This publication examines the changes in the roles of women and men and what these changes mean for the future of schools—for educational quality and opportunity and for educational decision making. Women comprise more than 44% of the paid work force. It is estimated that by the year 2000, if not before, work force participation rates of women and men will be equal. Despite women's increasing participation in the work force, the incomes of employed women remain lower than those of employed men. Women are increasingly heading families. The "typical" American family—father employed outside the home and mother working inside the home caring for two children—now constitutes only seven percent of all families in the nation. Eighty-seven percent of all single parent families are headed by women. Families headed by women are more likely than others to live in poverty. Despite tremendous increases in women's participation in the paid work force, the majority of Americans still work in sex-segregated worlds. The publication then goes on to discuss the role that education plays in maintaining or eliminating these patterns of sex discrimination. For some ethnic groups, females are less likely than males to complete secondary school. Sex-stereotyped roles for females and males are reinforced in elementary and secondary schools by textbooks, by teacher-student interaction, by counseling and counseling materials, and by role models presented to students. There is also discrimination at the postsecondary level. If equity for females and males is to be achieved, there must be a consensus among educators and community members as to its importance. Goals for achieving sex equity must be articulated and models for program implementation must be developed. Financial and human resources for sex equity must be allocated. Educational personnel must be trained. Monitoring and reinforcement systems should be developed and maintained. (Author/RM)
FACING THE FUTURE . . .

Education, Society, and the Changing Roles of Women and Men
These are some of the faces of students today.
What awaits them tomorrow and in the years ahead? What futures will they face in schools, at work, in families, and in society? What similarities and differences can be expected in the lives of girls and women and the lives of boys and men?

Education is one of the institutions which can help to insure that the futures of these students are not limited by stereotyping, segregation, and discrimination based on sex. Education will make a difference in the lives of these young women and men and the lives of others like them.

Will it be a positive difference?
One critical pattern which affects the lives of each of us today and will affect the lives of our students for years to come involves the changing roles of women and men in our society. Many educational leaders have experienced aspects of these changing roles in their own family or professional relationships. Others are familiar with these changes primarily as they have stimulated the revision of textbooks, the modification of athletics programs, or the reevaluation of vocational education services. Some associate these changes with federal and state legislation prohibiting sex discrimination in education, while others see their effects in the number of students whose mothers work for pay outside the home.

What are the roles of women in these pages? What do they mean for the futures of students for education opportunity and decisionmaking in society?

Most Americans in general terms associate these changes with the lives of women in the century.
Changes in the roles of men and women for the future have been pictured on many occasions. What do they mean for our schools—quality and educational opportunity? What do they mean for our families?

We have heard, if only we listened, at least four major changes in the turn of the new century. Many, however, seem to have been ignoring the specifics of these changes with their possible implications for our children.

1. Women are entering the paid work force.
2. Women are becoming more involved in family decision making.
3. Women are becoming better educated.
4. Women are becoming more involved in public life.

1. Women are entering the paid work force.
2. Women are becoming more involved in family decision making.
3. Women are becoming better educated.
4. Women are becoming more involved in public life.
"Work roles are changing rapidly, and the options opening up evoke mixed emotions of elation and fear. The transition of women's work from the home to the market place marks one more step in the process of advanced industrialization. Within this context, women's market work can be viewed not only as a means of further increasing the material well being of their families, but it can be viewed more broadly as a step toward achieving a balance between the sexes in all work roles.

Although family life may determine a woman's career choice, she may be responsible as well. Because the occupation of homemaking demands one's full attention and energy, the women who choose it should be recognized as having achieved an equal status in the labor market for all adults, as has been suggested in the past. The family, however, needs a counterpoint from another role, such as that of the market place. The family institution, necessary for raising children, must evolve to meet the new needs of its members. For example, in the nuclear family, the husband must be willing to change his role to incorporate more household responsibilities... Only one outcome is certain: women's desire to work outside the home will change men's work roles as well as women's. Until working wives can persuade their husbands to share their time more evenly between paid labor and work in the home, the two-earner family will continue to show signs of strain caused by too much paid work and too little time devoted to homemaking.

(from "Women's Economic Contribution to the Family," in The Subtle Revolution, Ralph E. Smith, Editor, Washington, D.C.: The Urban Institute, 1979, pp. 198-200.)

Dr. Alan Peter
President
The Carnegie Corporation

"It is as it seems, the conclusion is valid that the working woman is now a fixture in American life, that most possible futures can be envisioned. The most realistic suggests that the present situation will simply be allowed to drift on. In time, after decades have elapsed, a new generation has reached maturity, much additional hardship has been suffered, and a good deal of militant social action by women has taken place; the nation in both its public and private sectors will perhaps yield to the pressures and make fundamental changes.

"An alternative future, designed to avoid the hardship and social unrest the first course would cause, envisages the nation setting out now to remedy the defects of the present situation and, in the process, to work toward the creation of a new type of society..."

"The new society would have the aim of greater occupational equality and freedom of choice for men and women in the work place. It would assume cooperation between men and women in the sharing of family responsibilities. It would entail better articulation than now exists between work and home life and between work and education. It would permit flexibilities in the amount of time an individual might allocate to education, work, family life, and leisure at any age during the course of a lifetime.""
11 leaders are among the two futures by Dr. Pifer will come characterized by hardship resulting from inequity, or the which equity and can provide new policies for all individuals, male and female. Policy from federal and state agencies, members of local boards of governors and state leaders, and leaders from associations and organizations are determining the future of our society. They

The examination of changes occurring in the lives of women and men

Examining the implications of changes for the lives of females and males and the future of our society

Setting goals for the development of quality education which meet the changing needs of females, males, and our society as a whole

Focusing and supporting the development of programs which can provide more equal educational opportunity for girls and boys and women and men from all groups in our society

To insure that education will make a positive difference for students, educational leaders are familiarizing themselves with basic facts regarding the lives and experiences of females and males in the paid work force, in the family, and in schools.
FACING THE FACTS...

About Females and Males in:

* the paid work force
* the family
* education
Many people considering questions related to equity for females and males in the paid work force, in the family, and in schools think first of individual examples of change or of particular "success stories." Media attention has often focused on such "firsts" as the first Black female Cabinet officer, the first female President of the University of Chicago, the first female coal miner or fire fighter, the first young girl to play Little League baseball, or the male network television newscaster who worked at home to care for young children while his wife returned to school to obtain a law degree.

Most educators are aware of recent notable changes in female and male participation in education programs and activities. For example:

- Census figures show that in 1979, for the first time since the Second World War, women outnumbered men as college students.³

- Between 1970 and 1978, the percentage of first professional degrees in medicine awarded to women increased from 9 percent to 22 percent; in law, this increase was from 5 percent to 26 percent.⁴

- While young women were only 7 percent of all students participating in interscholastic athletics in 1970-71, by 1977-78 they were 32 percent of all participants.⁵

- Between 1969 and 1978, the percentage of students in homemaking courses who were males rose from 5 percent to 17 percent.⁶
National leaders have themselves initiated efforts to eliminate sex roles in the curriculum, and to modify personnel policies and practices to eliminate based on sex.

Indications of change and progress are important to recognize. They indicate that some individuals, both female and male, are benefiting from roles new to their sex. They also reflect some institutional adaptations to new roles of females and males.

It is important to recognize, however, that increased opportunity for some may not reflect the availability of similar experiences for the majority. Changes occurring in one institution of society may not be accompanied by complementary changes in other sectors or institutions.

A complex, less optimistic picture emerges from a closer look of some facts: first, about women and men in the paid work force and in the family, and second, about females and education.

FACTS ABOUT WOMEN AND MEN IN THE PAID WORK FORCE

Women are increasingly entering the paid work force.

- Women comprise more than 44 percent of the paid work force; 51 percent of all women over age 16 work outside the home for pay.\(^7\)
- It is estimated that by the year 2000, if not before, work force participation rates of women and men will be equal.\(^8\)

While minority and poor women have historically had high rates of work force participation, such rates are now characteristic of women from all racial ethnic groups.

- In 1979, the percentage of women age 16 and older in the paid labor force was:\(^9\)
  - 44 percent for American Indian/Alaskan Native women
  - 58 percent for Asian American women
  - 53 percent for Black women
  - 47 percent for Hispanic women
  - 51 percent for white women

Under 1970 conditions, the worklife expectancy of a woman who marries at a typical age (20 years) and has an average number of children (two) at normal spacing intervals (when she is 22 and 25 years old) is 33.9 years.\(^7\)

Despite women’s increasing work force participation, the incomes of employed women remain lower than those of employed men.

- In 1979, the median earnings of women employed year round full-time were approximately 60 percent of those of men. This ratio has remained unchanged.
it has declined since the mid 1950's, when women's earnings were relatively 63 percent of men's.11

College graduates earn less than men with an 8th grade education.12 Women earn less than any other group of workers. In 1977, the income of white male workers was $15,230; for minority males, $11,053; females, $8,787; and for minority females, $8,383.13

In the same occupational groups, women earn less than men. In 1979, the ratio of women's earnings relative to those of men in the same occupational groups as follows:14

<table>
<thead>
<tr>
<th>Occupational Group</th>
<th>Women's Earnings Relative to Men's</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional and technical workers</td>
<td>70%</td>
</tr>
<tr>
<td>Managers and administrators</td>
<td>60%</td>
</tr>
<tr>
<td>Sales workers</td>
<td>52%</td>
</tr>
<tr>
<td>Clerical workers</td>
<td>63%</td>
</tr>
<tr>
<td>Craft workers</td>
<td>61%</td>
</tr>
<tr>
<td>Laborers</td>
<td>61%</td>
</tr>
<tr>
<td>Service workers</td>
<td>68%</td>
</tr>
</tbody>
</table>

For increasing numbers, women workers remain concentrated in low paying men's occupations.15

38 percent of all women workers were employed as clerical and sales workers. In factories, or as service workers. In 1950, these same women were employed 76 percent of all women workers.15

Men and women are employed in different occupational groups. For example:
- 38 percent of male workers are employed as managers; only 5 percent of female workers are so employed.
- 28 percent of employed women work in clerical positions; only 6 percent of employed men work in these positions.
- 57 percent of male workers work in craft occupations; less than 2 percent of female workers hold such jobs.
- 9 percent of women in the work force are employed as service workers; only 4 percent of employed men are service workers.16

The occupational groups in which women are concentrated are lower-paid than those in which men are concentrated. For example, the median income of male managers was $18,914 in 1978; the median income of male craft workers was $14,837. In contrast, the median income of female clerical workers was $8,440; the median income of female service workers was $6,218.17

Even in those occupational groups which employ approximately equal percentages of women and men, women and men tend to work in different jobs. Jobs in which men predominate are higher paying than those in which women predominate.18

Professional and technical workers constitute 15 percent of all employed men and 16 percent of all employed women. Males in this category are most likely to be employed as engineers, while females are most likely to be elementary or secondary school teachers.

Sales workers constitute 6 percent of all employed men and 7 percent of all employed women. Males are likely to be employed in wholesale trades, females in retail trades.
Families depend on women's work not only for services provided in the home but also for substantial economic contributions.

- It is estimated that in the "average" family, the services provided by women working full-time in their homes would cost approximately $35,000 per year if obtained commercially.

- In 1978, the average employed wife contributed:
  - 38 percent of her family's income if she was employed for pay year-round and full-time
  - 25 percent of her family's income if she worked for pay part-time outside her home

Four of every ten children under six years of age have mothers in the paid work force.

- 47 percent of all white children and 64 percent of all black children under 18 years of age have mothers who work for pay outside the home.

- 2 out of 10 white children and 5 out of 10 Black children are totally or partially dependent on their mother's earnings for support; their fathers are unemployed, not in the labor force, or absent.

One in five families with children under 18 years of age is headed by a single parent, usually a woman.

- Approximately 1 of every 7 such white families is headed by a single parent; for Hispanic families, the number is 1 of every 4; for Black families, nearly 1 of every 2.

- 87 percent of all single-parent families are headed by women; fewer than 1 in 5 of these families is headed by a woman who has never married.
across children under 18 years of age have incomes
among families headed by white females, the figure
headed by Black females, this figure is 38 percent
of families are below the poverty level, 42 of every
est by women and 11 of every 100 such families

A Council on Economic Opportunity predicts that if
the, "the poverty population will be composed solely of
lives by about the year 2000."
The economic costs of childrearing are escalating in today's society:

- It is estimated that the costs of rearing one child amount to approximately $14,200 if a family's annual income after taxes is between $10,500 and $13,500; if annual after tax income is between $16,000 and $20,000, the costs of rearing one child increase to approximately $64,200.

- Costs of childrearing are increased if a mother remains in the home full-time until her child is 14 years old; if a mother has an elementary school education, her lost earnings amount to approximately $75,000; if she has a post-graduate degree, her lost earnings amount to $155,000.
The occupations in which women predominate are lower-paying than those in which men predominate. Women are not able to increase their earnings relative to men simply by completing more years of education, since women college graduates earn less, on the average, than men who have completed the eighth grade.

As the divorce rate increases, and with it the percentage of families headed by women, this pattern of sex-differentiated occupations and earnings affects the livelihood both of women and of the children who depend on them for support. Female-headed families are more likely than others to live below the poverty level, with diminished access to housing, health care, education, and job opportunities.

Because women's work within the home remains unrecognized financially, full-time homemakers who are left alone as a result of separation, divorce, or the death of a spouse may find themselves without minimal financial security.
sex segregation in work functions to the personal disadvantage of men as individuals.

In the paid work force and the home limits the options of both men. It prevents both from making work decisions based on interests, abilities, and needs, rather than in conformity with sex which ignore such individuality.

Sexes of paid work and work inside the home are shared more men and men and valued more equally by our society, many experience personal stress. Working women with families must experience responsibility of work outside the home and the majority of work one. Men who until recently have been the sole breadwinners for experience confusion as this socially accepted “male role” is altered positive roles have taken their place. Men, and sometimes women, work full time at home rear children and caring for their families by many as doing work which is less valuable than that in the paid. Women and men who choose occupations which are not traditional continue to face barriers which have little to do with their individual

sex segregation in work functions to the disadvantage of our society.

Activity and growth, all our social institutions must be able to draw resources of our population. Segregation and stereotypes based on ethnicity limit the development and participation of large numbers deny our society the full employment of its talent. Increased by women throughout the paid work force is one step toward the increased participation by men in and in occupations nontraditional for their sex is another.

WOMEN AND MEN IN THE WORK FORCE AND IN THE FAMILY—THE ROLE OF EDUCATION

What role does education play in maintaining or eliminating such patterns of sex segregation as exist in the paid work force and in family organization?

During these times of rapid and uneven social change, the roles expected of education are somewhat paradoxical. First, education is expected to function as an agent of social continuity, transmitting the knowledge, experience, and values of the past. Second, education is expected to function as an agent of social progress, anticipating the evolution of society and providing students with the knowledge, skills, and values appropriate to the society of the future.

An examination of some of the facts regarding the participation and experiences of females and males in education suggests that education, like other institutions, continues to transmit past assumptions regarding female and male roles in many ways. Despite the significant developments described earlier and the effort and commitment of many leaders, education is not yet providing young women and young men with the diversity of knowledge and skills which they will need to create and participate in a future without some of the hardships of the sex-segregated past and present.
Sex stereotyped course enrollment patterns are characteristic of both college-bound and non-college-bound students.

- A national study of college-bound seniors in 1977-78 indicates that:
  - 65 percent of the males and only 45 percent of the females had
    completed the four or more years of mathematics which are prerequisite
    to enrollment in college calculus and admission to a large number of
    scientific and technical majors
  - 30 percent of the males and only 16 percent of the females had
    completed three or more years of physical science
- National statistics on vocational education enrollments in 1977-78 document that:
  - 35 percent of all females enrolled in vocational education programs are
    enrolled in consumer and homemaking courses which do not prepare
    them for paid employment; only 9 percent of all male vocational
    students are enrolled in courses in this area
  - of all women enrolled in vocational programs which prepare students for
    paid employment, almost one-half are enrolled in a single program area—
    office occupations; only 10 percent of all male vocational students are
    enrolled in this program area
  - seven of the eight major vocational education program areas (all except
    distribution) have enrollments which are 75 percent female or 75 percent
    male; females are more than 75 percent of the students in four program
    areas—consumer and homemaking, occupational home economics,
    health occupations, and office occupations; males are more than 75
    percent of the students in agriculture, technical, and trade and industrial
    program areas
  - although in recent years increasing percentages of students have enrolled
    in "mixed" vocational education programs (programs in which between
    25 and 75 percent of the students are of the opposite sex), many
    programs remain highly sex-segregated, enrolling more than 90 percent
    same-sex students.
Female students are more than 90 percent of the students enrolled in traditionally "female" courses in business and office occupations, health occupations, and such "feminine" trade occupations as cosmetology. Such traditionally "male" trade and industrial programs as carpentry and masonry, females comprise slightly over 6 percent of all students; in such traditionally "male" technical programs as electrical or mechanical technology, females comprise less than 2 percent of all students.

Gender patterns are also evident in measures of student achievement. Results from the National Assessment of Educational Progress\textsuperscript{41} show that:

- Males generally do better than females in four major subjects—mathematics, science, social studies, and citizenship.
- In the other four learning areas, females consistently outperform males in two (writing); maintain a slight advantage in one (music); and in the remaining two (reading and literature) are above male achievement levels at age nine, then begin to decline until they lag behind males by young adulthood.

Male superior areas (mathematics, science, social studies, and citizenship), females and males at age nine demonstrate fairly equal achievement levels; by age 13, however, females begin a decline in achievement which continues through age 17 and into adulthood.

Young women make better high school grades than young men, their scores on the Scholastic Aptitude Test are lower than men's on both verbal and mathematics scales.\textsuperscript{42}

Current knowledge about possible sex differences in basic intellectual abilities suggests that such sex differences are not sufficient to explain the extent and degree of these sex stereotyped patterns of educational participation and achievement.

A recent review of available research on possible sex differences in intellectual abilities\textsuperscript{43} concludes that:

- There are no differences between females and males in basic learning styles: both sexes are equally able to perform rote learning tasks and tasks requiring higher level cognitive processing.
- Girls receive higher average scores on measures of verbal abilities than boys, beginning about junior high school age.
- Boys receive higher average scores on spatial visualization (the ability to rotate mentally objects in space) than girls, again beginning about the junior high school years; at least one study suggests that this difference disappears when the number of years of mathematics completed is equal for students of both sexes.

Explanations have been considered for these patterns. While they are the result of many complex and interrelated factors, several reasons can be made.
exception of these two differences, there appear to be no other


differences between females and males in intellectual abilities.


rences which do not exist are average differences; there is much

between females and males in both areas.


ose differences which do exist, there is no agreement as to source;

possible causes, both social and biological, have been suggested.


dicated patterns of educational participation and achievement may

measure from socialization which perpetuates cultural stereotypes

te roles, behaviors, and abilities for females and males.


c of reasons have been suggested for the early performance deficit of

aching achievement. These include differential maturation rates of

ales, reader content, and negative treatment by female teachers.

earch suggests that cultural expectations regarding male roles may

anct factor. In our society, where the male role is physically active

ward external achievement, more sedentary pursuits such as

ay be perceived by young boys as "feminine." In Germany, where

d scholarship are valued as "masculine" activities, young boys

ng girls in reading achievement.66


is in mathematics achievement emerge at an age when parallel

ures are seen in the percentages of females and males perceiving

ics as interesting and likely to be helpful in career fields, and as an

e area for female achievement.66


x stereotyped roles for females and males are reinforced by elementary and

terary schools in a number of ways.


For example:


BY TEXTBOOKS


In 1972, a study of 134 elementary school reading texts indicated that boy-

centered stories outnumbered girl-centered stories by a ratio of 5 to 2. Males

 outnumbered females by 4 to 1 in the possession such active mastery traits as

cleverness, persistence, heroism, creativity, and adventurousness. Females

consistently outnumbered males on such traits as dependency, passivity,

incompetence, and fearfulness. In the 67 stories in which one sex demeaned

the other, girls were demeaned 66 times, boys twice.66

A 1974 examination of the presentation of females and males in illustrations in

elementary school texts documented significant differences by subject area and

d grade level. While, overall, women appeared in 31 percent of the illustrations,

they were:

— included most often in social studies texts (in 33 percent of the

illustrations) and least often in science texts (in 26 percent of the

illustrations)

— included most often in early grades, appearing 32 percent of the time

in 2nd grade illustrations but only 20 percent of the time in 6th grade

illustrations67

A 1975 study of state-adopted reading texts found little difference between 1975

editions and those published earlier. In the texts sampled:

— males appeared in 134 different career roles; majority males

 outnumbered minority males 7 to 1

— females appeared in 31 different career roles; majority females

 outnumbered minority females by more than 3 to 1
— many of the career roles with which they associated, although females were present, appeared frequently as godesses, were presented in domestic roles, and were similarly stereotyped.

A recent study of the portrayal of women in the "mainstream" of history. Editions of texts originally examined every 500-800 pages was devoted to women, in 1978 editions this ratio had decreased. The researchers concluded that although women in the "mainstream" of history and cultural history.49
BY TEACHER-STUDENT INTERACTION

- Observations in elementary school classrooms indicate that boys receive more teacher attention than girls in every category of classroom interaction: active instruction, listening, praise, and punishment.\textsuperscript{50}

- It appears that the types of behavior which elicit teacher feedback in elementary classrooms differ for boys and girls:
  - boys receive most of their negative feedback for nonacademic behavior (e.g., making noise) and most of their positive feedback for academic performance
  - girls are most likely to receive negative feedback for their academic work and positive feedback for nonacademic behavior (e.g., being neat)\textsuperscript{51}

- Differences in teacher-student interaction patterns may contribute to sex differences in students' beliefs regarding the causes of their successes and failures and in their willingness to take on new challenges:
  - girls are likely to attribute their failures to lack of ability and their successes to hard work
  - boys are likely to attribute their failures to lack of hard work and their successes to their own abilities\textsuperscript{52}
• Women are also underrepresented in educational governance. They are approximately 21 percent of all members of local boards of education and approximately 30 percent of all members of state boards of education.  

IN POSTSECONDARY EDUCATION

Despite the fact that in 1979, women were 50.7 percent of all students enrolled in college, women have not yet achieved equal participation with men in postsecondary education. Women's majority enrollment is largely accounted for by the increasing participation of women over 35 years of age as part-time students, men remain the majority of full-time students.  

In most ethnic groups, women are less likely than men to complete four years of college.  

<table>
<thead>
<tr>
<th>Group</th>
<th>Percentage of population completing college as of 1976</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
</tr>
<tr>
<td>American Indian/Aleut &amp; Native</td>
<td>8%</td>
</tr>
<tr>
<td>Black American</td>
<td>11%</td>
</tr>
<tr>
<td>Mexican American</td>
<td>11%</td>
</tr>
<tr>
<td>Japanese American</td>
<td>53%</td>
</tr>
<tr>
<td>Chinese American</td>
<td>66%</td>
</tr>
<tr>
<td>Puerto Rican</td>
<td>34%</td>
</tr>
<tr>
<td>Puerto Rican</td>
<td>34%</td>
</tr>
<tr>
<td>Majority American</td>
<td>34%</td>
</tr>
</tbody>
</table>

Of students with ability to do college work, men are more likely than women to attend and graduate from college.  

Research estimates that:  

• Of students capable of college level work, 65 percent of the men enter college and 45 percent graduate. Among women of comparable ability, only 50 percent enter and 30 percent graduate.  

...
...ents in the top ability quartile and the lowest socioeconomic quartile, 25
out of the males and 40 percent of the females fail to enter college.82

participation in postsecondary education decreases relative to men's at
two levels of education.

secondary occupational education programs in 1977, women were:
- 56.6 percent of all students completing 1-2 year programs
- 47.9 percent of all students completing 3-4 year programs

3, there were:
- 92 women per 100 men in years 1 and 2 of college
- 84 women per 100 men in 3 and 4 years of college
- 80 women per 100 men in graduate study

7, women received:
- 46.2 percent of all bachelor's degrees
- 47.1 percent of all master's degrees
- 24.3 percent of all doctoral degrees
- 18.7 percent of all first professional degrees

Educational goals of college-bound high school seniors in 1971 suggest that
patterns may continue:
- 41 percent of the males and only 34 percent of the females expressed an
intention to complete degrees at the bachelor's level or less
- 45 percent of the males and only 37 percent of the females indicated
their desire to obtain master's, doctoral, or first professional degrees

Sex stereotyped patterns of participation exist within occupational education
programs at the postsecondary level.

- Women were the majority of students in two of the six major fields in 1977:
  health services (87 percent female) and business technologies (56 percent
  female). Women were 43 percent of the students in data processing, 40 percent
  of the students in public services, 34 percent of the students in natural science
  technologies, and only 4 percent of all students in mechanics and engineering.

Sex stereotyped patterns are apparent in the fields of study in which females and
males predominate in higher education; they increase with progressive levels of
study.

In 1977:
- Women received more than 50 percent of all bachelor's degrees awarded in 9
out of 24 fields: area studies, education, fine and applied arts, foreign languages,
  health professions, home economics, letters, library science, and psychology.
- At the master's level, women predominated in degrees awarded in 7 of 24
  fields, all of which are traditional for women: education, fine and applied arts,
  foreign languages, health professions, home economics, letters, and library
  science. With the exception of health professions, none offers good
  employment prospects.
- At the doctoral level, women predominated in only 3 of 24 fields: home
  economics, foreign languages, and library science. Each of these fields accounts
  for only a small percentage of the total number of doctoral degrees awarded.
- Of first professional degrees awarded in 1978, women received:
  - 11.2 percent of all degrees awarded in dentistry
  - 26.0 percent of all degrees awarded in law
  - 21.5 percent of all degrees awarded in medicine
The preceding stereotyping was also apparent in
EDUCATION—
PRETATIONS

Sex segregation and sex
and family organization are

Elementary-secondary education, like other institutions in our society, frequently
perpetuates sex-stereotyped images of female and male roles.

Sex-stereotyped images of appropriate academic, career, and family roles for
females and males are conveyed, both explicitly and implicitly, in elementary-
secondary education. Through textbooks and curriculum, teacher-student
interaction, counseling and counseling materials, and the role models provided by
education personnel, students receive messages which reinforce the primary
importance of mathematics, science, academic achievement, leadership, and
career success for men and boys, while conveying their lesser importance for
women and girls. When males receive greater attention than females from
classroom teachers and when textbooks focus almost exclusively on male
achievements and contributions, assumptions about the role and importance
of women are implicit: students learn that the primary role of women, the role
to which other roles must be subordinate, is childrearing and family
maintenance; that family and childrearing are of secondary importance
in the lives of men; and that traditional "male activities" in the paid
work force are more highly valued by our society than traditional
"female activities" in the home and family.

The influence of such sex stereotypes is visible in sex-differentiated patterns of educational achievement and
participation; these patterns are not satisfactorily explained by
present knowledge of possible sex differences in basic abilities.

Differences in female and male achievement and participation in
education have traditionally been interpreted as indicative of the
validity of stereotyped images of females and males. Recent
research suggests, however, that these stereotypes may
themselves contribute to the very differences in educational
achievement and participation which have been perceived as
indicators of their validity. For example, males generally take
more mathematics than females in secondary schools, perform
better than females on measures of mathematics achievement
and skills, and demonstrate superiority to females on the math-
related ability of spatial visualization. The difference between
Spatial visualization may disappear, however, when the number of mathematics completed is equal for students of both sexes. Females' equalization in secondary school mathematics is discouraged by elementary mathematics textbooks in which girls appear less often than boys, by the typified perception of many counselors (as well as teachers, parents, and many girls themselves) that mathematics is not important for female career patterns. Sex stereotyping and sex differentiation in education function to the particular disadvantage of females, who emerge from elementary-secondary education at a disadvantage relative to males in basic skills, in academic options and opportunities, in vocational and career opportunities, and in anticipated economic achievement.

Completion of secondary education, females as a group lag behind males in nearly all measures of basic verbal and mathematical skills. This deficit in performance is of particular concern in light of research which suggests females are superior to males in basic verbal abilities. Female academic options are limited as insufficient preparation in high school mathematics restricts their entry into college majors and occupational education in scientific and technical fields. As high school seniors, young women are less likely than young men to aspire to degrees beyond the graduate level. Vocational education programs in which young women predominate channel a limited number of traditional "women's occupations" with projected employment opportunities lower than those in occupations for which women are prepared. The high school course enrollment patterns of college-bound males help to direct them toward higher education programs for which their potential and financial rewards are limited.

According to current trends, large numbers of young women now in college will be responsible for the financial support of themselves and their children. The potential effects of these disadvantages extend beyond this generation. Not only will individual women experience personal and financial harm resulting from these disadvantages, but their children will be more likely to suffer the limiting and debilitating effects of poverty, including educational achievement.

Sex stereotyping and sex differentiation in education are not consistent with the needs of females, males, and our society.

Sex stereotyping and sex differentiation limit the development of students of both sexes. They deny both females and males the opportunity to explore, discover, and develop their own individual abilities and interests; to understand the complexity and diversity of women and of men; to appreciate and respect the historical and contemporary contributions, perspectives, and concerns of both sexes. They deny students the opportunity to gain experience in working cooperatively with individuals of both sexes in a variety of situations, and to acquire the flexibility and the range of skills necessary to function effectively in our changing society and its changing roles and institutions.

Sex stereotyping and sex differentiation in education deny our society access to and full employment of the talent and resources of our population. They limit women's participation in and contributions to the paid work force, and they limit men's participation in and contributions to the home and family. By so doing, sex stereotyping and sex differentiation increase the institutional stress on families, stress which has profound implications for women, men, children, education, and the society as a whole.
Stereotyping and sex differentiation undermine the efforts of educators to provide high quality, equitable education.

Quality, equitable education cannot be attained when sex stereotyping and sex differentiation limit the development of students and the access of our society to a significant portion of its human resources. If the commitment of educators to a vision of high quality, equitable education is to be fulfilled, renewed and extended efforts to eliminate sex stereotyping and sex differentiation will be required.

A society characterized by rapid and continuing changes in the roles of females and males within its various institutions, high quality, equitable education will be a reality only when all groups—females and males from all racial-ethnic and socioeconomic groups—are provided educational experiences which:

- equip them with the highest-level basic verbal and mathematical skills consistent with their individual abilities;

- prepare them for life-long employment as economically self-sufficient members of the paid work force;

- prepare them to assume the range of responsibilities involved in work and family maintenance, including the day-to-day rearing of children and the provision of economic support for other family members;

- provide them the skills and attitudes necessary for working cooperatively with both same-sex and opposite-sex persons in the paid work force and the home;

- enable them to recognize and respect the historical experiences, contributions and the current concerns and perspectives of females and males from diverse racial-ethnic, cultural, and family backgrounds;

- enable them to explore and recognize their individual abilities, strengths, needs, and values, and to make academic, career, and personal decisions consistent with this self-knowledge and an informed understanding of the changing societal roles and expectations which will shape their futures.

If education is to make a positive difference in the future of students and our society, leaders in elementary-secondary education must redouble past efforts to achieve high quality, equitable education for girls and boys, and women and men.
FACING THE RESPONSIBILITY . . .

Achieving High Quality, Equitable Education for Females and Males—The Role of Leaders in Elementary-Secondary Education
BUILDING A CONSENSUS

If equity for females and males is to be achieved in education, there must be a consensus among educators and community members as to its importance. Too often, the importance of sex equity efforts is perceived primarily as a matter of compliance with federal law—Title IX of the Education Amendments of 1972, Title VII of the 1964 Civil Rights Act (which, as amended, prohibits discrimination in the employment practices of education agencies and institutions), and Title II of the Education Amendments of 1976 (which establishes priorities for the elimination of sex stereotyping in vocational education programs receiving federal funds). While these laws establish minimum compliance standards which have stimulated some efforts, they have not helped all educators and...
members to understand the importance of sex differences in educational achievement and the elimination of sex stereotyping and sex differentiation in education is in many cases a particularly important leadership challenge. Current patterns of educational achievement and success are the result of many years of sex stereotyping and inequitable treatment; these patterns cannot be modified simply by the implementation of "equal opportunity"-open enrollment courses and programs for both males and females. While equal opportunity is an important and necessary first step, it must be augmented by sex equitable practices which can stimulate all students to take advantage of this opportunity. Sex equitable practices can help students to learn to challenge sex stereotyping and to understand its influence on their own learning. These practices can provide students with support for new options, and they can help students to acquire the full range of human skills and experiences they will need for future success.

Educational leaders can employ personal influence and organizational resources to emphasize the importance of eliminating sex differences in educational achievement as a means of expanding individual options for all students, thereby increasing the human resources available to our society. Discussions with colleagues and constituents, public and legislative hearings, articles in agency or organizational publications, and presentations at professional meetings are all examples of strategies which are often employed by educational leaders to build consensus. These strategies and others may be utilized to build support for a variety of programs to promote equitable education for all students.

INCREASING UNDERSTANDING

An understanding by educators and community members of the operation and effects of sex stereotyping and sex differentiation in education can both contribute to a consensus regarding the importance of their elimination and provide guidance for the development of new programs and the assessment of their effectiveness. The kinds of existing data presented on preceding pages (as well as many others) can be communicated and interpreted by educational leaders to increase such understanding.

Because current data leave unanswered many important questions, support for further research will be required if educational equity is to be achieved. For example, much research remains to be done on the possible interaction of racial-ethnic and sex differences in educational achievement and on the possible sources of such differences in the educational experiences of students.

Educational leaders can work to incorporate meaningful sex equity components in current and projected data acquisition systems. Legislative programs at the federal and state levels and funding priorities for research and development of programs and policies to encourage further research and documentation relevant to educational equity for females and males. Leaders in elementary-secondary education can work cooperatively with their colleagues in higher education and other research institutions to identify and address research needs in this area.

ARTICULATING GOALS

The articulation and communication of specific goals for achieving sex equity provides educational leaders with a means of directing efforts and organizing resources within education agencies and institutions and within the community at large. These goals may be articulated in federal and state legislation; in program planning priorities at the federal, state, and local levels; in standards for the accreditation of schools, the certification of education personnel; and the adoption and/or recommendation of textbooks and curriculum materials; and in the organizational priorities of professional organizations. The most meaningful goals for achieving educational equity are those which are specific to the needs and resources of particular agencies or groups, and which are consistently communicated through formal policy and publications and through the actions of educational leaders.
SUPPORTING AND STIMULATING MODEL DEVELOPMENT AND PROGRAM IMPLEMENTATION

The translation of sex equity from goals to reality will require the development of specific "how-to" models which can be disseminated, utilized, and adapted by educators, and the implementation of sex equity programs which are defined by specific objectives, observable outcomes, staff responsibilities, and timelines. Model development and program implementation will be required throughout all areas and levels of education: sex equity will be achieved only when equity concerns are defined and infused throughout all structures and operations of education.

Educational leaders may support the development of sex equity models and the implementation of sex equity programs in a variety of ways: through the provision of financial incentives for the development of exemplary programs, through the establishment by federal and state agencies of requirements for local equity plans and procedures, and through the modeling by educational leaders of sex equity programs within their own agencies, institutions, or organizations.

OBTAINING AND ALLOCATING FINANCIAL AND HUMAN RESOURCES

As financial resources for education become increasingly limited, many educational leaders are reevaluating program priorities, reallocating fiscal and human resources, and working to increase the cost-effectiveness of education programs. Within this difficult process, sex equity needs and concerns require careful consideration. Educational leaders must work to obtain and protect budget allocations necessary to support sex equity programs while seeking at the same time to identify ways in which sex equity components may be integrated within ongoing programs without incurring additional costs.

Much sex equity funding to date has come from the federal level: major funds for a variety of programs are now available under the Women's Educational Equity Act, Title IV of the 1964 Civil Rights Act, and current authorizing legislation for vocational education. More restricted funding may be available under the Elementary-Secondary Education Act (from the state program improvement allocation), current career education legislation, and the development and demonstration program funding of the National Institute of Education. Educational leaders may work for the continuation of federal funds, while working with
features, education organizations, foundations, and other sources.

Regional leaders must also make it to integrate sex equity into ongoing programs for efficient use of current human and financial resources. These components can be provided within the job responsibilities of all educators, just as they are assigned priority within budget allocations.

ASSESSING RESPONSIBILITY AND PROFESSIONAL PERSONNEL

Education personnel are to assume responsibility for the implementation of activities and programs, providing training and technical assistance relevant to sex equity. Needs for the preservice training of personnel can be communicated to the institutions which train teachers, counselors, and administrators; and to professional organizations. Educational leaders should work not only to ensure that training is provided, but also to ensure this training is provided in a progressive and sequential fashion which can lead from the development of awareness to the acquisition of concrete job-related sex equity skills and competencies.

DEVELOPING AND MAINTAINING MONITORING AND REINFORCEMENT SYSTEMS

The achievement of sex equity is a complex and time-consuming process; one which may encounter unexpected difficulties or produce unanticipated results. The stresses and strains inherent in any change process are particularly acute for educators who are striving to achieve both equity and stability in institutional as well as personal settings. Change will require the provision of continuing support and reinforcement for individuals making positive efforts, and the continuing involvement of all affected individuals in problem identification and resolution.

Educational leaders must work to install sex equity monitoring and planning components within ongoing management systems. Performance measures, timelines, and accountabilities should be periodically reviewed, reported, and disseminated for comment and planning by all education personnel and concerned community members.

Reinforcement of identified progress and success is a critical component of sex equity efforts. Financial rewards, in the form of grants or priority funding, may be used to encourage the maintenance of successful programs or the extension of promising activities. Providing visibility for programs and individuals contributing to sex equity progress not only reinforces those individuals involved, but may also stimulate similar efforts by others. Educational leaders may utilize both personal and organizational resources to provide such visibility.

Educational leaders will recognize in this listing functions which are intrinsic to all leadership. Policy makers from federal and state education agencies, members of state and local boards of education, governors and legislators, and leaders from education associations and community organizations have vital roles to play in achieving quality education and an equitable future. By incorporating a commitment to equitable programs for girls and boys and women and men within ongoing leadership structures and behaviors, educational leaders can help to ensure that the futures of students and the development of our society are not limited by continued stereotyping, segregation, and discrimination based on sex.
These students have their futures ahead of them.
There’s still time to make a positive difference.
FOOTNOTES:


[9] U.S. Department of Labor, Women's Bureau, telephone communication, August 1979 (Percentages for American Indian and Asian women were projected on the basis of 1970 census figures.)


ADDITIONS

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