

Reconstructing Girlhood

Putting 'Clever' Girls In Science

by Linda Mahood

L'auteure soulève d'importantes questions sur les stratégies des secteurs public et privé pour encourager les femmes dans le domaine des sciences et de la technologie—des stratégies politiques visant à rebâtir les images de la jeunesse des adolescentes afin de répondre aux besoins de la main-d'oeuvre liés à la crise pressentie dans le marché du travail.

Following the outbreak of World War II the federal government established the National Selective Service (NSS) to mobilize and control the Canadian labor force. Regarding women as a reserve army of labor, one mandate of the NSS was to recruit young women for employment in essential war industries. During the war, traditional 'feminine' values such as duty, self-sacrifice, and service to others that have historically been used to explain women's innate domestic capabilities were transformed and used to explain their suitability for industry. Thus women were 'reconstructed' as disciplined workers and patriotic citizens. Now, (as a recent Science and Culture Canada publication points out) the nation faces a new crisis. "Canada's future economic prosperity is dependent on our scientific progress and our adaptability in the fields of science, technology and engineering." Once again young women are being called upon to come to the aid of their country as traditional 'feminine' values are being reconstructed.

'Clever' girls make smart career choices

In the past there have been two general explanations put forward as to why so few

young women have pursued careers in science. The first asserts that girls do poorly in math and science because of their deficient visual-spatial abilities which make them by nature less capable than boys of succeeding in science. The second focuses on gender socialization, suggesting that because girls see their future primarily in terms of marriage and motherhood, they opt for jobs that complement rather than compete with their domestic aspirations. While these explanations still carry some currency, a third explanation attributes the absence of women in science to a lack of female role models in the field. In other words, girls don't choose science because it simply doesn't occur to them.

While the Canadian schoolboy studies computers, math, and physics, 'typical-girls' paint their nails, read Danielle Steel, and dream of being rescued from the steno-pool by Mr. Right. Consequently, over the past decade public and private sector industry has elaborated 'girl policies,' or remedial socialization strategies. Girls are being informed that Canada is facing a serious shortage of scientists and engineers and that they are the "untapped human resource" that could solve this problem. They are being told that it is their duty to act responsibly. They must opt for science subjects in school so as to become "clever girls" with "scientific training." In exchange, they are promised independence, economic autonomy, and domestic equality.

Feminizing science

The public and private sectors, in conjunction with local school boards, have

devised numerous methods by which to inform "academically qualified" girls of the variety of career opportunities available to women in science. These include career days, science camps, mentorship programs, and advertising. Perhaps the most overt (and inexpensive) strategy has been simply to 'feminize' the image of the profession by increasing the visibility of female scientists and technicians in publications ranging from annual reports, professional recruitment posters (see illustration), and trade journals to school textbooks and magazine advertising. While these photographs and biographical articles of/about female research staff might encourage young women to consider nontraditional careers, my concern is that the policy is based on the inaccurate and stereotypical notion that 'typical' girls have 'silly' job aspirations.

The professional recruitment poster cited above is an example of the use of stereotyped imagery. The four attractive young women are 'typical' girls who dream of glamour, modeling, rock singing, and fashion. Or are they? By juxtaposing stereotyped feminine fantasies against serious masculine professions like engineering, chemistry, and geophysics, the poster trivializes what it perceives as 'typical' girlish aspirations and women's work in the hope of attracting 'atypical' girls to serious men's professions. This strategy is problematic for a number of reasons. It reinforces the idea that science is in fact a male profession and that women require invitations to join. It also implies that 'women's' professions are less important.

The Canadian Teachers' Federation survey established that girls do not make



flighty, or whimsical career decisions but think seriously about their futures.

Girls my age are very concerned about their future. Opposite of what adults perceive of us, we are not only concerned in boys, makeup, and parties. We the teens of this country are not just having sex, taking drugs, and partying. We are planning, thinking and dreaming for the future.

Myra Kostash reached similar conclusions. She observed that both girls and boys saw themselves as future citizens who hoped to get diplomas or degrees and good jobs and to eventually raise families. She argues, however, that career aspirations are mediated by social class. A Canadian Advisory Council on the Status of Women publication clearly establishes that nontraditional career aspirations were generally held by middle-class girls whose mothers are also professionals. Clearly, nontraditional career aspirations are most realistic for girls from affluent families who can count on financial support.

The head of engineering fantasy!

Commercial advertising has also been quick to follow public and private sector strategies to normalize the image of the new 'scientific' career girl, but it is designed to appeal to her buying-power. Who can forget 'Katherine's' job interview? The voice-over informs us that "her nervousness never shows," because she is wearing the correct brand of anti-perspirant. What we are surprised to learn, however, is that 'Katherine' (twenty-something/\$400 power-suit) has just been appointed head of engineering! The media are trying to glamorize the woman scientist, but they do not create an accurate image. This is not to suggest that beautiful women in their early twenties cannot head engineering teams, but the campaign glosses over the years of study and experience required to rise of the top of one's profession. The Status of Women report on girls' career aspirations discovered that many girls are very misinformed about what is involved in a demanding career. Glamorous media images contrib-

ute to the confusion.

Women scientists report that women who research and work in male-monopolized fields face a number of problems, some of which are endemic to the profession while others are unique to women. When asked to state the negative features of their jobs women scientists and technicians replied: "the need for total commitment," "the uncertainty of research funding," "boredom associated with performing repetitive tasks as a technician," and "doing field work in lousy weather." They also cited problems which they believed were unique to them as women: "lack of daycare facilities," "not very compatible with family life due to long absences in the field," "[poor] career advancement at senior levels," "lack of jobs and relatively poor pay especially at the upper levels." Lillian Dyck argues that sexist teasing may result in an unfriendly work or study atmosphere.... "while the continual put-down of our work or ideas creates a work environment so hostile that some of us may voluntarily resign to preserve our mental health." Commenting on the lone-

liness of being the only women in her department, one senior scientist observed that if it was not for the fact that the men's washroom was across from her office, "nobody would talk to me." Equating employment opportunity and/or economic independence with gender, class, or ethnic equality overlooks forms of systemic discrimination which all women face. The possession of a science degree is no promise of employment equity and no assurance against sexual harassment.

The men-don't-make-passes-at-girls-who-wear-lab-coats fear

The deluge of public relations pamphlets which circulate at career days often adopt the friendly format used in young

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women's glossy magazines. One typical pamphlet called *Out of the Classroom into the Workforce: Careers in Scientific Research* reads like a miniature issue of *Miss Chatelaine*. It has a general information section, a couple of biographies of important women scientists (celebrities), and an advice page.

The general information section is aimed at the 'naive' career aspirations of 'typical' girls. It warns that three quarters of Canadian women between the ages of 25 and 55 will be in the labor market by 1990 ("Chances are you'll be working most of your life"). It cautions them that they will not be able to "fall back on typing" because secretarial jobs will disappear, but assures them that the demand for skilled

workers in technical and professional fields will continue to grow.

The advice page is intended to address a girl's deepest fear that professional women have difficulty finding husbands. This reflects the stereotyped notion that single girls view employment in conjunction with the marriage market. *Out of the Classroom* dispels this fear by citing a survey of women engineers which shows that 86 per cent were married and almost half had children. Furthermore, "their husbands were typically very encouraging and supportive of their wives' careers." Thus, girls are not only promised that if they make smart career choices men will indeed make-passes-at-girls-who-wear-lab-coats, but the men they attract will be sensitive pro-feminist men and not demanding patriarchy who ignore the children and expect them to put in a double day.

The publication promises 'smart' girls that if they "keep their options open" and stay in mathematics and science, glamorous executive level career opportunities will be waiting for them upon graduation. In exchange for a few thousand hours in a science lab girls are not only promised exciting and lucrative careers in science, technology, and engineering, they are also promised economic security, equality, and domestic bliss.

Conclusion

Any attempt to understand the reproduction of the sexual division of labor is complicated and must consider girls' own aspirations which are formed through family, media, school and peer groups. Recent studies of adolescent girls' aspirations demonstrate that girls construct feminine gender subjectivities which include definitions of themselves as women and as workers. Girls have very clear ideas about what constitutes desirable work and science as it is currently practiced suits some girls more than others, as the following accounts by female participants in one mentorship program illustrate.

By actually being and working in a lab, I know now that's what I want to do...Hands on experience really gives you a feel for the direction of your future.

Too much of the same thing might get boring (not exactly up my alley with plants) I am not cut out for that line of work.

[I dislike] the prospect of killing animals almost every week...some...are not suitable so they are wasted.

The [experience] should encourage young women with a real love for science and not just high grades to feel confidence in their career choice.

We must question the legitimacy of public and private sector involvement in reconstructing images of girlhood to meet their own political and economic agendas. As a political strategy, girl policies operate on a deficit model which problematizes girls in relation to boys, by singling out girls for remedial socialization. As an economic strategy designed to develop 'untapped human resources' the goal is to mobilize what it perceives as a reserve army of labor. This raises questions about what happens to the 'clever' girl when the market turns? Will she again be reconstructed as the angel-of-the-house? Jane Gaskell warns us to be suspicious of strategies which promise to change girls without also changing the world in which they live. We must challenge the existing power structures in order to bring about real change.

This article is based on interviews with mentors and students in a women in science career mentorship program and draws heavily on the analytical framework used in the "Policy-Making and the State" workshop at the Alice in Wonderland: the First International Conference on Girls and Girlhood, Amsterdam, 1992.

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