enter school. Schneider remarked that the small score differences between boys and girls at the start of school grow over time. This growth, she argued, is the result of gender socialization. By examining the cognitive assessments, teacher ratings of social behaviors in the classroom, and parent perceptions of social behaviors, she found evidence of strong patterns of gender inequality in performance and in parent and teacher ratings.

Continuing the pipeline discussion, **Chandra Muller**, associate professor of sociology at the University of Texas at Austin, described the social world girls experience in high school. She noted that these experiences are not uniform, and their consequences extend into early adulthood. Adolescent girls encounter different learning opportunities and social milieus or contexts. The social world they experience in school is organized through friendships and clusters of students who are in the same courses. This social world defines their identity, norms, values, stereotypes and social sanctions. Combining data on friendship ties, demographic and family background drawn from the National Longitudinal Study of Adolescent Health, and the high school transcripts of respondents, Muller used variables of course-taking patterns, course-cluster positions, and percentage of females in the school in science, math and technology fields to develop the Adolescent Health and Academic Achievement Study. She summarized the three research questions and answers, as follows:

Q: How do communities shape the gender gap?

A: Girls who attend schools in areas with a relatively high percentage of women in science-related occupations are more likely to take physics than are the boys in their schools.

Q: How does course clustering shape college preparation?

A: Junior girls who prioritize academics and share courses with other high school students in the academic/college track take higher-level courses in their senior year, compared to similar girls whose coursemates are less concerned with school. (Academic press has less effect among girls who do not prioritize academics.)

Q: How do social processes shape college preparation?

A: Female students whose female friends earn high grades in science or math during the early high school years are more likely to take physics and pre-calculus or higher by the end of high school.

Muller concluded that there is likely a crucial interplay between the academic and social worlds of adolescents in schools, with major consequences for adult opportunity.

Speaking from her office at Stanford University via videoconference, sociology professor **Paula England** discussed the academic choices young women make after leaving high school. She has found that, while the participation of women is increasing in traditionally male fields at the doctoral level, the rank order of the fields chosen by women has generally remained constant. Overall, the number of

women obtaining doctorates relative to men has increased enormously. In fact, all fields of study have shown an increased percentage of women participating in them. England also noted that there is some evidence that when large numbers of women pursue degrees in any given academic field, men are deterred from entering that field, a phenomenon known as “feminization.” England also reported that, at the bachelor’s level, there are now more women than men earning college degrees; that women have dramatically increased choices in the “male” fields of business, marketing and accounting; and that enrollment of men in the “male” sciences, such as physics and electrical engineering, has decreased, while enrollment of women in these fields has held steady. Meanwhile, there has been no significant movement of men into “female” fields such as elementary education, English and sociology, although women have moved out of these fields.

Beverly Lindsay, professor of higher education and policy studies at Penn State University, focused on women at the top of the academic hierarchy: senior university executives and special professorships. She detailed the limited presence of women in general, and women of color in particular, at the upper reaches of academe. Lindsay sparked a lively discussion of “feminization” versus “femininity” when she noted that men leave certain fields when those fields are seen as feminine. (Corroborating evidence for this phenomenon had been presented earlier by Paula England.) Lindsay remarked that while so-called “female attributes” (e.g., obedience, willingness to cooperate and to study hard) are conducive to academic achievement, behaviors that are traditionally considered “male” are not.

Women in Math and Science

An area of particular attention and concern at the conference was the participation of women and girls in the STEM fields, (science, technology, engineering and mathematics). Recent public debates questioning women's native abilities in these fields were contradicted by evidence offered by a number of presenters.

Sue V. Rosser, professor of history, technology and society, and dean of Ivan Allen College at the Georgia Institute of Technology, surveyed 450 female scientists as part of a National Science Foundation-funded project entitled "Professional Opportunities for Women in Research and Education: POWRE" to learn more about the "science glass ceiling." Her findings indicated that successful women scientists, including those with tenure and grants, continue to experience obstacles at their institutions. The major challenges for women scientists remain: balancing career and family; managing the competing demands of research, teaching and service; isolation; difficulty in gaining respect from their peers and university administration; and problems that can arise in balancing their career with that of their spouse. Women scientists have responded by building peer and mentoring networks.

In discussing her research on women and girls in the mathematics pipeline, Michigan State assistant professor of mathematics **Karen King** noted that math is at once the gateway and the barrier to the other sciences. It is also the foundation for the quantitative literacy necessary for functioning in the 21st century. With respect to course-taking in high school, the gender gap has been eliminated in the higher-level math courses, including calculus. Persistent gaps

remain, however, in interest in and perceptions about how good women are at mathematics. At the postsecondary level, women tend to enter those life science and social science fields that are less math-intensive. They show low levels of participation in engineering and computer and physical sciences, partly because they find the coursework "boring and tedious" and also because they are more likely to be derailed by negative perceptions of their abilities. King asked whether this situation might not be better characterized as an "interest gap," stating that young women do not have positive perceptions of STEM-discipline work lives and the contribution of STEM disciplines to society. She also noted the positive influence of recent pop culture with regard to women and mathematics, citing television shows such as "CSI" and "Numbers."

ETS Senior Research Director **Dylan Wiliam** challenged several general assumptions about gender differences in his presentation, "Constructing Difference: The Myth of Male Superiority in Mathematics and Its Social Consequences." He argued that although gender differences in test results are small, diminishing, and are often artifacts of the type of test used, the consequences are important. Since sample sizes in sex-difference research tend to be large, small differences are often statistically significant, and some of the tests that show large differences between males and females are constructed in ways that make them more conducive to males. Males are also more tolerant than females of getting correct answers without understanding what they are doing. Females, on the other hand, tend to attach greater importance to understanding connections in their knowledge. Additionally, when females are unable to understand the "why" behind certain

mathematical truths they often choose to leave the field, which is ironic, because the desire to understand mathematics at a deep level is the most important requirement for success at an advanced level. Wiliam also offered a provocative solution for the use of test results patterned after the European approach to selecting applicants for medical training: Set a cut-off score, followed by a lottery for those who have made the cut-off.

Understanding Ethnic Diversity

Panelists Beverly Guy-Sheftall, Jennifer Holdaway, and Elizabeth de la Portilla addressed ethnic diversity among women of color, women immigrants, and Hispanic women, noting that ethnicity shapes educational outcomes at all points along the educational pipeline.

Beverly Guy-Sheftall, founding director of the Women's Research and Resource Center and Anna Julia Cooper professor of Women's Studies at Spelman College, focused on the achievements and challenges facing African American women in postsecondary institutions with respect to historical context; their status compared to that of White women and other women of color; matriculation rates; tenure and promotion; leadership positions; and the "chilly climate" female students, faculty and staff frequently experience. She discussed the progress African American women have made in the academy, and noted that although there has been a huge increase in the number of African American female college graduates and a 70 percent increase in the number of doctorates awarded to African American women, the overall number of African American women who obtain degrees is still small.

Jennifer Holdaway, program officer for International Migration at the Social Science Research Council, discussed survey results from recent research that examined ethnic differences in educational outcomes of young women living in New York City. Included in the survey were second-generation Chinese, Colombians/Ecuadorians, Peruvians, Dominicans, Russian Jews, West Indians, Puerto Ricans, native-born African Americans, and Whites. Holdaway was interested in learning more about how ethnicity shapes educational outcomes. She investigated parental expectations and family information about education, teacher expectations of students from various cultures, and gender differences related to the impact of poverty and family structure, the challenges of balancing education and family, concerns about safety, and the need to stay close to home when attending college. She concluded that researchers need to disaggregate data beyond race, consider immigrant status and variables specific to immigrant groups, understand the financial resources of and pressures on immigrant families, understand the differences in access to information about educational options and financial aid, and understand community norms and expectations regarding education, obligations to the family, and other aspects of the transition to adulthood.

Noting that many of the presentations had focused on aggregate numbers, **Elizabeth de la Portilla**, a cultural anthropologist at the University of Texas at San Antonio, concentrated, instead, on talking about how the efforts of a few individuals enabled her and other Chicana students to excel in writing. The *mujeres escritoras* were a group of women writers at various stages

of their academic careers — undergraduate and graduate students, as well as junior and senior faculty members. They gathered once or twice per month on Sundays, ostensibly to work on their writing, but also to talk about educational strategy. They discovered that each of them had, at some point in her education, internalized the discouraging message that she could not write. By telling their stories to each other, they created a safe environment that allowed them to explore who they were as writers, as academics, and as women.

Transforming Educational Technology and Computer Science

If society wishes to have more girls in the technology pipeline, said **Cornelia Brunner** of the Center for Children and Technology, then the pipeline must be embedded in girls' culture. Brunner began a study in the mid-'90s to learn more about the intersection of feminine culture and technology. She determined that girls are concerned about the consequences of integrating technology into the social fabric. She also concluded that girls' attitudes and feelings about technology are profoundly different from those of boys. By inviting children to dream about ways they would use technology, she discovered that girls want to know the purpose of any given technology. Their dreams make explicit the connection between technology and human activity. The following list, which is taken from Brunner's presentation, inventories words used to describe technology, and captures some of the male-female differences in thinking about technology.

Language Describing Technology		
Feminine Terms		Masculine Terms
Medium	vs.	Product
Tool	vs.	Weapon
Communication	vs.	Control
Creation	vs.	Power
Expressive	vs.	Instrumental
Flexibility	vs.	Speed
Effectiveness	vs.	Efficiency
Sharing	vs.	Autonomy
Integration	vs.	Consuming
Explore	vs.	Exploit
Empowerment	vs.	Transcendence

Claudia J. Morell, executive director of the Center for Women and Information Technology (www.umbc.edu/cwit) at the University of Maryland, Baltimore County, described programs that foster girls' interest in information technology. She noted that there has been a drop in the number of women pursuing degrees in computer science and computer engineering. According to Morell, when students reject information technology and related technology courses in high school, their access to careers based on these disciplines narrows. The goal of the CWIT is to increase the participation of women in the development and design of information technology.

Lenore Blum, Distinguished Career Professor of Computer Science at Carnegie Mellon University, recounted how a 1960s activist approach has informed her campaign to attract more women to the field of computer science. Since 1999, the university's computer science department has combined activism with technology to offer a highly successful program that recruits, nurtures and graduates female computer scientists. Major

changes in at least four areas were introduced: outreach, admissions criteria, the entry-level curriculum and community-building efforts. She cited outreach efforts such as NSF-funded summer institutes. Admissions requirements for CMU's computer science program have been revised as the result of research that proved that prior programming experience is not a prerequisite for achieving success in a computer science major. New admissions requirements now stress high achievement along with broad interests, diverse perspectives and community service. A redesign of CMU's undergraduate computer science curriculum has allowed multiple entry points to the major. Additionally, the Women@SCS organization (women.cs.cmu.edu/) offers a venue for building a community of female computer science students.

The World of Work

Interweaving their presentations, **Nancy Hoffman** (Jobs for the Future) and **Katie Bayerl** (Boston Plan for Excellence) focused on women's contributions to the teaching profession — past, present and future. Hoffman, who serves as vice president of Youth Transitions and director of the Early College High School Initiative at Jobs for the Future, stressed that society needs more women in the so-called “caring professions,” such as teaching, because excellent teachers know how to connect with their students and empower them to learn. Hoffman characterized care as “discipline with parameters” and broke it down into rational components: caring teachers teach how to survive, how to manipulate power, and how to create and maintain identity.

Bayerl's remarks, which were based on her research and her work as a high school

teacher in Boston, traced the path she took to become a teacher and the challenges she faced: personal experience in vastly different school environments, her work in gender equity research, and the opposition she received from her highly educated parents who wanted her to go into what they saw as more challenging fields. She said she persevered because she felt the need for work that drew on her “heart and sense of justice.” Bayerl expressed concern that, in the name of gender equity, parents and society may be pushing girls into male-dominated careers, especially those in science and technology, without considering that they may have other kinds of intelligence or talents to offer the world. She expressed the view that society must place more value on these other kinds of intelligence and on the caring careers that utilize them. Such intelligence, which is not measured or valued in our academic or professional hierarchy, is being increasingly viewed as the factor that makes or breaks teachers in “high-needs” schools.

Connie Evans, founder and president of the Women's Self-Employment Project (www.wsep.com/WSEP.htm), noted that the push toward self-employment among women has a number of possible sources: a desire to improve their situation, to engage in entrepreneurship, or to bypass the glass ceiling they may have encountered in the workplace. Women are the fastest growing segment of this critical part of the U.S. economy: the number of women-owned firms has doubled over the past decade, and the number of firms owned by women of color is increasing even faster. In 2004, there were 1.4 million companies owned by women of color, which represented a 33 percent increase among African American women and a 54 percent increase

among Hispanic women. WSEP is the largest U.S. micro-enterprise program targeting low-income urban women. It offers micro-loan programs, peer networks and entrepreneurship training in the form of technical assistance. The objective of WSEP is to help women gain a sustainable livelihood. Evans noted that it is clearly meeting that objective, since 79 percent of WSEP's women entrepreneurs are still in business.

At the Center for Women and Work at Rutgers University, **Mary Gatta** focuses her research on single working mothers and education. As Director of Workforce Policy and Research, she is interested in helping to shape policy that attends to the interests of women, who comprise 46 percent of the U.S. labor force. Gatta offered a number of statistics on low-income working women and the employment challenges they face. Because 60.7 percent of mothers with children under the age of 3 work, two out of three working women earn less than \$30,000 a year, and women are one-third more likely than men to be among the working poor, women now have a greater need for the advanced skills required by today's workplace. Delivering workplace skills training to working-poor New Jersey single mothers was the challenge taken up by Gatta when she set up the NJ Program of Online Learning. Single mothers earning 25 percent or less of the poverty level were eligible to participate in the program, and each participant received a computer, printer, Internet access, and courses for a year. Of the 128 women who enrolled in the program, the average age was 32 and the average income was \$16,900. Nineteen of the women were non-native speakers of English, seven had less than a high school diploma, and over half were high school

graduates or GED holders. Fifty-six were African Americans, 47 were White, 24 were Hispanic, and 1 was Native American. Women working in administrative support roles or in retail or food service or housekeeping comprised 66 percent of the enrollees. Online learning offerings were for IT skills, resume writing and team management. The program experienced a high retention rate. Moreover, the women experienced an average wage increase of 14 percent and, because of the confidence and self-esteem they developed while participating in the program, many also entered college programs. The online delivery channel provided flexibility in time and location, reduced the need for the participants to spend extra money on childcare and transportation, provided access to classes that may not have been available locally, and alleviated some of the discomfort nontraditional students sometimes feel in traditional classes.

ETS Leading in Educational Testing and Assessment

Conference participants also attended breakout sessions that were led by ETS senior staff. Ida Lawrence, Senior Vice President of Research & Development at ETS, introduced this series of sessions.

Barbara Kirsh, Executive Director of the ETS Office of Professional Standards Compliance, described how the *ETS Standards for Quality and Fairness* is used in the audit process that all ETS programs and products go through every three years. The ETS audit procedures require independent audit teams, action plans for addressing any problems that are found as a result of the audit, and annual review by ETS trustees.

Beth Nichols, an ETS assessment specialist, led a discussion on the goals, features and guidelines of the ETS Fairness Review process. All ETS publications, both print and electronic, go through a fairness review. The ETS Fairness Guidelines include requirements that all materials treat people with respect; minimize the effects of construct-irrelevant knowledge or skills; avoid topics that are unnecessarily controversial, inflammatory, offensive or upsetting; use appropriate terminology to refer to people; avoid using stereotypes; and represent diversity in depictions of people.

Gloria Dion, a senior program administrator at ETS, addressed the issue of “Girls and Math: Leaks in the Pipeline.” She suggested that women do not enter careers in STEM fields for two reasons. First, mathematically gifted women have broader interests than men with comparable math achievement. Second, women tend to view careers that focus on pure math or science as isolating and not helpful to society. Her remarks were in accord with some of the research presented at the conference by King, Wilam, Bruner and Blum.

Claudia Gentile, a former ETS research scientist specializing in literacy issues, devoted her session to discussing several of the myths and realities about writing and gender. After describing and then debunking many of these myths, Gentile presented gender data from NAEP Writing Assessments. Based on these data, she concluded that the skill of writing is learnable, with effort, motivation and the right teacher.

Rose Payan, Client Relations Manager in the Policy Evaluation & Research Center at ETS, led a roundtable discussion on the special education needs of women and girls. She noted

that although lower disability rates are reported for girls than for boys, we must make sure that diagnostic tools that recognize differences in language, race/ethnicity and gender are available and in use. She cited a need for more research on gender differences, and on equity and accuracy in the identification and placement process.

Annabelle Simpson, Senior Business Developer in the Global Division at ETS, and **Carmen Luna**, Assessment Specialist in the Research & Development Division, looked at the condition of women and girls within an international context. Noting that girls’ education has a dramatic and universal impact on economic and social development, they reported that improving the educational situation of girls leads to higher family income, reduced infant and maternal mortality, improved child nutrition, improved overall better health and increased life expectancy. Changing global perspectives have led to a shift in thinking: Women’s rights are now seen as human rights, and many governments have accepted their obligation to protect, promote and fulfill women’s rights. Approaches currently being used include supporting local community action in overcoming barriers for girls and women, mobilizing leadership, strengthening the capacity of public- and private-sector institutions to promote gender equity, and enhancing women’s participation and leadership in public and civil society institutions.

As the invited dinner speaker, Chess Grandmaster **Susan Polgar** recounted the challenges she has had to overcome in her chess career. Polgar explained that, early in her career, she faced both age and gender discrimination. Later, she encountered a widespread unwillingness to believe that a woman could play as well as

or better than a man. Polgar said that she sees chess as a tool for showing girls how they can achieve their own goals, because chess develops concentration, focus, strategic thinking, patience, perseverance and the ability to take responsibility for one's own actions. Polgar also cited studies showing that playing chess can improve test scores, and because the game develops skill in pattern recognition, it can also improve reading ability.

Finally, in summing up the conference, ETS Vice President and Corporate Secretary Eleanor Horne expressed the hope that an empirical database of knowledge could be created to address the continuing gender gap. She termed a "good conference" as one that presents giants in the field, new information, and opportunities for networking. A "great conference," she added, "is one that leads to change."

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