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An advertisement for the Toshiba Portégé M700. On the left, a black laptop is shown with a pen resting on its keyboard. To the right of the laptop, the text "Portégé® M700" is written in a large, bold, red font. Below this, in a smaller red font, it says "from the laptop expert." In the top right corner, the Toshiba logo is displayed in red, with the tagline "Leading Innovation >>" underneath it. At the bottom right, there is a red rectangular button with the white text "EXPLORE NOW".

Oct. 2

From Summers to Sommers

Lest anyone think the academic world has settled into a consensus on the status of women in the sciences during the two years since a very public controversy thrust the issue onto the national stage, Christina Hoff Sommers all but ensured vigorous debate on Monday.

In picking the lineup for a conference called, appropriately enough, “Women and Science,” the philosophy professor, ethicist and critic of modern feminism managed to highlight just what differences persist among mainstream, respected researchers — and expose complex (and occasionally contentious) debates over nature versus nurture, the role of culture versus biology, the persistence of stereotypes and whether innate differences between the sexes really matter.

The panelists’ work [spans the disciplines](#), from social psychology to women’s studies, law to developmental psychopathology, evolutionary approaches to neurology. Their presentations, divided between [two panels hosted by the American Enterprise Institute](#), where Sommers is a resident scholar, summarized the current state of research for the audience of scientists and writers (a majority of whom were women) whose sometimes pointed questions also provoked discussion from a number of different angles.

Organizers made several references to a 2006 National Academy of Sciences report, [Beyond Bias and Barriers: Fulfilling the Potential of Women in Academic Science and Engineering](#), which concluded that “[i]t is not lack of talent, but unintentional biases and outmoded institutional structures that are hindering the access and advancement of women. Neither our academic institutions nor our nation can afford such underuse of precious human capital in science and engineering.” Its authors urged immediate action, including Title IX compliance reviews and federal initiatives to combat unconscious gender bias.

Partially in response to that report, Sommers told the conference, the professor at Clark University decided to convene the “best researchers” to approach the questions it raised. Most, but not all, ultimately shared her skepticism of the report’s unequivocal presentation of bias as a predominant factor affecting women’s success as academics and researchers in highly quantitative sciences. [Joshua Aronson](#), a professor of applied psychology at New York University, said from the audience that he felt uncomfortable about the way his own research had been used in the academy’s report: “It’s too confident.”

“It just seems it’s way ahead of the science,” Sommers concluded.

AEI, a Washington think tank associated with the neoconservative movement, is no stranger to debates over innate ability. Charles Murray, who spoke in the afternoon and helped plan the conference, became the target of intense controversy in 1994 after co-authoring *The Bell Curve*, which argued that innate intelligence is correlated with socioeconomic class. The chapter receiving the most attention suggested that persistent racial gaps in IQ tests could partially be explained by genetic differences.

When a speech by Lawrence Summers in 2005 about the role of women in science [ignited a firestorm](#), Murray staked

out his position in a [Commentary article](#)

that drew parallels between the two controversies. While Summers had suggested that innate gender differences in quantitative aptitude at the far extreme might be one of several factors explaining women's underrepresentation in the sciences, Murray drew on research to assert the claim unequivocally.

During the first panel session Monday, two (female) researchers emphasized the role of institutions and bias in hindering women's progress in the sciences and showcased studies that did not find overall cognitive gaps between men and women; the other two (male) panelists summarized neurological and evolutionary evidence for differences in male and female brain structures. If some of the studies seemed to contradict each other, perhaps that, too, represented the current state of knowledge.

"We know almost nothing about how the brain works. We know almost nothing about sex differences in cognition ... even though there are some," said [Richard Haier](#), a professor in residence at the University of California at Irvine's School of Medicine who specializes in pediatric neurology.

[Elizabeth Spelke](#), the Marshall L. Berkman Professor of Psychology at Harvard University and co-director of the Mind, Brain and Behavior Initiative there, defended the National Academies report and delivered a broad overview of the "three fundamental systems at the core of human math and science reasoning" — comprehending objects, counting numbers and understanding geometry — that "evolved to serve other functions and we harness them for new purposes."

"Do boys outperform girls at tasks tapping any of the core systems?" she posited, and after a review of the research, she concluded that both men and women are equally endowed with cognitive abilities. In tests of rotation tasks, men did perform better on average — a finding cited by many scholars who emphasize cognitive differences between the sexes — but Spelke noted that the gap disappears when taken in the context of 40 geometric tests.

She didn't deny the existence of sex differences per se but questioned whether they had any bearing on math and science aptitude. [David Geary](#), a cognitive developmental psychologist at the University of Missouri at Columbia, presented evidence that performance in the rotation task can actually predict SAT math scores, reinforcing theories that innate ability could be a factor in quantitative aptitude. Spelke challenged some of his assertions, noting that people can improve their performance at rotation and other mental tasks through practice and that success in the sciences requires many different mental capacities.

Haier, meanwhile, whimsically predicted the eventual creation of an automated "MRI test" in which high school students would enter a scanning machine, listen to their iPods and emerge with detailed predictions on how well they'd do in every subject. "Is this far-fetched? No," he said — although winning grant money would presumably be a separate question.

Pointed Questions

It wasn't until after the keynote address, delivered by the autism expert [Simon Baron-Cohen](#) of the University of Cambridge, that members of the audience on all sides of the debate began to draw lines that separated them. Baron-Cohen surveyed evidence that autism actually represents, in extreme form, the patterns of male intelligence, drawing on studies of amniotic fluid and infant attention spans that suggest a correlation between testosterone levels during pregnancy and certain patterns of brain development. The findings, while esoteric at first glance, point to connections between gender (male hormones) and mental capacities (in empathy and types of intelligence) that persist over time.

Then, during the second panel, Aronson was paired with [Amy Wax](#), an M.D. and law professor at the University of Pennsylvania who was openly skeptical about his research on the effects of "stereotype threat" on student achievement.

"What you came in here thinking is probably what you still think," Aronson told the audience, citing the "mixed bag" of evidence that served as a kind of "Rorschach test" for everyone present. But beyond the evidence for and against possible biological factors in cognitive differences, he offered a potential explanation for group gaps in intelligence tests. Aronson and Claude Steele first discovered evidence for stereotype threat in a much-cited experiment in the mid-1990s, suggesting that for some students, awareness of negative stereotypes (such as assumptions about women's aptitude in math or black students' intelligence) can affect their performance on cognitive tasks.

But Wax pointedly described Aronson's research as "vastly exaggerated," a victim of "overclaim syndrome." She wondered aloud whether the effects of stereotype threat could be shown to outweigh the gender gap in performance.

The theory is "appealing because it doesn't posit any ... differences between the sexes", she said, and "it also promises something of a quick fix": measures as simple as moving the "race" or "gender" checkboxes to the end of an exam rather than the beginning, to avoid priming students with unconscious awareness of negative stereotypes.

Wax also said that many of the experiments cited as proof of stereotype threat were flawed because they were conducted on elite college campuses that used affirmative action to recruit minority students. As a result, she said, some students could have lower SAT scores than others, a potential additional source of test anxiety. When Wax asserted that a study by Aronson was not controlled for SAT score, Aronson interrupted and said it was, setting the stage for more disputes in the question-and-answer round.

While gender and intelligence are not Wax's specialty, she conceded at the outset, she is a "consumer of social science," and an "educated customer is your most important customer."

Judging from the questions, that was also true of most of the audience.

— [Andy Guess](#)

The original story and user comments can be viewed online at <http://insidehighered.com/news/2007/10/02/science>.

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