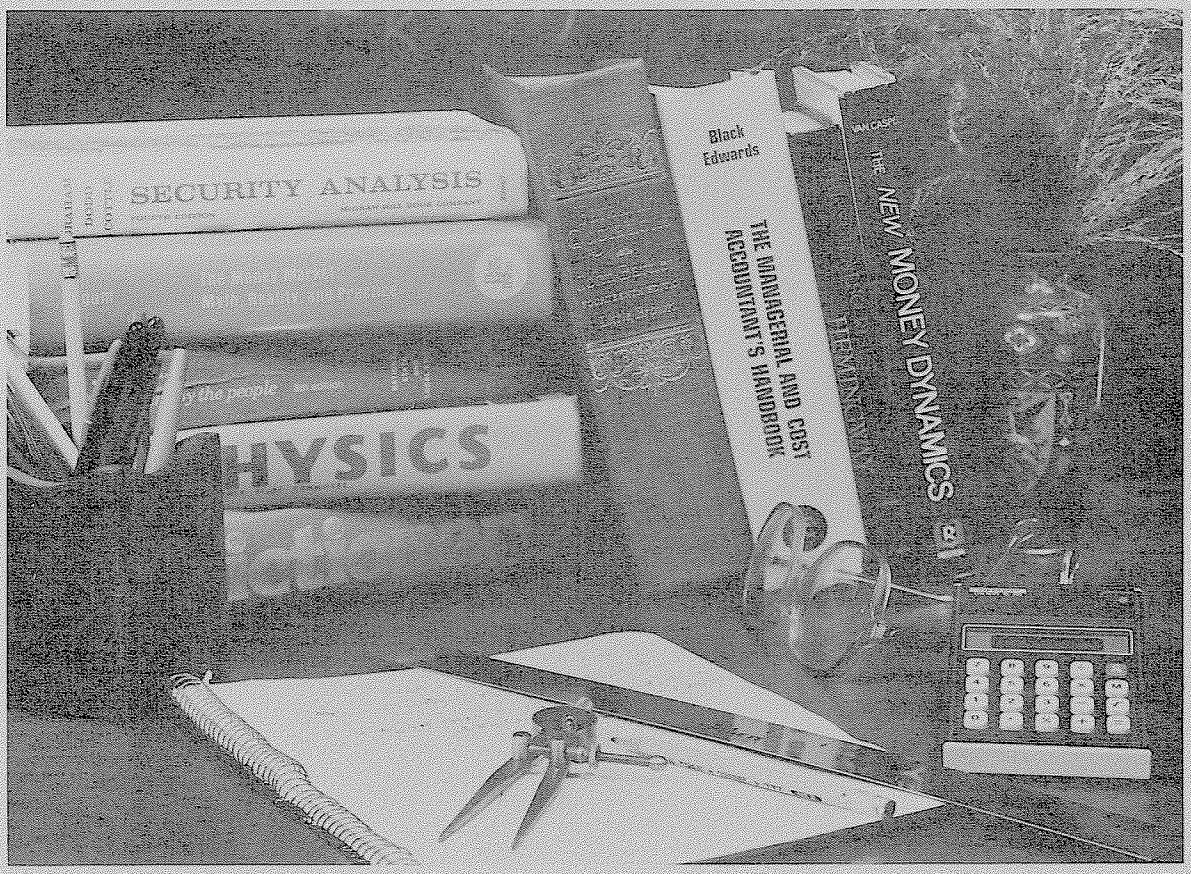
# Minnesota Women & Education




# MINNESOTA WOMEN & EDUCATION

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**COUNCIL ON THE ECONOMIC STATUS OF WOMEN**
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# INTRODUCTION

**"Our teacher is tough. He makes us do things we never thought we could do. It's neat finding out we can."**
*— high school student*

It is a truism that democracy is dependent upon a well-informed citizenry, and that educational opportunity is an important part of the American dream. Historically, a good education has been viewed as one of the best ways to improve one's economic and social status.

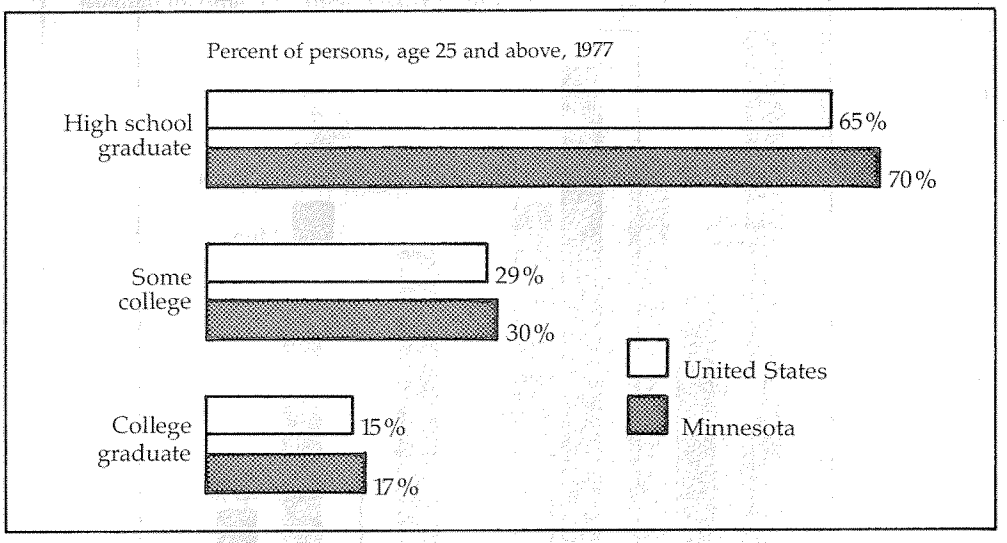
Minnesota has a strong commitment to this ideal. The state ranks sixth in the nation in the number of dollars spent on education, while it ranks only twenty-second in average wealth per capita. Direct and indirect state aids to elementary and secondary schools alone amount to almost half the state's budget, and the total allocation to education brings this to two-thirds of the state's budget. The 1977-79 biennial appropriation for elementary, secondary, and post-secondary education was almost three billion dollars. More than one million Minnesotans, over one-fourth of the state's total population, are enrolled in school.

Although it is not possible to measure precisely the effect of this investment on the quality of our educational system, statistics show that Minnesotans generally have completed more years of schooling than other Americans. This difference is strongest among younger persons: 93 percent of Minnesotans between the ages of 25 and 34 are high school graduates, compared with 83 percent of all Americans of the same age group. Minnesotans of all ages are also slightly more likely to be college graduates.

In the early days of American public schooling, the instruction of girls and women emphasized domestic skills. Extensive education was actually considered harmful to women's health, and many girls received no formal schooling at all. Only in recent years have state and federal laws explicitly prohibited discrimination on the basis of sex.

Today, both Minnesota and the nation have extensive commitments to providing an equal education for girls and boys, women and men. Public educational institutions are required to do more than simply ensure that sex discrimination does not occur. In many cases the law mandates that they work actively and affirmatively to overcome the continuing effects of past inequities.

**Educational attainment higher in Minnesota**




*Source: Office of State Demographer*

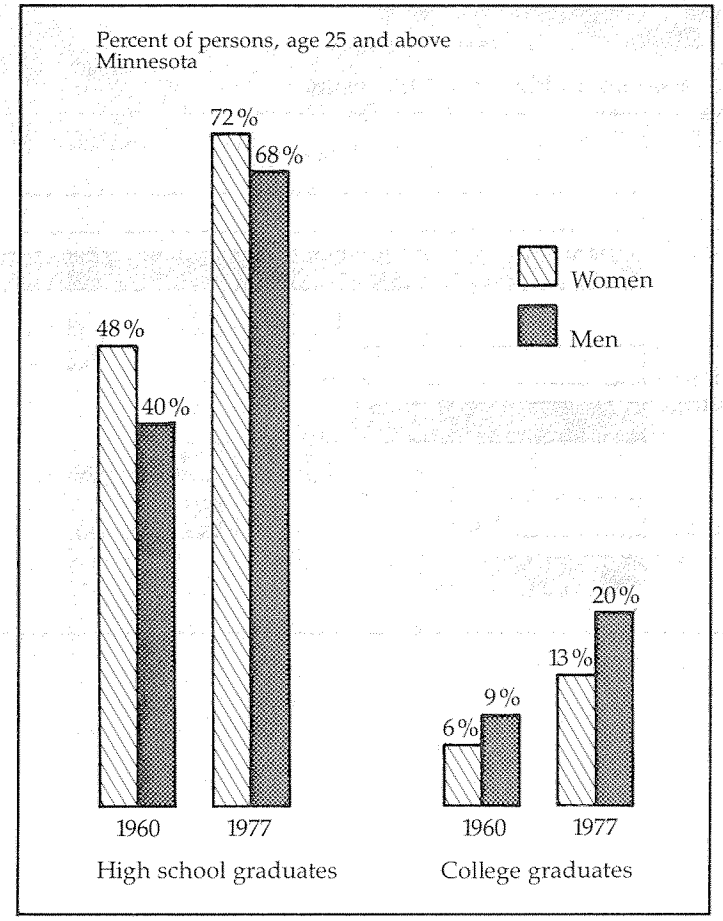
In Minnesota, as well as the nation, women historically have been more likely than men to complete high school, while they have been less likely to continue schooling at the post-secondary level. This pattern is still apparent in the state's population as a whole, but differences are decreasing among younger people. The proportion of students who receive high school diplomas seems to have reached a plateau at about 94 percent for both women and men as there are fewer male high school dropouts.

While the percentage of Minnesotans with a college degree has more than doubled since 1960, participation in post-secondary education has increased more for women than for men. The proportion of women age 18 to 24 who were enrolled in school rose from 22 percent in 1960 to 34 percent in 1977. This represents rapid change in comparison with the modest increase from 33 percent to 38 percent for men in the same age group over the same period of time. Differences in the educational attainment of men and women persist, however, even among younger people. In 1977, 22 percent of women age 25 to 34 had college diplomas compared with 30 percent of their male counterparts.

Dramatic change in the last half-century is most evident when comparing the educational status of Minnesota women who are now age 65 and above to that of their daughters and granddaughters, women now in the 25 to 34 age group. Among the younger women, more than nine of ten have completed high school, while only four of ten women in the older group are high school graduates. Those in the younger group are more than three times as likely to have a college degree.

Almost one-fourth of Minnesota women age 25 to 34 have completed a college education, compared with fewer than one of ten women age 65 and over.

**More women high school graduates, more men college graduates**




*Source: Office of State Demographer*

Will increasingly high levels of educational attainment for women improve their economic status?

In order to understand the complex relationship between education and economics, a number of other factors must be considered.

More and more women are entering the paid labor force, accounting for 42 percent of employed persons in Minnesota in 1977. In that year almost two-thirds of all Minnesota women age 16 to 65 were either employed or actively seeking employment. Perhaps the most striking change in recent years is the number of women age 25 to 34 who now work outside the home. The percentage of women in this group who are in the labor force has more than doubled in the last 20 years — their 70 percent participation rate now exceeds the rate of any other age group of women.

This increase is remarkable because the majority of women at this age are married, live with their husbands, and have children at home, factors which traditionally have tended to keep women out of the labor force. The tendency to drop out of the work force during the child-bearing years is no longer a typical pattern.

The average employed woman, however, continues to earn substantially less than the average employed man, even when she has a full-time job. There is a direct correlation between level of education and income level, with salaries for both men and women improving as their level of education increases. Nevertheless, women earn less than men at every level — women who are college graduates earn on the average the same amount as men with only an eighth grade education. Women are more likely than ever to value and pursue an education, but an increased amount of education appears in itself not to guarantee equity in the job market.

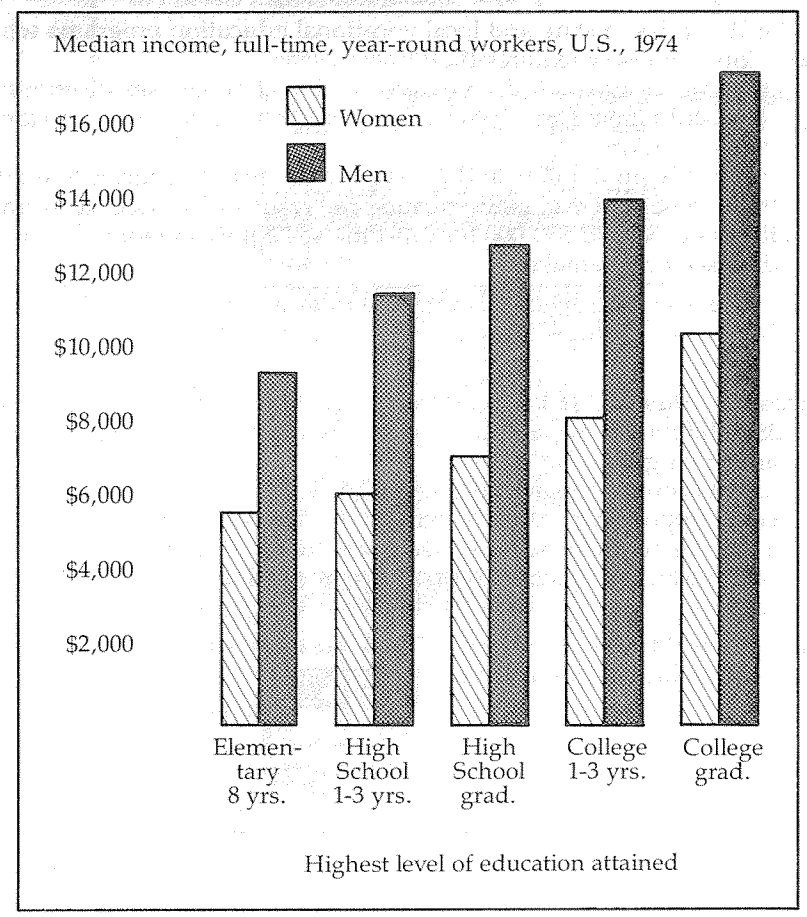
Why do women earn so much less? Aren't there laws requiring equal pay for equal work?

Although it is illegal to pay a woman less than a man doing the same job for the same employer, women and men seldom do the same jobs. Despite recent media attention to the few women entering traditionally male jobs, the overwhelming majority of women continue to hold "women's jobs." A woman may have considerable education and years of experience in a full-time job, but if she works in a "woman's field" her earnings will be substantially below those of a man with comparable experience.

The forces which contribute to occupational segregation and the low value placed on "women's work" begin at birth and are influenced by all institutions in society. Education, however, plays a key role. From kindergarten through post-graduate school, education is intended to provide opportunities for authentic choices for all students.

This report examines the educational status of Minnesota women in all public educational institutions, with emphasis on the effect of education on women's economic status. It addresses not only the amount of education but also the kind of education women receive, and to what extent educational systems are adapting to the changing needs of women.

**Women earn less despite level of education**




*Source: U.S. Bureau of the Census*

## LAWS RELATED TO SEX DISCRIMINATION IN EDUCATION

There are a number of federal laws prohibiting sex discrimination in employment which also apply to educational institutions. Included are: Executive Order 11246; the Equal Pay Act of 1963; Title VII of the Civil Rights Act of 1964; Titles VII and VIII of the Public Health Service Act.

The two federal laws which prohibit discrimination specifically in education are Title IX of the 1972 Education Amendments and Title II of the Education Amendments of 1976.

**TITLE IX** applies to public and private educational institutions at every level which receive federal financial assistance. It prohibits discrimination in:

- treatment of students: admission and recruitment, educational programs and activities, housing and facilities, courses, counseling, financial assistance, health and insurance benefits and services, marital or parental status, and athletics; and in
- employment: recruitment, compensation, job classification and structure, fringe benefits, marital or parental status.

It requires each institution to:

- evaluate its policies and practices and keep results on file;
- file an assurance of compliance statement with every application for federal financial assistance;
- designate an employee to coordinate compliance efforts and tell students and employees how to contact him or her;
- adopt and publish a grievance procedure;
- notify students, employees, and others of the non-discrimination policy.

**TITLE II** applies to state and local vocational education programs which receive federal vocational education monies. It requires that:

- the state designate full-time personnel to eliminate sex discrimination and sex stereotyping;
- state and local advisory councils include representatives who are knowledgeable about sex discrimination;
- the state's annual plan and five-year plan include policies to eradicate sex discrimination;
- the State Board evaluation include the results of services to women;
- the state expend $50,000 for full-time sex equity personnel and additional funds for programs for displaced homemakers.

Minnesota also has several laws related to discrimination in education. The Minnesota Human Rights Act, Minnesota Statutes Chapter 363, prohibits discrimination against students or employees on the basis of sex.

**Minnesota Statutes 126.21** applies to athletics programs only. Included in the law are:

- a prohibition of separation based on sex in athletics programs for participants 11 years or younger and sixth grade and below;
- a provision for separate teams for participants 12 years of age and older if necessary to provide equal opportunity to participate in the athletic program;
- a requirement that separate teams in the same sport receive substantially equal budgets per participant (exclusive of revenues generated) and substantially equal treatment in all other respects.

Another law, Minnesota Statutes 124.15, provides a financial penalty for non-compliance with state laws prohibiting discrimination.

# ELEMENTARY AND SECONDARY EDUCATION

**"Somewhere in the years between 10 and 13 girls begin to give up on academic achievement, because they have learned that it is not expected and indeed it may be hazardous to a future marriage."**
*— sex equity project coordinator*

More than 850,000 students — 450,000 secondary students and 400,000 children in elementary school — were enrolled in Minnesota public and private schools in the 1978-79 school year. The current biennial state appropriation for kindergarten through twelfth grade is almost two billion dollars.

In elementary school, children begin to learn the unwritten rules of societal expectations as well as the written rules for reading, writing, and arithmetic. A number of studies have shown that these unwritten rules apply different standards to girls and boys, and that children quickly learn and obey these rules.

Many studies of textbooks, for example, show extensive evidence of sex role stereotyping. One such study reviewed text and illustrations in 83 children's readers released since 1972 by nine major publishers. Striking imbalances were found in the sheer numbers of males and females portrayed as well as in personality characteristics of each sex. There were twice as many pictures of boys and men as there were of girls and women, and the ratio of stories about boys to stories about girls was three to one.

Biographies of men were twice as common as biographies of women, and fictional stories contained more than three occupations for men for every occupation portrayed for women. Personality characteristics were rigidly assigned by sex. Boys were almost invariably shown to be active, independent and inventive, while girls were usually passive, fearful and helpless.

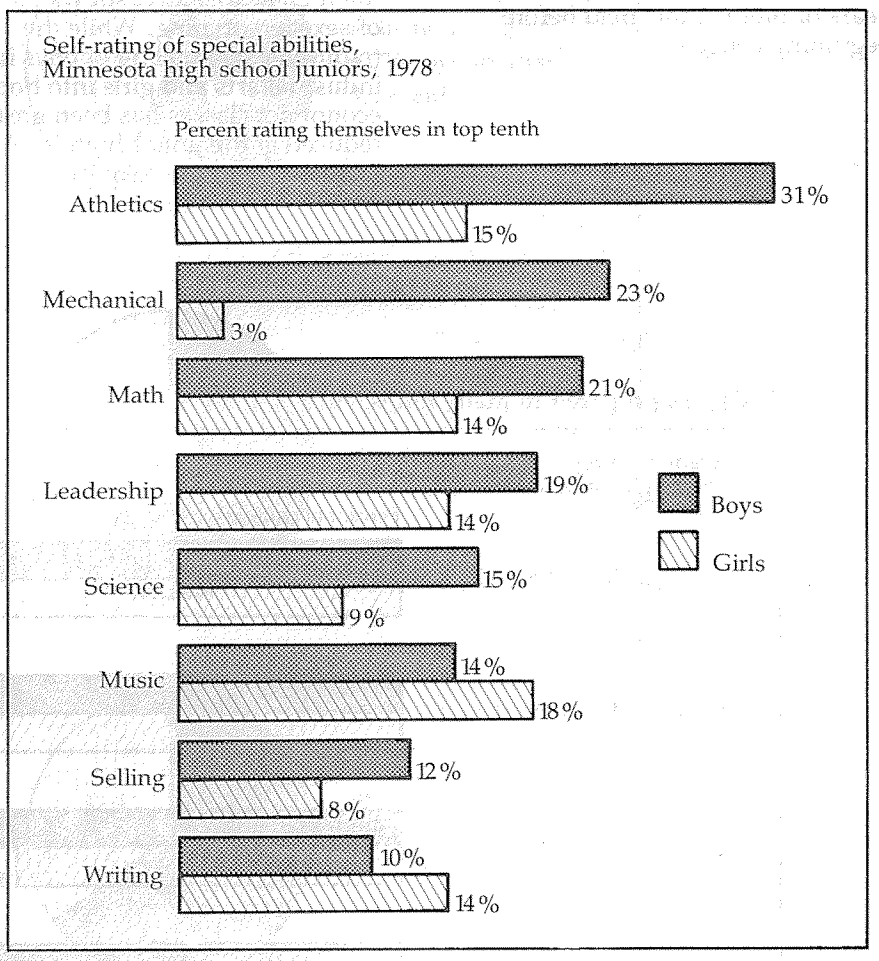
What effect does this stereotyping have on students?

One study shows that by age eight, most girls have already concluded that their occupational choices are limited to traditional areas like teaching, nursing, secretarial work, or homemaking. Boys feel they have much broader choices.

These attitudinal patterns are reflected in student achievement. In the early grades, girls score as high and often higher than boys on standardized tests, including mathematics and science. But starting at age 13, girls show a relative decline in achievement as measured on such tests. By eleventh grade, boys score significantly higher than girls in mathematics. A 1979 science assessment of Minnesota students also found substantial differences between eleventh grade boys and girls. On the 61 of 123 test items with differences by sex, boys outscored girls on 55 while girls outscored boys on only six.

This drop in girls' test scores is paralleled by a lack of confidence in their abilities. In a statewide survey of Minnesota high school juniors conducted in 1978, students were asked to compare their abilities to those of others by subject and interest area. Boys were more likely than girls to rank themselves in the top ten percent in all subjects except writing and music, while girls ranked themselves lower than did boys in all other areas.

**Boys rate selves higher**




*Source: Student Counseling Bureau, University of Minnesota*

Girls confirm their lack of confidence in their mathematical and scientific ability by taking fewer courses in these areas, while maintaining high enrollments in traditionally female subjects. A survey of freshmen entering the University of Minnesota in the fall of 1978 shows that this is true even for the high-ability, highly-motivated women who attend this institution. Men and women were not significantly different in the amount of English and social science coursework they had completed, but they differed substantially in the amount of mathematics and natural science they obtained in high school.

More than two-thirds of the men but only half of the women had taken at least three years of mathematics. The proportions were similar for science preparation, where almost two-thirds of male students but only about half of female students had completed two years or more in this field before beginning college.

In an increasingly technological society, math and science experience is highly valued and financially rewarded, while the lack of a strong background in these subjects is a distinct disadvantage for women. They are less likely to be admitted to post-secondary schools, and if admitted, they may be forced to "make up" these deficiencies on a non-credit basis.

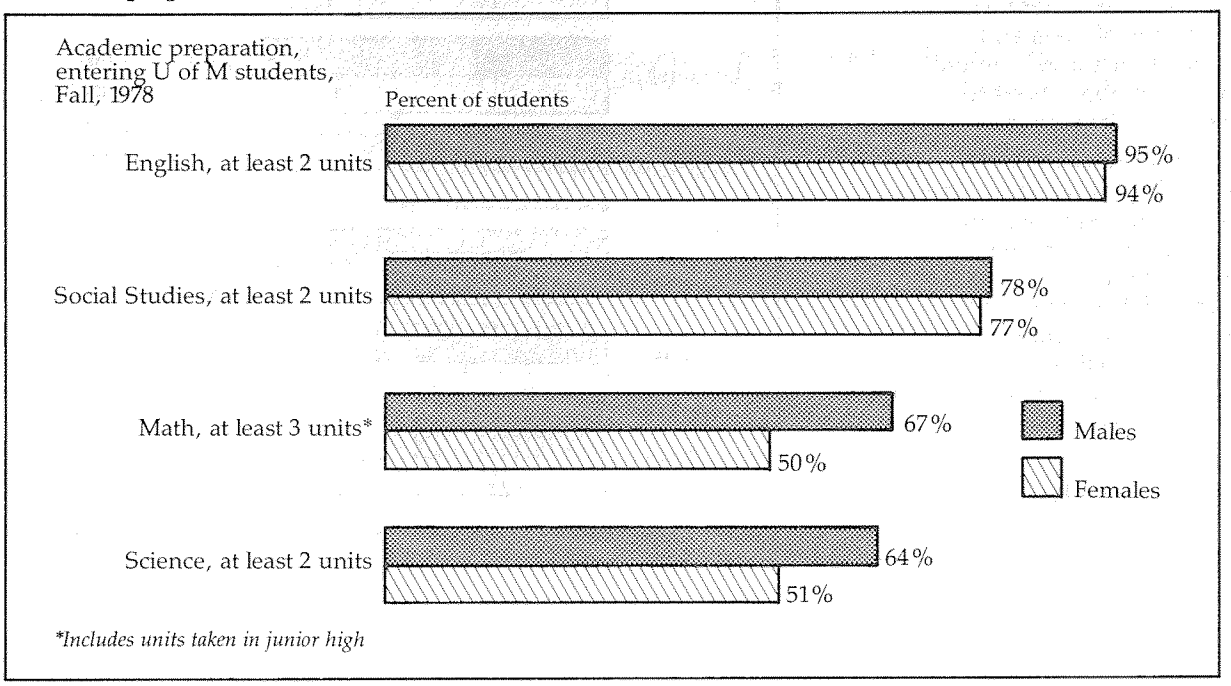
It will be very difficult for them to pursue major courses of study leading to jobs in engineering, medicine, computer technology, economics, or business management. Even traditional women's fields such as social work are increasingly likely to require a knowledge of statistical methods. In addition, many women are deprived of the perspective which these subjects can bring to their lives.

Enrollment in many other courses at the high school level shows the effects of sex stereotyping. While the traditional channeling of boys into industrial arts and girls into home economics classes has been greatly reduced at the junior high level, where many schools now require all students to attend classes in both subjects, high school students continue to enroll according to more traditional patterns.

These students may appear to be making "choices" when in fact there is evidence that many are simply choosing not to deviate from what is considered acceptable for their sex. Since stereotyping pervades the system, schools cannot ensure authentic choices unless accurate information and active encouragement are given to all students about opportunities in all areas of study.

High school curriculum materials, like elementary school readers, tend to ignore the contributions of women. Women's studies classes, which are beginning to provide this information at the college level, are rare in secondary schools.

**Girls less prepared in math and science**




*Source: Admissions and Records, University of Minnesota*

Sex-stereotyped textbooks and sex-segregated classes teach children that there are enormous differences between the wishes and abilities of girls and boys, and further that boys are more important and have more choices. These feelings are reinforced in many athletic programs.

Athletic programs are considered an integral part of education, as demonstrated by state and federal laws mandating equal athletic opportunities for both sexes. Athletics not only develop specific physical skills, but are believed to contribute to self-discipline, self-confidence, sportsmanship, and cooperation.

Until recent years, girls generally did not have the benefit of interscholastic athletics within the public school system. Competitive athletics were reserved for boys, and girls participated as cheerleaders for boys' teams.

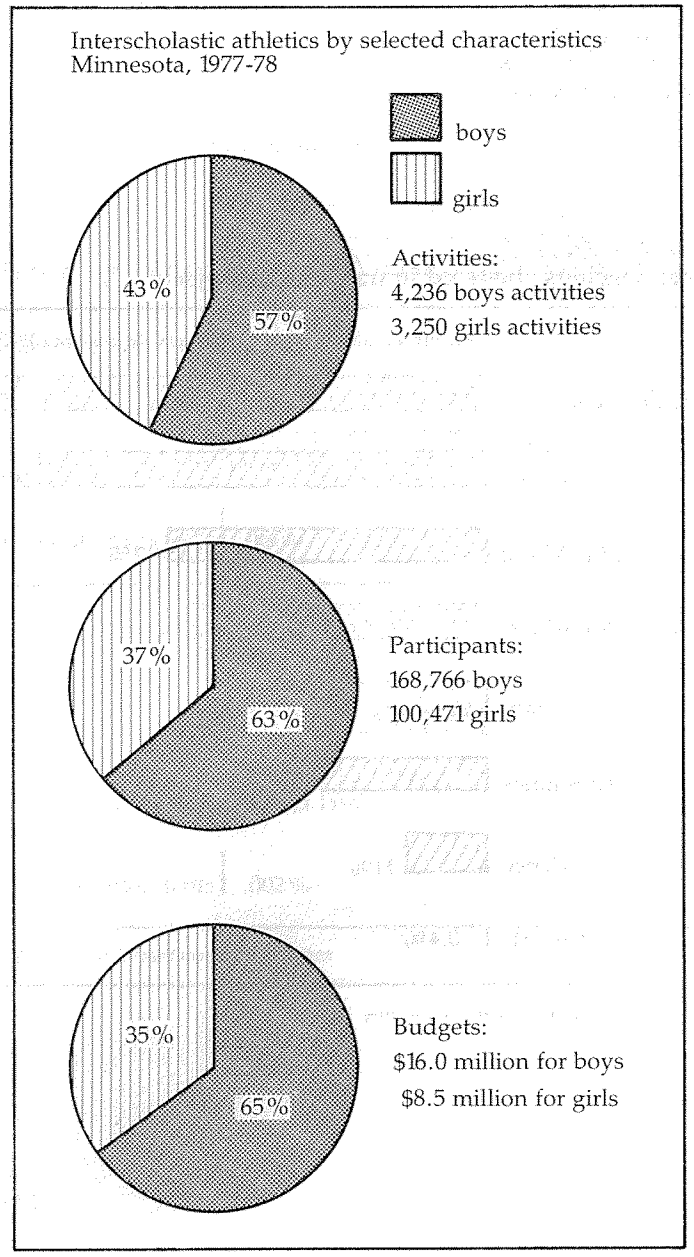
In 1975, Minnesota passed legislation requiring equal opportunity in athletics, and in the same year Title IX of the federal Education Amendments of 1972 went into effect. Both laws specifically prohibit discrimination on the basis of sex in school athletic programs.

Since that time, there have been dramatic increases in school sports programs. Most school districts now provide competitive athletics for girls at both junior and senior high school levels, and in each of the three sports seasons during the school year.

Despite substantial improvements in recent years, however, girls' programs have not yet received the same support that boys' programs have had for many years. This is true regardless of the method used to measure equality of opportunity.

A state Department of Education study of interscholastic athletic programs at both junior and senior high levels in the 1977-78 school year estimated total public school expenditures at $24.5 million — $5.7 million for junior high programs and $18.8 million for senior high programs. At both levels, boys receive almost twice as much of this amount as do girls. The same study showed that boys had access to almost 1,000 more activities than did girls, and as a consequence many more boys than girls were benefiting from participation in athletic programs. A recent national study ranks Minnesota fourteenth in the nation in the percentage of high school interscholastic athletes who are female.

**School sports show continued disparities**




*Source: Minnesota Department of Education*

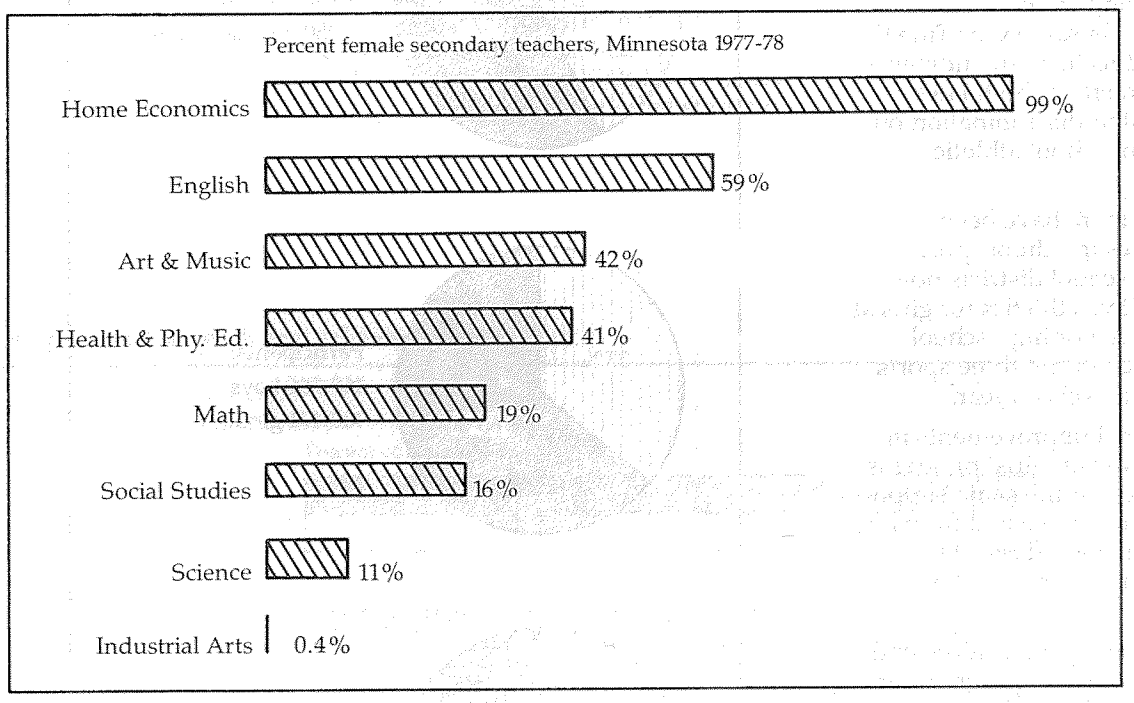
**"It was long understood by people in education that women didn't go into social studies unless at great occupational risk, because social studies jobs were reserved for male coaches."**
*— school Title IX officer*

Despite attention given to the effects of stereotyping in recent years, the employment of teachers in Minnesota public schools reaffirms the student's impression that certain jobs belong to men and others to women. Female elementary and secondary public school teachers in the 1977-78 school year accounted for 56 percent of the total of 44,296 full-time equivalent positions. Yet male and female teachers were unevenly distributed among grade levels and subject areas, with women more likely to teach lower grades and "female" subjects.

An April 1979 study of female school district employees conducted by the state Department of Education concluded that "past stereotypes still appear to be operating in training, hiring, and assigning teachers in Minnesota." Virtually no change had taken place in the previous five years in the disproportionate representation of teachers by sex. Women accounted for more than nine of ten kindergarten teachers and more than three-fourths of all elementary teachers in both 1973-74 and 1977-78. Men were the majority of all secondary teachers and represented more than 80 percent of math and science teachers in both years.

English, home economics, and special education continue to be taught by women; social studies and industrial arts continue to be taught by men. This is true despite the fact that women represent the majority of new secondary teachers registering with placement offices, and are one-third of those registering in math, science, and social studies.

**Women teachers clustered in traditional subjects**




*Source: Minnesota Department of Education*

Women who hold teaching jobs are concentrated in "female" positions — but women who hold school administrative jobs are almost non-existent at any level.

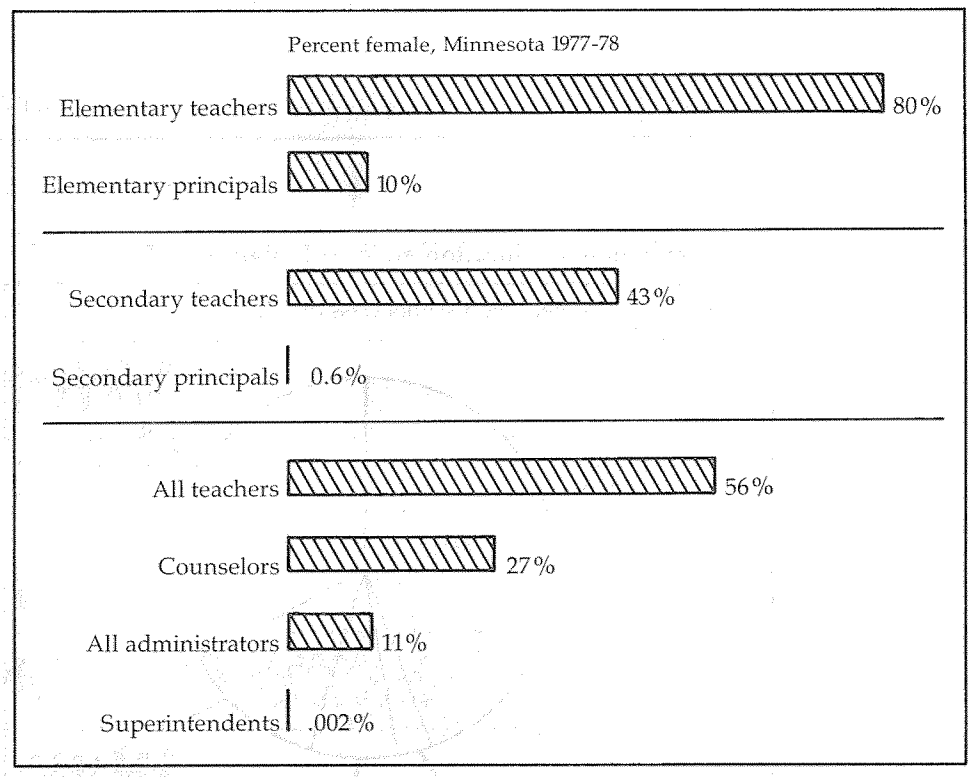
Administrators are figures of power and authority for students as well as for teachers. Children who observe the education pyramid composed of a few administrators, usually all men, supervising a number of teachers, mostly women, learn to accept this pattern as the norm for other aspects of life.

Minnesota ranked thirty-sixth of 41 states in terms of its proportion of female administrators, according to a 1977 survey by the National Center for Education Statistics. Furthermore, the number of women who are administrators is actually declining. There were half as many female elementary principals in the state in 1978 as in 1971. Although the proportion of women who are secondary principals has increased since that time, it remains at less than one woman for every hundred positions. Three of every four guidance counselors are men. Only one of 436 school district superintendents in the state is a woman.

Despite the stated board policy to eliminate sex bias in education, the state Department of Education itself has not achieved equity in employment of women and men. Although women represented 59 percent of the agency's 647 employees in June 1979, two-thirds of female employees were either office/clerical or service workers. Men were 90 percent of the managers, 80 percent of the professionals with supervisory authority, and 58 percent of the non-supervisory professionals.

Education has long been considered a "woman's field" — but increasingly, this is true only for elementary teachers and high school teachers of home economics and English. Large numbers of women graduate with degrees in education each year, but their numbers are not reflected in administrative positions. Although declining enrollments may reduce the number of positions available, administrative jobs in particular have high turnover rates which provide opportunities to improve the representation of women in administration.

**Few women school administrators**




*Source: Minnesota Department of Education*

**"I asked one young high school woman... 'What are you going to do after you're married and your kids are in school and you're home alone all day?' There was a long pause — she obviously had never considered it. Then she said, 'Oh, my husband and I will go on a cruise around the world.' She still believes that Prince Charming will sweep her up in his arms, carry her off, and care for her the rest of her life."**
— *high school counselor*

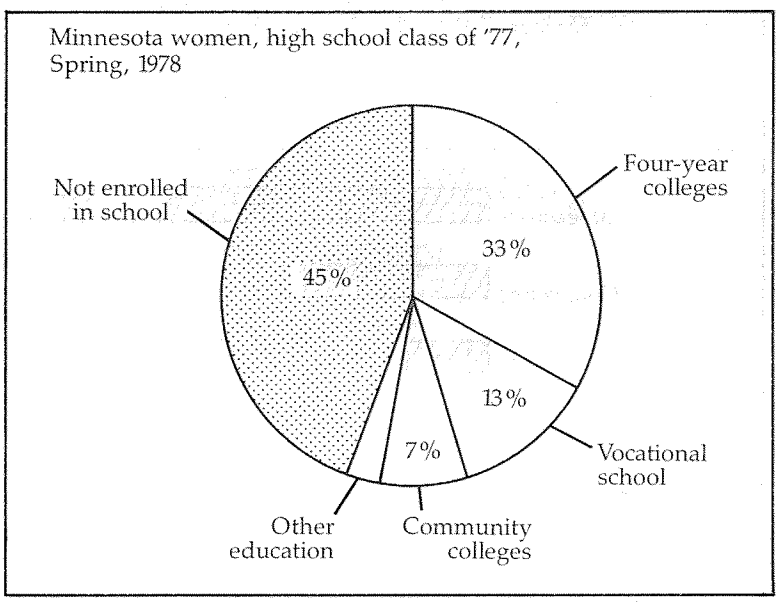
Is Minnesota's enormous investment in elementary and secondary education contributing to improvements in the economic and employment status of its young women? Are students graduating from high school now less hampered by rigid stereotypes about what kinds of occupations are appropriate for their sex?

A follow-up study of Minnesota students from the high school class of 1977 shows that 55 percent of the women continued their education at the post-secondary level. The remaining 45 percent were only slightly less likely than their male classmates to have obtained employment. However, a closer look at occupations and level of earnings shows considerable differences between the male and female members of this class.

One year after graduating, the employment of this class mirrors the sex-segregated job status of decades of previous graduates. Almost half of the women are engaged in clerical work, and more than one-fourth hold service jobs like waitress or beautician. Only four percent are managers, professional or technical workers. Less than three percent are "craftsmen." The men who graduated at the same time, however, are fairly evenly distributed among all occupations. Only one-fourth hold either clerical or service jobs, while six percent are managers, professional or technical workers, and 17 percent are "craftsmen."

Hourly wages received by these graduates one year later also show large disparities by sex for workers with the same amount of education and no difference in amount of experience. Nearly half of the women are now earning less than $3.00 per hour, while only one-fourth of men in this group earn this little. Almost four times as many men as women earn more than $4.00 per hour.

**For many women, education ends with high school**




*Source: Minnesota Research and Development Center for Vocational Education*

# VOCATIONAL EDUCATION

Since vocational education is so closely related to employment, it is especially important to women's economic status. In recognition of this relationship, Title II of the federal Education Amendments of 1976 seeks to remedy past inequities by identifying the elimination of sex bias and sex stereotyping as one of the purposes of vocational education.

The State of Minnesota invested more than $102 million in public vocational education programs in 1978. These funds provided job skills training for about 300,000 high school students and more than 42,000 post-secondary students.

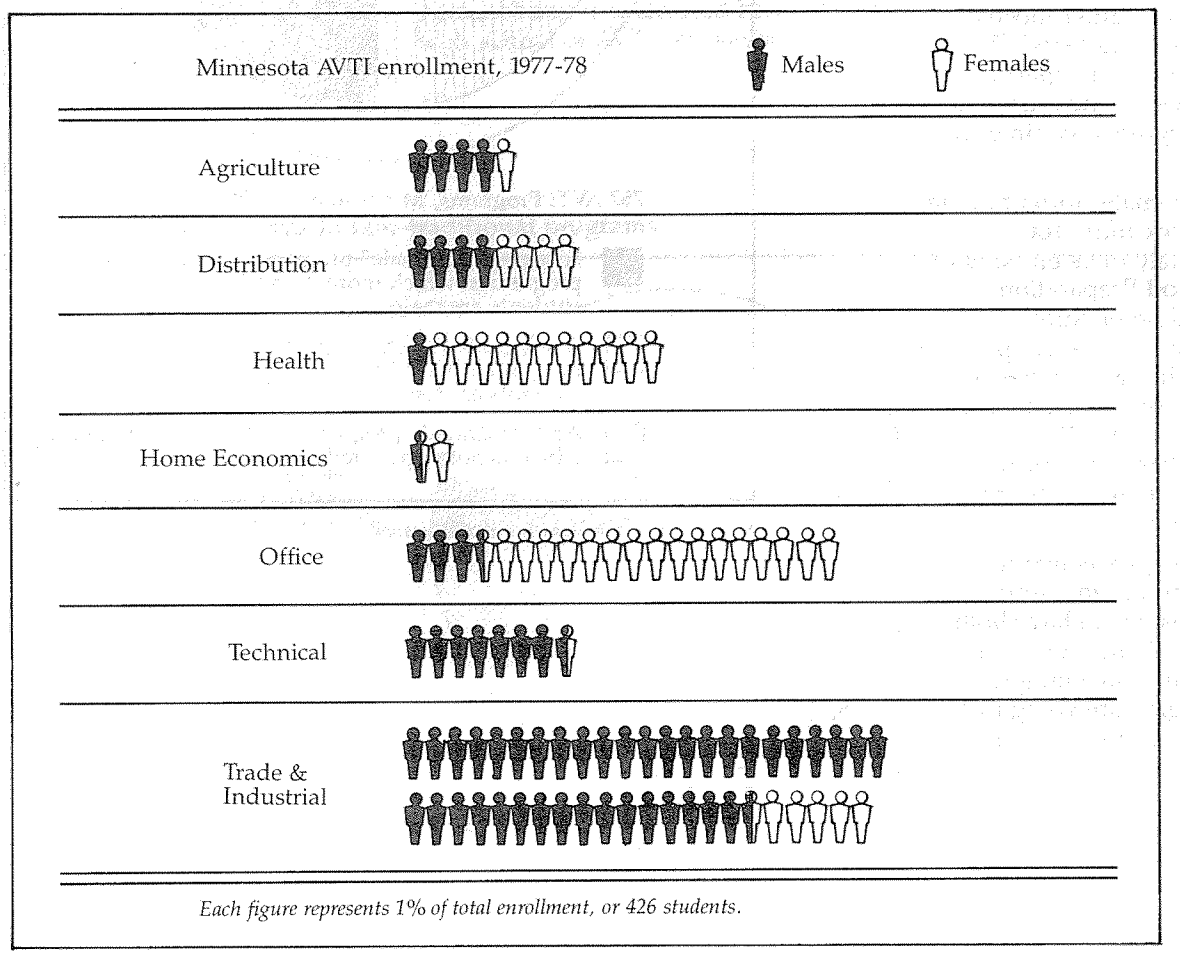
Are women benefiting from this investment on an equal basis with men?

According to an annual survey of high school juniors, females are just as likely as males to express an interest in vocational education after graduation. An equal proportion — 28 percent — of male and female students listed attendance at an area vocational-technical institute (AVTI) as their first choice for post-secondary education. Yet women accounted for only 41 percent of all AVTI students in 1977-78, and this system has the lowest percentage of female students of all Minnesota's public post-secondary systems. For some reason, the vocational system has not experienced increased numbers of women to the same extent as the collegiate systems.

What about those women who do participate in an AVTI program? Does the vocational education system reduce sex-stereotyping in the labor market by training them for the same range of occupations available to men?

An analysis of enrollments by curriculum area shows that women are not only under-represented in the AVTI system as a whole, they are also clustered in programs leading to traditional female occupations. More than 40 percent are preparing for office occupations, and more than one-fourth are preparing for health occupations. Women are significantly under-represented in programs leading to traditionally male fields — technical, agricultural, and trade-industrial occupations.

**Traditional patterns prevail in AVTIs**




*Source: Minnesota Department of Education*

Although the actual jobs done by women have varied considerably over the past century, traditional women's work has generally been work in the home or in extensions of the homemaker's role. Caring for and teaching children, helping sick and disadvantaged people, preparing and serving food, making sure homes and offices run smoothly — all are demanding and necessary jobs.

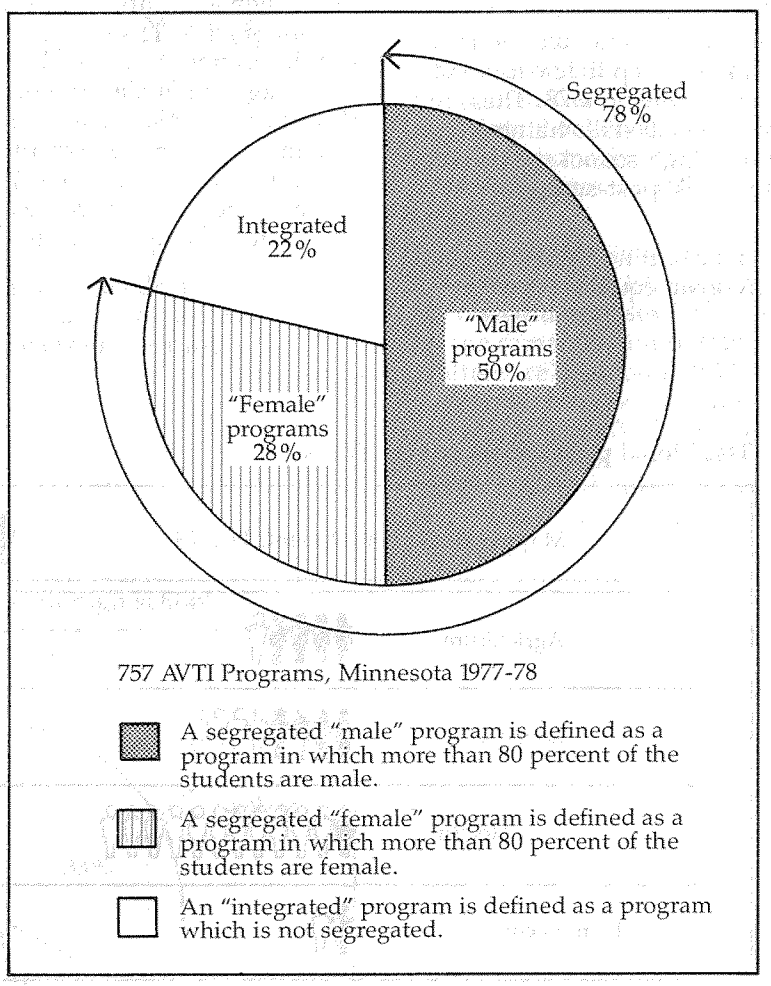
Yet few men choose to enter these occupations, and few women have considered additional options. Rather than breaking down the historical division of labor, the vocational education system seems to perpetuate "women's work" and "men's work," as shown by enrollments in programs which are usually segregated by sex.

In the labor market, certain industries are predominantly male or female — most employees of the service industry, for example, are women — just as AVTI curriculum areas have either mostly male or mostly female students. This segregation is also found in specific occupations within each industry and in specific AVTI programs within each curriculum area.

The relatively rare female student in the trade-industrial curriculum, for example, is very likely to be enrolled in Cosmetology or Food Preparation rather than in Welding or Auto Mechanics. Only one of five programs offered in AVTIs is integrated by sex. More than one of three programs are totally segregated — of the 757 programs offered statewide, 169 have no female students at all and 122 have no male students at all.

One AVTI student suggests that this division by sex occurs even within individual programs which have both female and male students: "In grocery management the guys are going to be managers and the girls are going to be checkout girls as far as my teacher's concerned."

**More male programs offered**




*Source: Minnesota Department of Education*

**"My mom figured it was a men's course and didn't like the idea at first. Now that I have just about made it through and have gotten good grades and I am most assuredly going to get a good job she has changed her mind and is very proud of me."**

**"The counselor and one math teacher's attitude was, a woman's place isn't in the shop."**

**"The male students seem to respect me a lot for having the nerve to join them."**

— *female AVTI students in non-traditional programs*

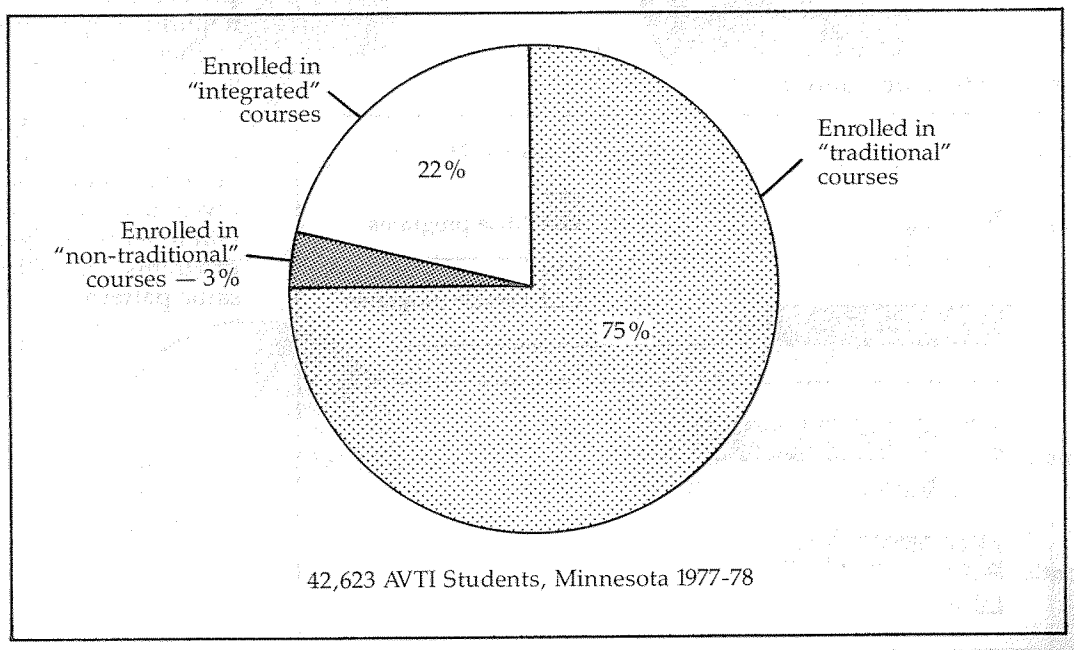
Only one of twenty female students in area vocational-technical institutes is enrolled in a "male" program. The few women who do take non-traditional programs are likely to be the only female students in their classes. Since there are so few of them, these non-traditional students need special encouragement and support.

In the spring of 1979, the Council on the Economic Status of Women conducted a survey to assess the status of women enrolled in AVTI programs which are non-traditional for their sex. The survey showed that most of these women enjoy their coursework and are eager to learn. Although many of the 176 who responded said they were initially discouraged from learning a "man's job," the large majority found support from family and friends once they were enrolled. A full two-thirds said they chose their fields because of "personal interest" or having personal contacts in the trade, while only 18 percent became interested because of a high school or AVTI counselor.

The students had many suggestions for change. Some noted that flexible class hours would help them meet family responsibilities, and that child care costs should be considered in financial aid programs. Their greatest needs, however, were for reassurance that women would be hired in non-traditional jobs and for general support from teachers, counselors, and other students. One woman commented: "One little bit of encouragement makes me able to keep going for weeks."

When asked their opinions about why so few women enroll in non-traditional courses, only five percent felt that others were prevented by negative attitudes on the part of counselors. However, more than one-fourth of those responding believed that other women did not enroll because they had never heard that such courses existed.

**Few students in non-traditional programs**




*Source: Minnesota Department of Education*

Male AVTI students are just as likely as female AVTI students to be enrolled in programs which are segregated and traditional for their sex. However, the female students are at a greater disadvantage in terms of the public resources invested in this system — a total of $48.9 million in 1978 program costs alone, a figure which excludes all costs for general administration and support programs.

"Male" programs generally have larger budgets than "female" programs. Therefore, female students do not receive as large a share of financial resources as their enrollment would indicate. When program costs are apportioned by sex, $32.1 million is spent on male students while only $16.8 million is spent on female students. The 41 percent of students who are female receive only 34 percent of the program budget.

This disparity can also be expressed as an average amount spent by the AVTI to train one student. Women enrolled in relatively high-budget "male" programs receive the same proportion of the budget as men enrolled in those programs. But these women are greatly outnumbered by those in relatively low-budget "female" programs, so that the average amount spent for one female student is almost $300 less than the average amount spent for one male student within the system as a whole.

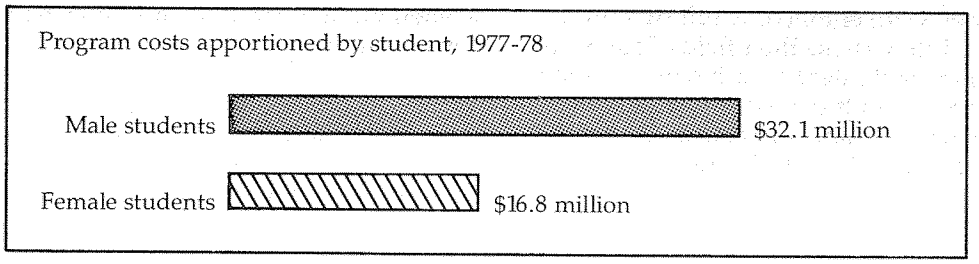
The public investment in vocational education can also be measured by the length of AVTI programs, which vary from three weeks in courses like Nurse Aide and Keypunch Operator to two years for courses like Agricultural Production and Civil Highway Technology.

Are women receiving the same amount of training as men?

There are striking differences in the length of "female" programs compared with "male" programs. Only one-tenth of the programs with high female enrollments last more than one year, but two-thirds of the programs with high male enrollments last this long. It appears that men receive more extensive training leading to jobs requiring higher levels of skills, while women are being trained for less skilled positions.

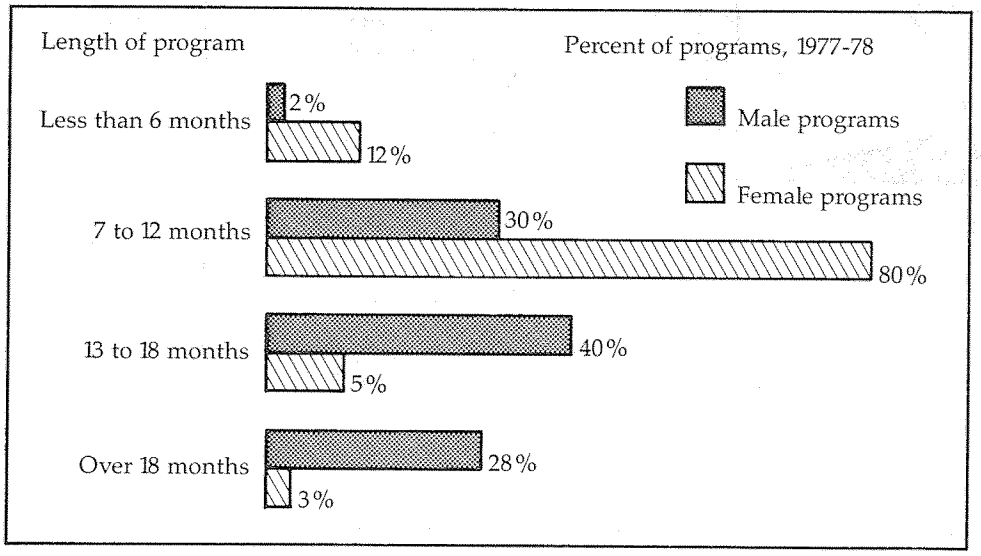
Plainly, the AVTI system expends more of its resources on male students than on female students, whether this investment is measured by enrollments, budgets, or length of programs. Do staff resources reflect the same pattern?

**More money spent on male students**




*Source: Minnesota Department of Education*

**"Male" programs provide more training**



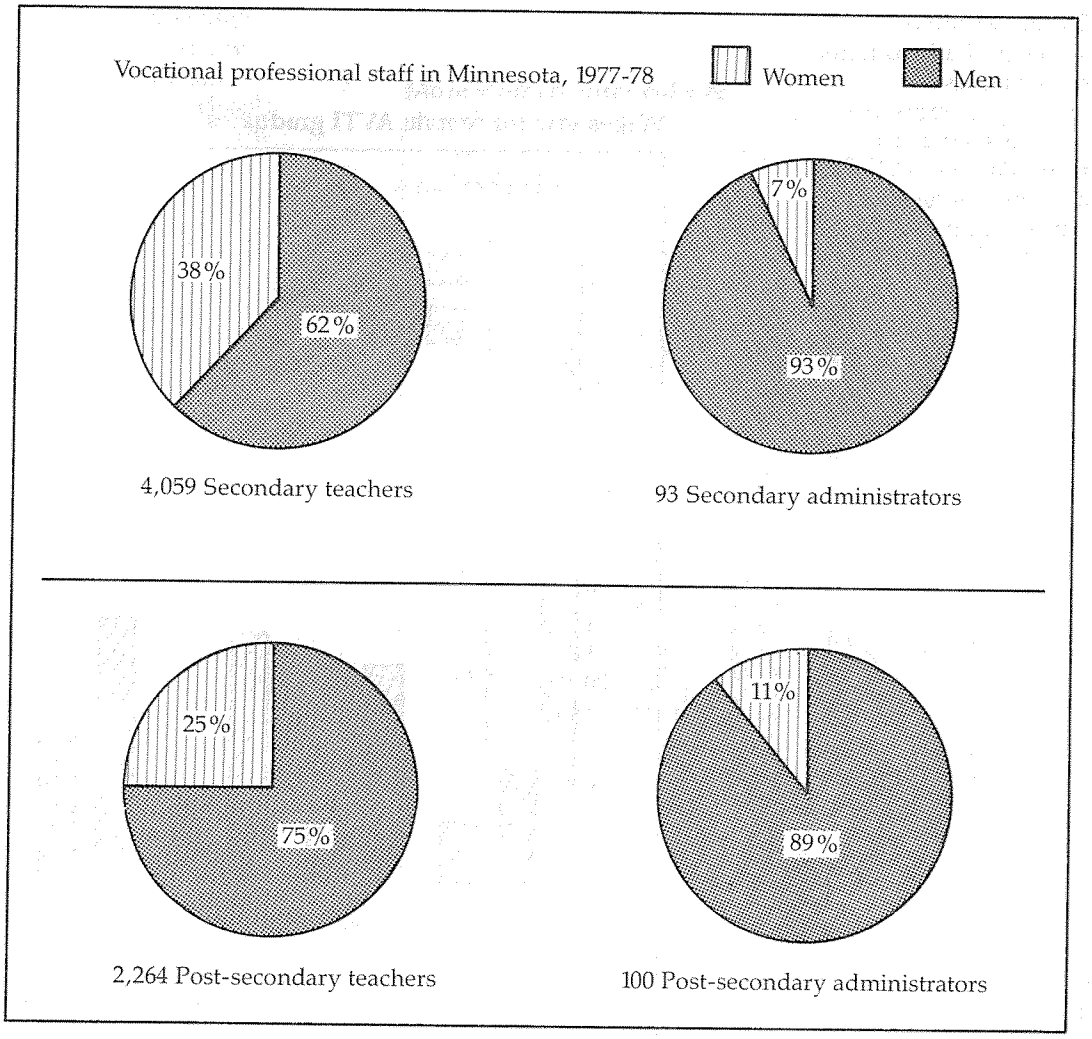

*Source: Minnesota Department of Education*

The status of women employed by the vocational education system is important particularly because women are in a position to serve as role models for students. In elementary and secondary education, women are well represented among teachers, but under-represented as administrators. In both secondary and post-secondary vocational education, however, they are under-represented at both levels. This is true not only with respect to the proportion of women in the labor force but also in relation to the number of vocational licenses held by women.

In general male staff members have more years of service and earn higher salaries than their female counterparts. Yet even in those areas where women have more average years of service — post-secondary distributive education, health, and home economics — their salaries are lower than those of men who teach these subjects. Few women teach industrial arts, agriculture, technical, or trade-industrial programs. All 33 of the state's AVTI directors are male.

The vocational education system is predominantly a male system, with its roots in the historical perspective that the world of work is a "man's world." Most students are men, most programs are "male" programs, and the large majority of teachers and administrators are men. Employment in vocational education, like employment in the labor market as a whole and like student enrollments in vocational education, shows extensive segregation and stereotyping by sex.

**Men predominate as vocational staff**




*Source: Minnesota Department of Education*

The division of the labor market into "women's jobs" and "men's jobs" would perhaps be of less concern if both kinds of work were equally rewarded in economic terms. But "women's work" is almost always lower-paid than "men's work," with fewer opportunities for promotion.

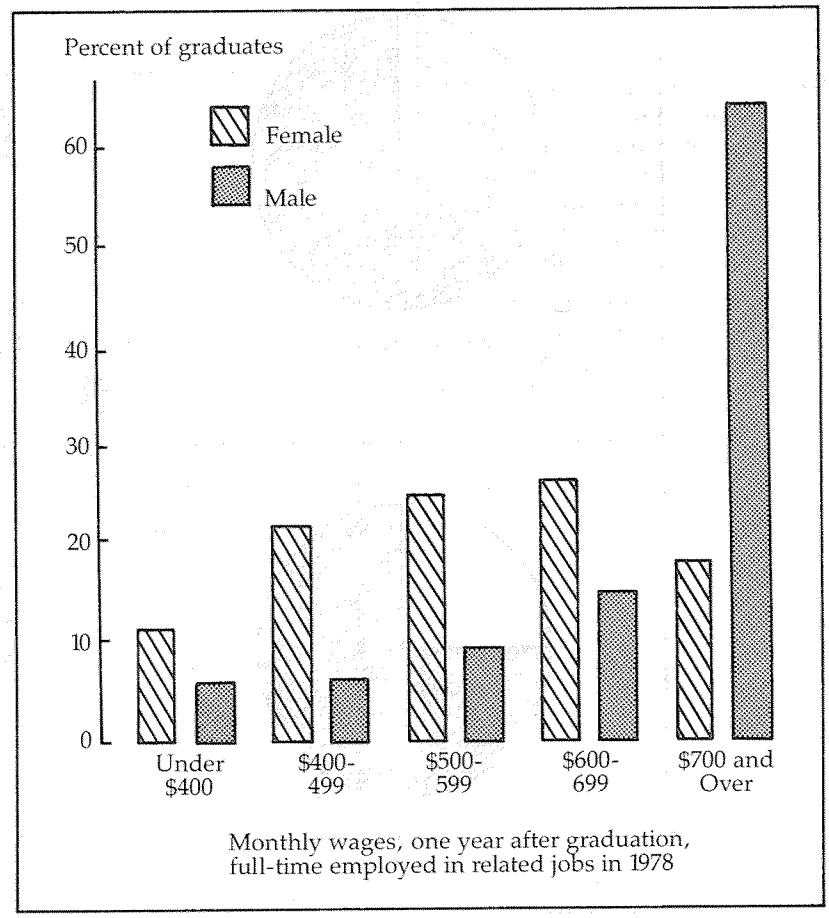
How do the earnings of women who have completed occupational training in an AVTI compare with those of male graduates?

Some examples can be given by comparing AVTI enrollments to Minnesota labor market information for related jobs. Women account for 97 percent of all AVTI students in programs leading to jobs as licensed practical nurses, legal secretaries, medical records secretaries, and medical laboratory assistants. Median annual salaries for these jobs range from $7,932 to $10,752. On the other hand, only three percent of all students in auto body, auto mechanics, carpentry, and welding programs are women. Median annual salaries for these jobs range from $13,200 to $17,508 — the lowest paid of these "male" jobs pays considerably more than the highest-paid of the "female" jobs.

This pattern holds true for the large majority of AVTI graduates who obtain employment in fields related to their training. One year after graduation almost two of three males earn at least $700 per month, while less than one of five female graduates are earning this much. More than half of the women earn less than $600 per month, or $7,200 per year.

Occupational training in AVTIs may well provide women with the skills they need for employment and with intangible benefits such as personal satisfaction. However, Minnesota's post-secondary vocational system is not contributing to a significant improvement in their economic status in comparison to that of men.

**Wages low for female AVTI graduates**




*Source: Minnesota Research and Development Center for Vocational Education*

# HIGHER EDUCATION

**"A woman needs what will make her a queen of the household and of society. She cannot afford to risk her health in acquiring a knowledge of the advanced sciences, mathematics, or philosophy for which she has no use. Too many women have already made themselves permanent invalids by an overstrain of study at schools and colleges."**

– *editors of a student newspaper, Agricultural College of Pennsylvania, 1889*

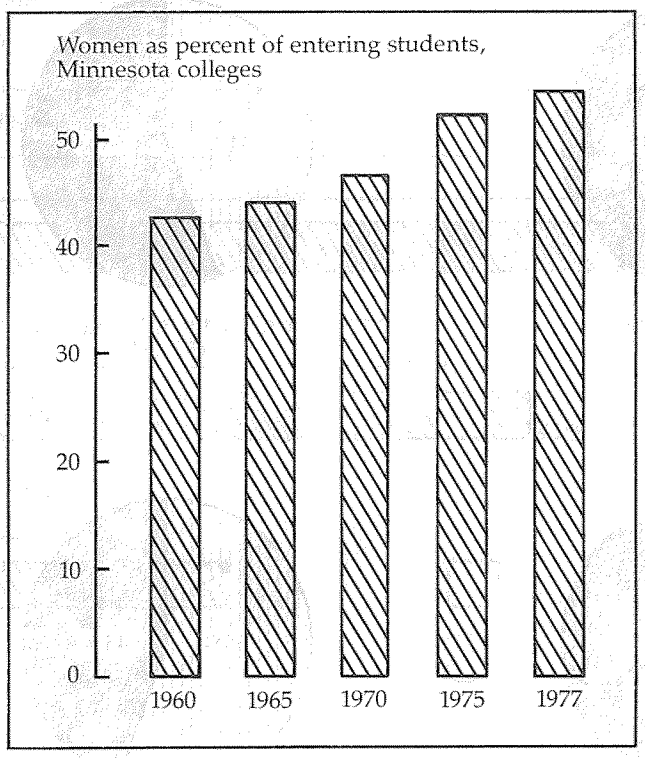
In the first century after the signing of the Declaration of Independence, women were not allowed to attend American colleges or universities. In the mid-1800s, newly-established women's colleges and coeducational land grant schools gave many women their first opportunity for formal higher education. Until the late 19th century, however, women were barred from most graduate and professional schools even though they held jobs which now require professional credentials and extensive formal education.

Beginning in the early 1900s, large numbers of women began enrolling in colleges across the nation. Nonetheless, except for a brief period during World War II, men have been consistently more likely than women to continue their education past high school.

The 1970s have brought a reversal to this pattern. Although men still represent the majority of persons age 18 to 24 enrolled in school in Minnesota, women outnumber men as new entering students in Minnesota colleges, and women now account for over half the students in many of the state's post-secondary institutions.

Minnesota has demonstrated its commitment to higher education through a large investment of financial resources in three public collegiate systems. Despite a similarly large investment at other educational levels, it has been shown that sex stereotyping pervades elementary and secondary schools and vocational programs, and that education in these systems is not improving the economic status of women as compared with that of men. Does our higher education system show a different pattern?

**More women enter college**




*Source: Higher Education Coordinating Board*

Minnesota's appropriations for public higher education in the 1977-79 biennium amounted to $741.9 million, a figure which does not include federal funds, institutional matching funds, student tuitions, or commercial loans.* Of this amount, $159.7 million was for vocational education, and the remaining $582.2 million was allocated to the 30 institutions which make up the three public collegiate systems.

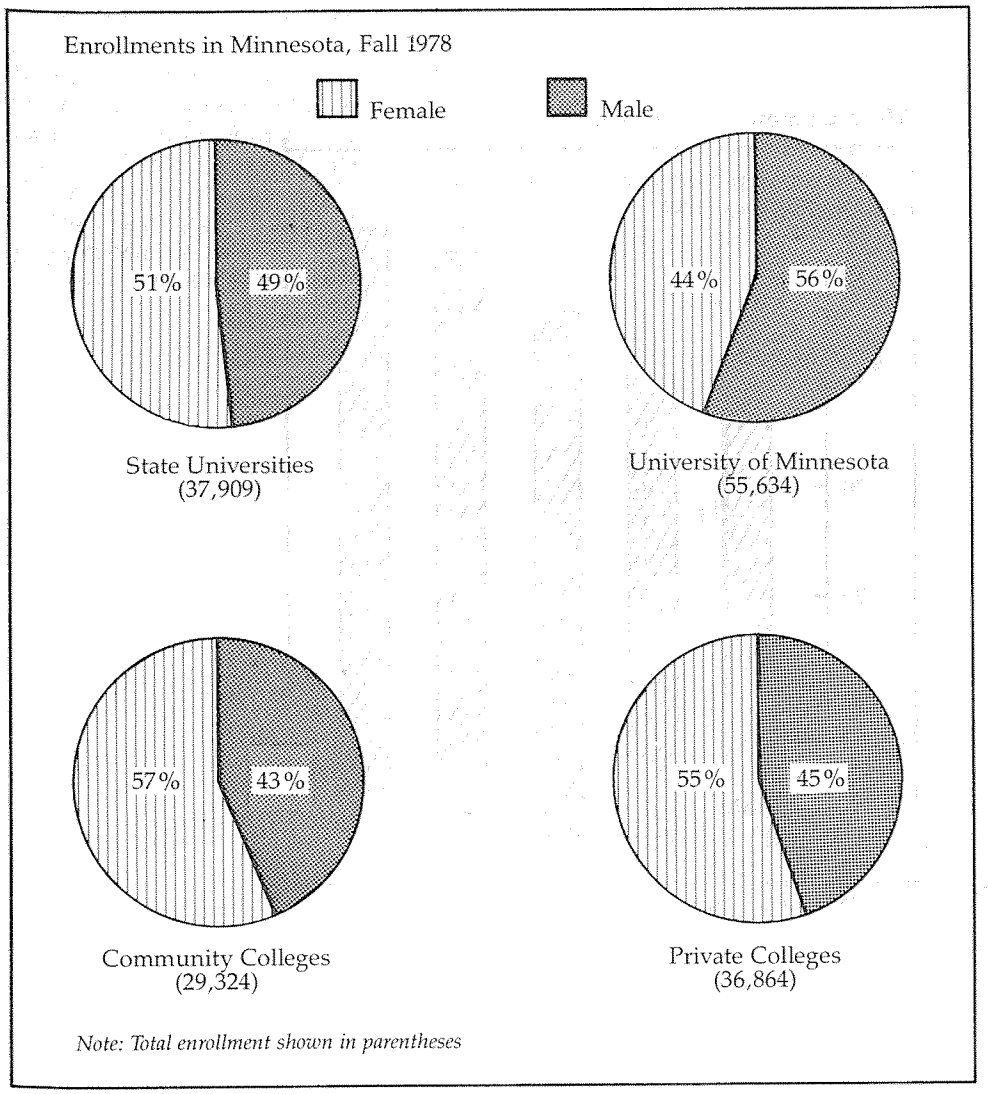
The **University of Minnesota** was established as one of the new land-grant colleges in the mid-1800s. This system now has five campuses with enrollments amounting to almost half of all public collegiate students statewide. The University system offers primarily four-year, graduate and professional degrees in a wide variety of fields. The University, which enrolls proportionately fewer women than men of any of the collegiate systems, received a legislative appropriation of $2,954 per full-time equivalent student in 1977.

**State Universities** originated as "normal schools" for teacher training, and until recently were referred to as the "State College" system. This system is now comprised of campuses in seven cities, accounting for about one-third of total public collegiate enrollments statewide. The state universities, with approximately equal representation of male and female students, received $1,658 per full-time equivalent student in 1977.

The **Community College** system, formerly called the "Junior College" system, has 18 campuses around the state. Each institution in this system offers a two-year Associate of Arts degree. Community college students account for about one-fourth of all public collegiate students enrolled statewide. These colleges, with the highest percentage enrollment of female students, received $1,254 per full-time equivalent student in 1977.

*Women's enrollment is undoubtedly affected by financial aid programs. Due to the extensive and complex nature of these programs statewide, this topic as well as athletic programs will be reviewed in separate reports.

**Female enrollment varies by system**




*Source: Higher Education Coordinating Board*

**"Females are effectively excluded from many fields before they even enter the university. Quite simply, the game is over and lost before the majority of high school girls even know the rules."**
— *high school teacher*

In the past, female students have been more likely than male students to discontinue or defer their education, usually for family-related reasons. It has been common for women to drop out in order to support husbands in graduate or professional school, or to have and care for children.

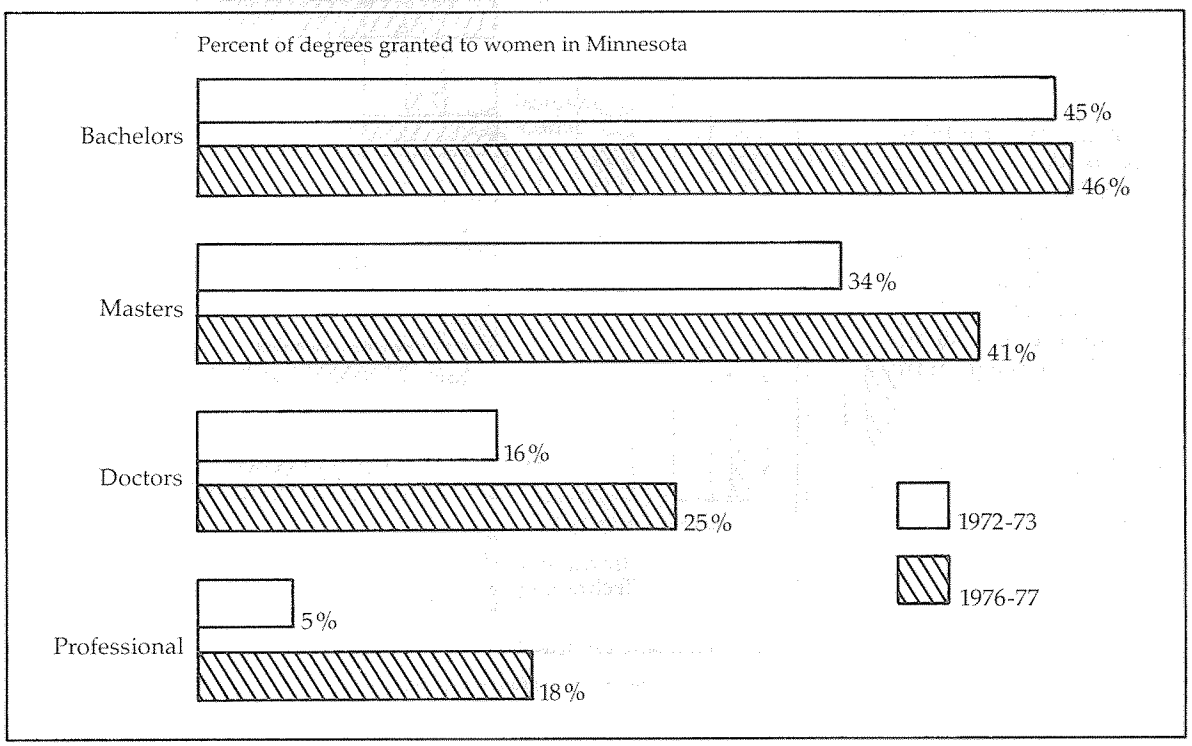
To some extent, these patterns persist. Women now account for more than half of entering students, but they receive slightly fewer than half of the bachelor's degrees awarded in collegiate institutions. Furthermore, the proportion of diplomas granted to women decreases substantially with each higher degree level.

Current demographic trends may alter these patterns and lead to larger numbers of women enrolling in and completing advanced degree programs. There is an increasing tendency for both women and men to marry at later ages. Minnesota is also experiencing a period of relatively low birth rates — women are having children later in life and bearing fewer children than was previously the case. Therefore, a smaller proportion of the average woman's life is spent in child care.

Growing numbers of single-parent female-headed families and two-earner couples emphasize the importance of women's employment in supporting families. These factors have led women to be more continuously employed. As a result, women are increasingly likely to seek more education at all levels.

Although the number of women receiving advanced degrees has grown in the past decade, a large disparity remains: only one-fourth of Minnesota doctorates and one-fifth of professional degrees are conferred on women. The state's record in this respect is about average: nationally, women received 45 percent of both bachelor's and master's degrees, 21 percent of doctorates, and 12 percent of professional degrees in 1975.

**More women earn advanced degrees, but disparities continue**




*Source: Higher Education Coordinating Board*

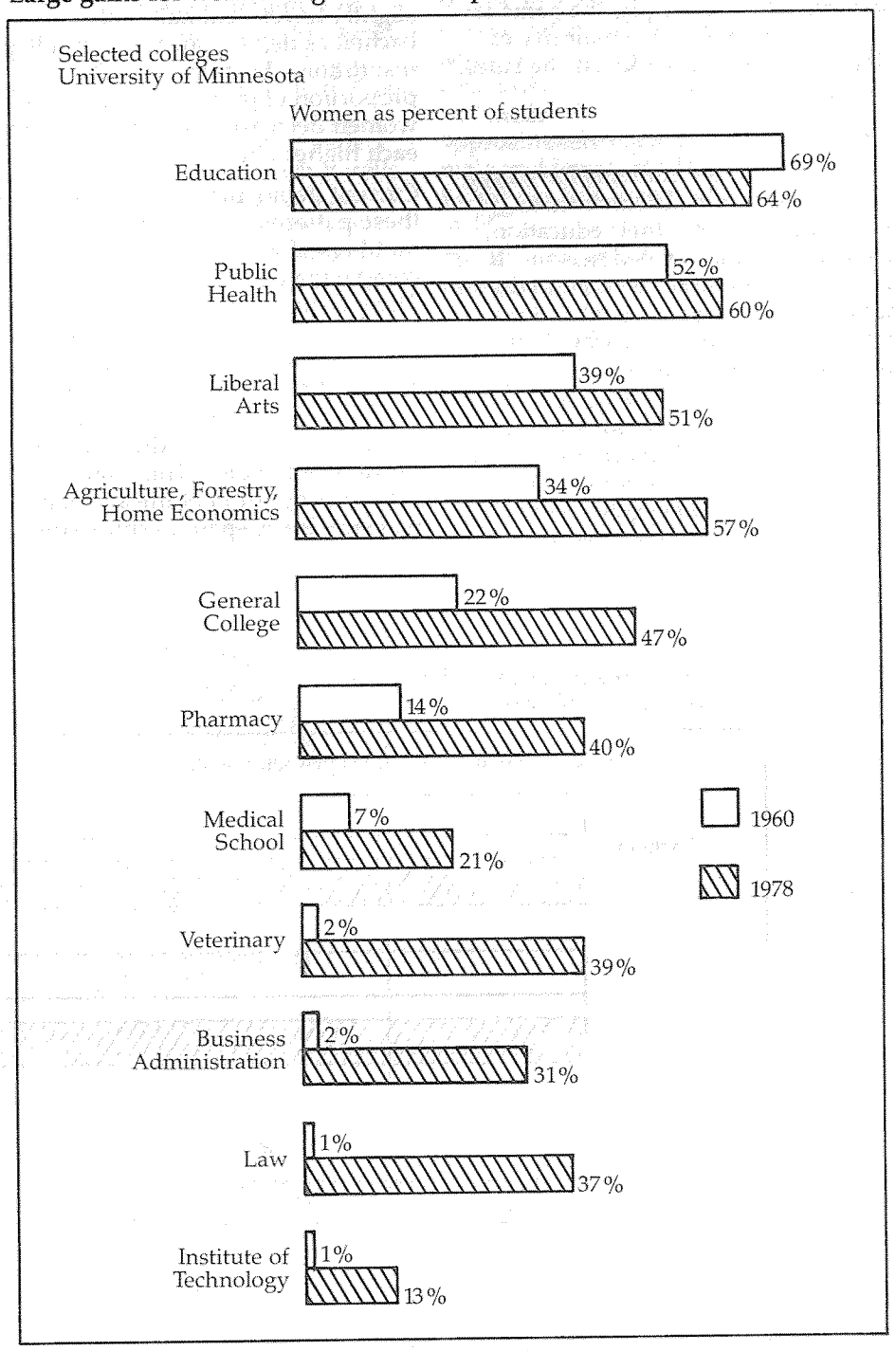
It has been common for women who completed degree programs at every level to be concentrated in traditional female fields such as teaching and nursing. Are increased enrollments by women changing these patterns and leading to a wider range of occupational preparation?

In 1977, more than one-third of all Minnesota undergraduate diplomas earned by women were in education or health, fields which accounted for less than one-eighth of all diplomas earned by men. Business and engineering accounted for one-fourth of the degrees earned by men, but only one-sixteenth of all degrees earned by women in the same year.

Although many degrees continue to be in stereotyped fields, recent trends in enrollments provide some reason for optimism. Colleges such as the University of Minnesota's Institute of Technology have experienced a slow but steady growth in the numbers of women who enroll in non-traditional fields. In addition, there have been remarkable and dramatic increases among female enrollments in law, medicine, and business, degrees which historically have led to jobs with high status and pay.

Recently-established degree programs in women's studies are also contributing a new dimension to intellectual life in the academic community. Such programs recognize an historical lack of information about women's contributions, and serve as important intermediate steps toward integrating this information in all curricula.

**Large gains for women in graduate and professional schools**




*Source: Higher Education Coordinating Board*

**"Discrimination at the university is more subtle now...for instance, faculty women do not receive sponsorship from older male faculty members."**
*– university professor*

It has been shown that women have made significant gains in their educational attainment in recent years. Women are entering college in greater numbers, are increasingly completing degree programs, particularly at the higher levels, and are more evenly distributed among fields of study. Are female faculty members making similar gains?

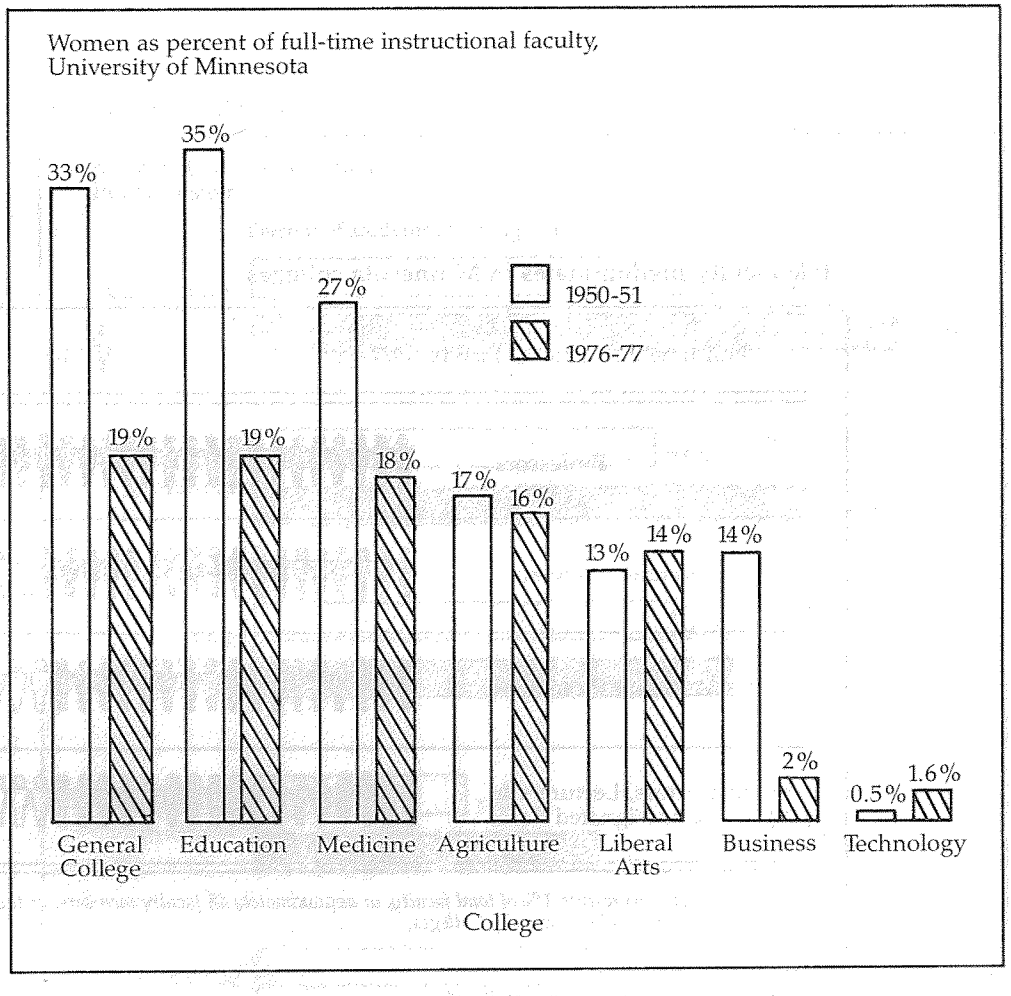
Evidence from national studies shows the reverse is true. In 1870, women made up one-third of the faculty in institutions of higher learning; in 1970 they composed less than a quarter. In the more prestigious universities, the figure drops to 10 percent or less.

Evidence from the University of Minnesota also shows that fewer women are employed as professors than in the past, and that the decline in their numbers has been particularly evident in recent years. At the University, women represent less than one of seven faculty members, a smaller proportion than in 1950.

Female professors are even less likely to teach in male-dominated fields such as agriculture, medicine, and business than they were 30 years ago. This lack of progress is especially striking in view of the increased participation of female students in these fields.

In business administration, for example, almost one-third of the students are women, while less than two percent of faculty members are women. In 1950, there were seven times as many women teaching business as there are now. The proportion of female professors has also declined in "female"areas such as the College of Education. At the Institute of Technology, slight gains have been made, but women continue to be under-represented both as students and as staff members.

**Female faculty declines at "U"**




*Source: American Association of University Professors, Subcommittee on The Status of Women*

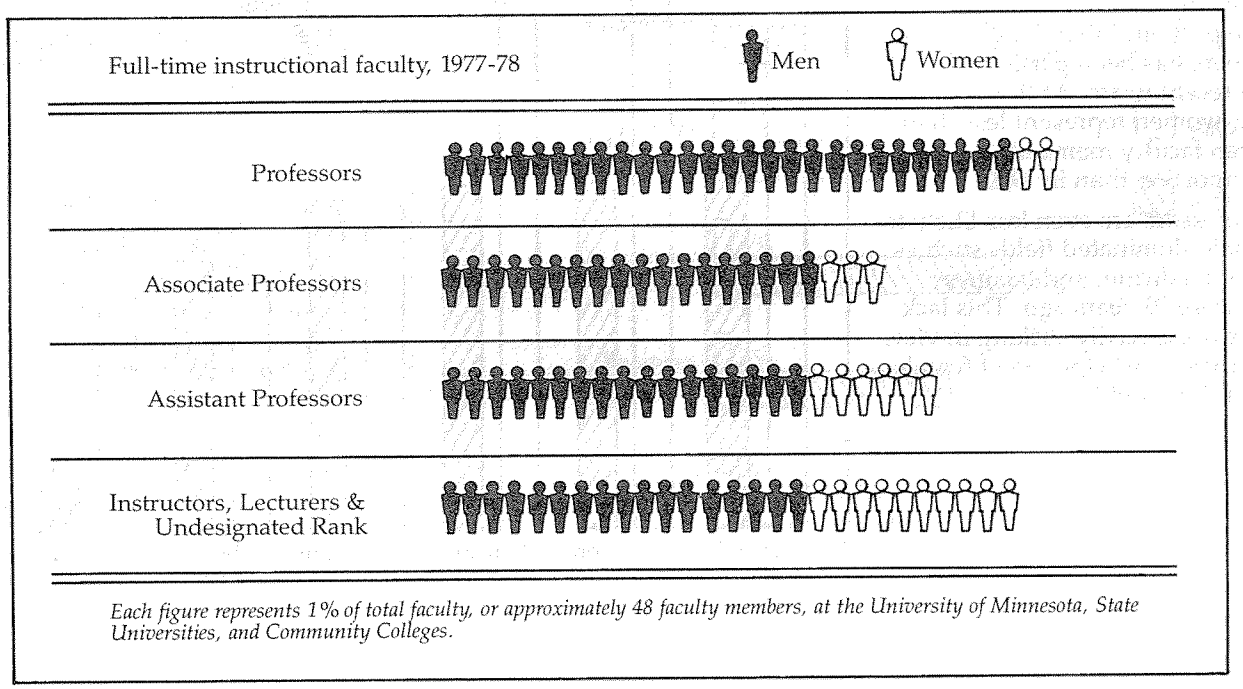
Not only is the number of women as faculty members in Minnesota's collegiate institutions relatively small, it becomes even smaller with each step up the academic ladder. Women are well-represented only among instructors and lecturers, the lowest paid and typically untenured faculty positions, while only one-fifth of associate professors and less than one-tenth of full professors are women.

The virtual absence of women in educational administrative positions is also apparent in collegiate institutions. Nationally only 18 of the 1,350 accredited public colleges and universities identified a woman as president or chancellor. This represented less than two percent of the chief executive officers of public two- and four-year colleges.

Minnesota now has two female college presidents, both in the State University system, among its 30 public higher education institutions. About half of male administrators, but less than one-fifth of female administrators, earn $30,000 or more annually in the state.

In higher education, as at each other educational level, women as students and staff are not only likely to be under-represented throughout the systems, they are also concentrated in traditional female fields. This pattern is beginning to change for female students, but not for female staff. It remains to be seen whether changes in the student population will continue, and whether the status of female staff will eventually improve.

**Male faculty predominates in Minnesota colleges**




*Source: Higher Education Coordinating Board*

# OLDER STUDENTS

**"Actually, the older women in my class contribute more than the younger students. They bring a different perspective, a certain richness of experience, to the classroom."**
*– Community College faculty member*

A striking influx of adult students who are older than what historically has been considered college age is beginning to have a significant effect throughout the higher education system. In only four years, the number of Minnesota students over age 25 has grown from one-fifth to one-fourth of the total post-secondary student population, and currently more than 20,000 of these students are above age 30.

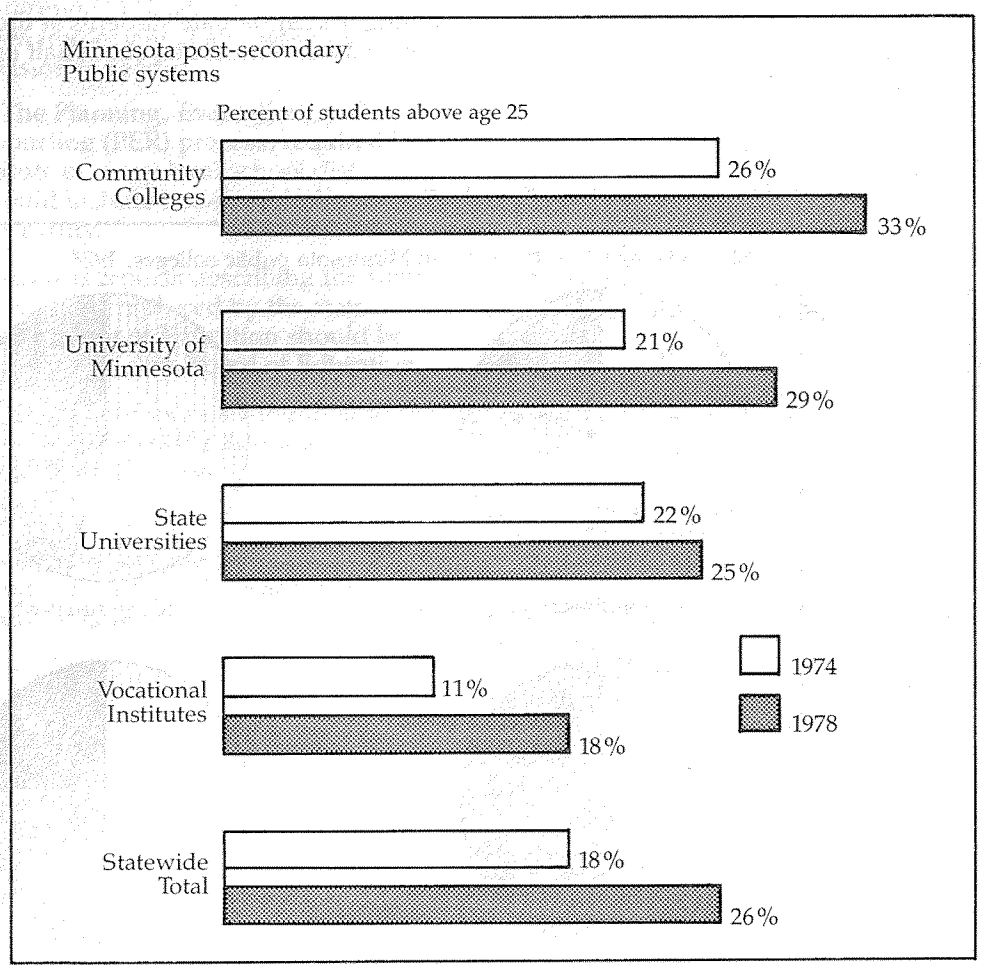
This trend seems likely to continue. As the "baby boom" generation of the postwar era moves into their late twenties and thirties, there will be substantially more persons above age 25 in the population. At the same time, declines in birth rates will result in a decline in the number of young persons of traditional college age.

In addition to these population characteristics, a number of other trends are likely to result in increased enrollments of older students. Greater labor force participation among women, increased job mobility and a growing interest in "second careers," advances and changes in technology and the related need for new kinds of training, all reinforce the concept of education as life-long learning. These trends may encourage institutions of higher education to attract older students and to serve their special needs.

While growing numbers of adult students — those age 25 and above — are evident in all post-secondary systems, their representation varies considerably among Minnesota institutions. The community colleges have the largest proportion of adult students, who account for more than one of three students in this system, while the area vocational-technical institutes have the lowest proportion of adult students.

Particularly strong increases have occurred in the enrollment of adult women, which has more than doubled nationwide since 1972. For men, the trend is less dramatic, with enrollments of men over age 25 up about 34 percent in the same period. While this increase in adult women students has led to a general perception that the women outnumber their male counterparts, both national and Minnesota enrollments are actually evenly balanced by sex — 50.3 percent of Minnesota enrollees over age 25 are women, and 49.7 percent are men.

**Increase in "older" students**




*Source: Higher Education Coordinating Board*

Adult women and adult men are now equally likely to be enrolled in post-secondary schools, and various studies show that both groups have primarily vocational motivations. There are, however, some significant differences between the two groups.

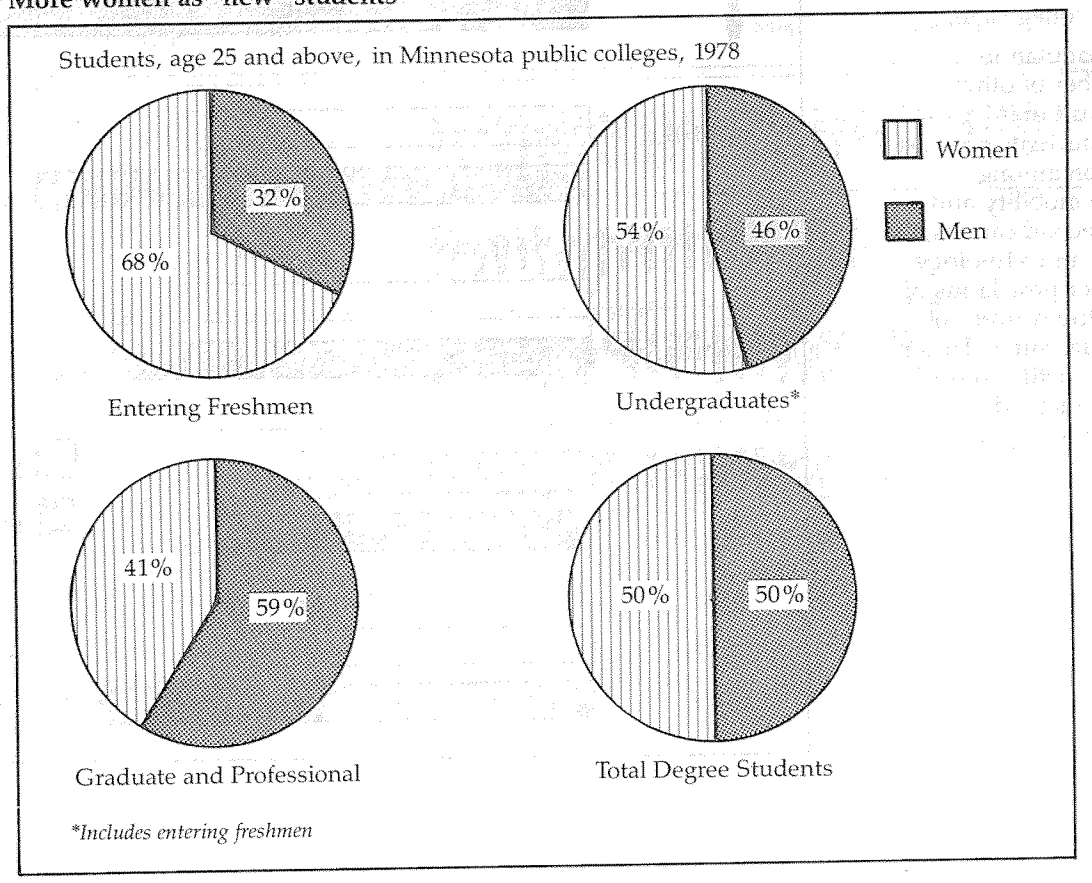
In general, the percentage of adult women is highest at the early levels of education. Of adult students who are freshmen, just beginning a college program, more than two-thirds are women. Adult female students are also more likely than adult male students to be undergraduates, while considerably less than half of adult students working toward graduate and professional degrees are women.

Enrollments of adult women also vary by system. Almost two-thirds of the adult students at community colleges are women, a substantially higher proportion than either the University of Minnesota or the State University System, where less than half of the adult students are women. This may be related to the two-year degree offered by community colleges, to geographical convenience, or to the greater tendency for adult women students to be attending college for the first time.

Adult women are less likely than adult men to be full-time students in all three collegiate systems. Less than one-fourth of adult women at community colleges and state universities are full-time students, compared with 32 percent of adult men in community colleges and 43 percent of adult men at the state universities. Among undergraduate students at the University of Minnesota, about half of the adult women but almost two-thirds of the adult men are full-time students.

Although women continue to leave school for family-related reasons, they appear to be returning in increasing numbers and at later ages. The statistics indicate very clearly that women are more inclined than men to make education a life-long endeavor. The older the student, the greater the likelihood for that student to be female — the percentage of female students over 50 years of age is greater than the percentage of male students of this age in every collegiate system.

**More women as "new" students**




*Source: Minnesota Higher Education Coordinating Board*

# CONCLUSIONS & RECOMMENDATIONS

Equal opportunity in education is fundamental to equality in all other forms of human endeavor. Minnesota has a strong legal and financial commitment to this principle. Yet differential treatment based on sex continues throughout Minnesota's educational systems.

Elementary school textbooks portray more restrictive roles for girls and fewer occupations for women. Girls' high school athletic programs receive a smaller share of financial resources than boys' programs. By the time they graduate from high school, young women score lower than their male classmates on math and science achievement tests, have taken fewer courses in these areas, and lack confidence in their abilities in these and most other subjects.

Women in area vocational-technical institutes are concentrated in programs which are largely or completely segregated. The great majority are being prepared for traditional careers in health care or office work, occupations characterized by low wages. Such programs provide less extensive training and receive a smaller share of financial resources than those which prepare students for traditional men's jobs.

Public colleges and universities are experiencing rapid growth in the enrollment of women. More adult students, including substantial numbers of older women, are returning to formal education. Female students are now only slightly less likely than men to complete undergraduate degrees, and their representation in graduate and non-traditional professional fields is improving. However, women continue to be under-represented at advanced degree levels and in many fields.

- State and federal laws prohibiting sex discrimination, sex bias, and sex stereotyping should be promptly and vigorously enforced. Simple, concise, and comprehensive information about the content of these laws as well as complaint and enforcement procedures should be distributed to all employees, students, and parents.

- Explicit recognition of the changing roles of women and economic implications of educational and employment choices should be provided in recruitment, admissions, counseling and educational materials.

## ELEMENTARY AND SECONDARY EDUCATION

- The 1972 Policy Statement Regarding Sex Discrimination of the state Board of Education should be reviewed to determine to what extent the policy has been implemented and whether revision is needed.

- The Planning, Evaluation, and Reporting (PER) process, required by statute of every local school district, should include issues related to sex equity.

- Annual reports describing the status of women employed by the state Department of Education should be made to the state Board of Education.

- All grant proposals submitted to the state Department of Education should be reviewed to determine their compliance with sex equity policy. Priority should be given to projects specifically designed to enhance sex equity, in curriculum, teaching and counseling techniques, programs such as women's studies, or models for such projects. Emphasis should be placed on statewide information-sharing and implementation of successful pilot projects.

- The following data should be collected on the status of women as students and staff, and reported annually to local boards of education and the state Board of Education: athletic programs, budgets, and participants; enrollments and student achievement by subject area; employment of teachers by subject area and of administrators by level.

- Statewide coordination and technical assistance should be provided for efforts at every level to eliminate sex bias and sex stereotyping, with annual reports and recommendations presented to the state Board of Education.

- Programs should be initiated which will encourage female students to take elective math, science, and industrial arts courses as well as programs to encourage male students to engage in non-traditional courses and activities.

- Local athletic programs should be reviewed to ensure compliance with state and federal anti-discrimination laws.

- Training should be provided to school staff to ensure knowledge of anti-discrimination laws and policies, and to provide the skills necessary to identify methods and materials designed to overcome sex bias and stereotyping.

- Each local school district should have an affirmative action plan which includes realistic goals and timetables and which is regularly reviewed and revised, designed to improve the representation of women as employees and to promote women in a manner commensurate with their presence in the field.

## VOCATIONAL EDUCATION

- "Equity Plans of Action" required of area vocational-technical institutes should also be required for all secondary-level vocational programs.

- Incentives should be provided to business and industry to assist in training and employment of persons choosing non-traditional careers.

- Persons seeking to enroll in programs which are non-traditional for their sex should be given admissions preference on AVTI waiting lists and financial assistance on a priority basis.

- Persons who qualify for the state Displaced Homemaker Program or the Aid to Families with Dependent Children (AFDC) Program should be given admissions preference on AVTI waiting lists and financial assistance on a priority basis.

- The needs of non-traditional students and of other special populations should be addressed in all training and support programs. Funding should be provided for child care, supplementary training, and flexible class hours.

- In-service training should be provided to AVTI staff to ensure knowledge of sex equity laws, and to provide the skills necessary to identify methods and materials designed to overcome sex bias and stereotyping.

- Pilot projects for team teaching in heavily segregated programs should be funded to determine the impact on non-traditional students.

- Vocational training programs should be evaluated on the degree to which those who complete the programs become economically self-sufficient.

## HIGHER EDUCATION

- Active recruitment should be undertaken to encourage women to enroll at graduate and advanced degree levels and in non-traditional fields.

- Financial aid programs should be analyzed for their impact on older students, part-time students, and married students. Information about financial assistance should be widely available throughout the state.

- Funding should be continued and expanded for women's studies programs on all campuses and in all collegiate systems, and for programs designed to incorporate materials developed by women's studies departments into other curricula.

- The following data should be collected and presented annually to the governing boards of each system and to the Higher Education Coordinating Board: employment of administrators, including job titles and salary levels; participation in collegiate athletic programs, including participants, activities, and budgets; employment of faculty, including average salary and level; student enrollments, including degrees awarded by subject area and level.

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This is the sixth in a series of reports by the Council on the Economic Status of Women, 400 SW State Office Building, St. Paul, MN 55155