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AUTHOR Matthews, Martha
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ABSTRACT

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)

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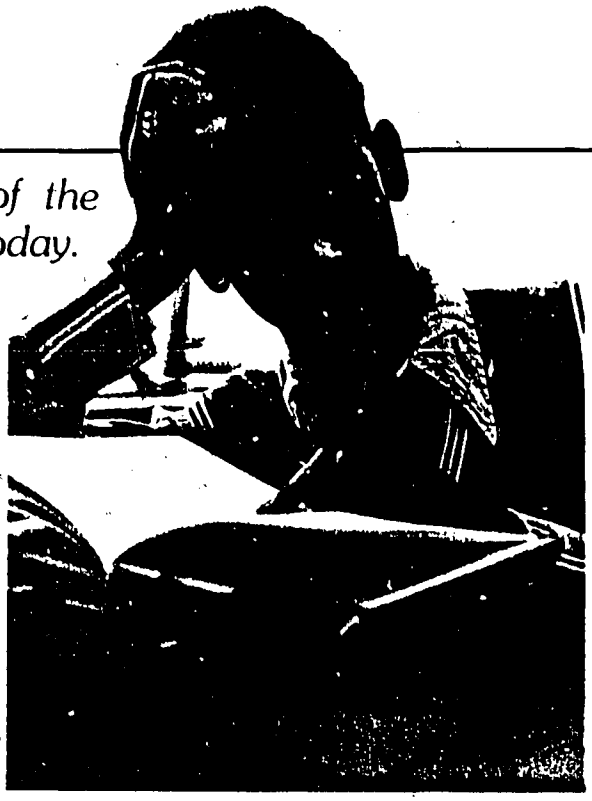
FUTURE

MALES AND MALES

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?

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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 wom what do they futures of stu these pages? mean for the for education opportunity decisionmaki mean for the society?

Most Americ in general terms changes which lives of women century:[2]

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al leaders are among are determining ne two futures by Dr. Pifer will come future characterized nal hardship resulting nuing inequity, or the hich equity and n can provide new ies for all individuals, e and male. Policy m federal and state agencies, members of ocal boards of governors and state , and leaders from associations and organizations are the future of nd our society. They

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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 [illegible]ner and homemaking courses who were males rose from 5 percent to 17 percent.[6]

ational leaders have themselves initiated efforts to eliminate sex
in the curriculum, and to modify personnel policies and practices
iminate based on sex.

dications of change and progress are important to recognize. They
e that some individuals, both female and male, are benefitting from
es new to their sex. They also reflect some institutional adaptations to
ng roles of females and males.

important to recognize, however, that increased opportunity for some
ay not reflect the availability of similar experiences for the majority.
nat have brought opportunity for some have increased the hardships of
e process of change is slow and uneven, and changes occurring in one
nstitution of society may not be accompanied by complementary
other sectors or institutions.

e complex, less optimistic picture emerges from a closer of some facts: first, about women and men in the paid ce 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.[10]

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 ately 63 percent of men's.[11]

ollege graduates earn less than men with an 8th grade education.[12]

vomen earn less than any other group of workers. In 1977, the come of white male workers was $15,230; for minority males, $11,053; emales, $8,787; and for minority females, $8,383.[13]

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

fessional and technical workers	70%
nagers and administrators	60%
es workers	52%
ical workers	63%
ft workers	61%
eratives	61%
vice workers	68%

increasing numbers, women workers remain concentrated in low men's occupations."

3 percent of all women workers were employed as clerical and sales operators in factories, or as service workers. In 1950, these same ns employed 76 percent of all women workers.[15]

nd men are employed in different occupational groups. For example:

percent of male workers are employed as managers; only 6 percent of ale workers are so employed

percent of employed women work in clerical positions; only 6 percent employed men work in these positions

percent of male workers work in craft occupations; fewer than 2 percent of ale workers hold such jobs

percent of women in the work force are employed as service workers; only ercent 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.

TS ABOUT WOMEN, MEN, LDREN, AND FAMILIES

ical" American family—father employed outside the home and mother inside the home caring for two children—now constitutes only 7 percent ilies in the nation.[19]

al American patte of marriage and family appear to be undergoing
n.

e of first marriage is being postponed. In 1960, 28 percent of all women 4-29 were single; by 1970, this figure was 40 percent.[20]

size is shrinking; from 1970-1978, the average number of children in s with children dropped from 2.3 to 1.9.[21]

rent rates, 40 percent of all marriages will end in divorce.[22]

en 1970 and 1976, the proportion of adults living alone rose by 40 t. In 1976, approximately 13 percent of all adults lived alone.[23]

6, approximately 9 percent of all adults lived in households with people hom they had no blood, marital, or adoptive relationship.[24]

and motherhood no longer mean that women will drop out of the paid ce and work only in their homes.

3, 48 percent of all married women were in the paid labor force:[25]

47 percent of all married white women
58 percent of all married Black women
44 percent of all married Hispanic women

cent of all married women with school-age children were in the paid labor as were 42 percent of all married women with children under 6 years of

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.[27]
- 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[28]

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.[29]
- 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.[30]

One in five families with children under 18 years of age is headed by a single parent, usually a woman.[31]

- 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.[32]

[illegible] with children under 18 years of age have incomes [illegible] earning families headed by white females, this figure [illegible] headed by Black females, this figure is 58 percent

[illegible] families are below the poverty level, 42 of every [illegible] by women and 15 of every 100 such families

[illegible] Commission on Economic Opportunity predicts that if [illegible], "the poverty population will be composed solely o[illegible] lies, by about the year 2000."[illegible]

The economic costs of childrearing are escalating in today's society.

- It is estimated that the costs of rearing one child amount to approximately $44,200 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.[36]
- 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.[37]

N AND MEN IN THE WORK E AND IN THE FAMILY— LUSIONS AND INTERPRETATIONS

on the preceding pages illustrate some of the unevenness and the tendant to the process of change in the roles of women and men. clusions and interpretations emerge:

nendous increases in women's participation in the paid work force, of Americans still work in sex-segregated worlds.

paid work is performed primarily in clerical, sales, and service jobs, traditionally "female" professions as nursing and elementary school nese are the same occupations in which women worked thirty years ork for pay in a different, more diverse, group of occupations; they ed most frequently in such areas as management and administration, technical occupations. The majority of unpaid work within the home o be done by women.

Continuing sex segregation in work, combined with changes in family structure and stability, functions to the economic disadvantage of women and children.

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.

x segregation in work functions to the personal disadvantage of
ıen as individuals.

ation in the paid work force and the home limits the options of both
ıen. It prevents both from making work decisions based on
rests, abilities, and needs, rather than in conformity with sex
hich ignore such individuality.
can provide members of both sexes not only with a means of
ort but also with a means of relating to the world outside the family
ng to the larger society. Work inside the home can provide both
ıales with a way to contribute to the personal development of their
hers with whom they live, and with home maintenance skills which
oth independent and interdependent living.
ieties 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
le responsibilty of work outside the home and the majority of work
ne. Men who until recently have been the sole breadwinners for
xperience confusion as this socially accepted "male role" is altered
ositive roles have taken its place. Men, and sometimes women,
vork full-time at home rearing children and caring for their families
by many as doing work which is less valuable than that in the paid
/omen and men who choose occupations which are not traditional
ontinue to face barriers which have little to do with their individual
eds.

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

tivity and growth, all our social institutions must be able to draw
esources 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
y women throughout the paid work force is one step toward the
on of our human resources; increased participation by men in
nd 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 they will need to create and to participate in a future without some of the hardships of the sex-segregated past and present.

TS ABOUT FEMALES AND ES IN EDUCATION

MENTARY-SECONDARY EDUCATION

racial-ethnic groups, rates of enrollment in elementary-secondary are roughly comparable for females and males. However, in some males are less likely than males to complete secondary school.

le, high school completion rates are similar for males and females, e and ethnicity continue to be significant predictors of high school n. Racial-ethnic differences also exist in female/male graduation rates. Americans, Japanese Americans, Chinese Americans, Pilipino s, and majority Americans, rates of high school completion are le for females and males. Among American Indians/Alaskan Natives, Americans, and Puerto Rican Americans, females are considerably less n males to graduate from high school.[38]

p	Percentage of population completing high school as of 1976	
	Male	Female
rican Indian/Alaskan Native	70%	58%
k American	74%	74%
can American	64%	58%
nese American	98%	99%
ese American	88%	90%
no American	81%	78%
to Rican American	68%	60%
rity American	87%	86%

gh the enrollments of males and females in elementary and secondary re similar, many of their experiences and achievements during nt differ significantly on the basis of sex. For example:

Sex-stereotyped course enrollment patterns are characteristic of both college-bound and non-college-bound students.

- A national study of college-bound seniors in 1978-79[39] indicates that:
  - 65 percent of the males and only 45 percent of the females had mpleted 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[40] 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:

nales are more than 90 percent of the students enrolled in
ditionally "female" courses in business and office occupations, health
cupations, and such "feminine" trade occupations as cosmetology

such traditionally "male" trade and industrial programs as carpentry
l masonry, females comprise slightly over 6 percent of all students; in
h traditionally "male" technical programs as electrical or mechanical
hnology, females comprise less than 2 percent of all students

ped patterns are also evident in measures of student achievement.

m the National Assessment of Educational Progress[41] show that:

es generally do better than females in four major subjects—
hematics, science, social studies, and citizenship

ne other four learning areas, females consistently outperform males in
one (writing); maintain a slight advantage in one (music); and in the
aining two (reading and literature) are above male achievement levels
ge nine, then begin to decline until they lag behind males by young
thood

ne male-superior areas (mathematics, science, social studies, and
enship), females and males at age nine demonstrate fairly equal
evement levels; by age 13, however, females begin a decline in
evement which continues through age 17 and into adulthood

oung women make better high school grades than young men, their
the Scholastic Aptitude Test are lower than men's on both verbal
matics scales.[42]

anations have been considered for these patterns. While they are
the result of many complex and interrelated factors, several
ns can be made.

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[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.

xception of these two differences, there appear to be no other differences between females and males in intellectual abilities.

nces which do not exist are *average* differences; there is much tween 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.

iated patterns of educational participation and achievement may e measure from socialization which perpetuates cultural stereotypes te roles, behaviors, and abilities for females and males.

of reasons have been suggested for the early performance deficit of ading achievement. These include differential maturation rates of d males, reader content, and negative treatment by female teachers. earch suggests that cultural expectations regarding male roles may cant factor. In our society, where the male role is physically active ed toward external achievement, more sedentary pursuits such as ay be perceived by young boys as "feminine." In Germany, where d scholarship are valued as "masculine" acitivities, young boys ung girls in reading achievement.[44]

s in mathematics achievement emerge at an age when parallel s are seen in the percentages of females and males perceiving cs as interesting and likely to be helpful in career fields, and as an e area for female achievement.[45]

Sex-stereotyped roles for females and males are reinforced by elementary and secondary 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 65 times, boys twice.[46]
- A 1974 examination of the presentation of females and males in illustrations in elementary school texts documented significant differences by subject area and 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 illustrations[47]
- 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 w
although females were pres
appeared frequently as god
were presented in domestic
were similarly stereotyped.
chiefs[48]

A recent study of the portrayal o
editions of texts originally examin
every 500-800 pages was devoted
women, in 1978 editions this ratio
The researchers concluded that a
women in the "mainstream" of hi
little evidence of effort to reevalua
and cultural history.[49]

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l roles, they also
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in 1974, 1 of
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ade to include
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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.[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)[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[52]

[illegible] MATERIALS

[illegible] that both male and female [illegible] images of appropriate goals for females and [illegible] counseling services for young women interested [illegible] academic goals.[53]

[illegible] and aptitude tests frequently used in [illegible] which reflect sex linked experiences may [illegible] of girls in such areas as mathematical ability, mechanical [illegible] science and business.[54]

[illegible] participation in high school mathematics indicates [illegible] by counselors as well as [illegible] mathematics because it is seen as unnecessary [illegible] pattern.[55]

[illegible] HEALTH [illegible]

[illegible] and science from age 13 on is [illegible] ability of women as teachers of mathematics and

[illegible] percent of mathematics teachers in grades K-3
[illegible] percent of mathematics teachers in grades 4-6
[illegible] percent of mathematics teachers in grades 7-9
[illegible] percent of mathematics teachers in grades 10-12[56]

[illegible] percent of science teachers in grades K-3
[illegible] percent of science teachers in grades 4-6
[illegible] percent of science teachers in grades 7-9
[illegible] percent of science teachers in grades 10-12[56]

[illegible] women in positions of educational administration [illegible] of women in administrative positions [illegible] of the American Association of School Administrators, [illegible] percent of school superintendents, 4 percent of high [illegible] and 11 percent of elementary school principals.[57]

[illegible] states had female chief state school officers in 1980

- 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.[58]

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.[59]

In most racial/ethnic groups, women are less likely than men to complete four years of college.[60]

Group	Percentage of population completing college as of 1976	
	Male	Female
American Indian/Alaskan Native	8%	4%
Black American	11%	11%
Mexican American	11%	5%
Japanese American	53%	35%
Chinese American	60%	44%
Filipino American	34%	51%
Puerto Rican	6%	4%
Majority American	34%	22%

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

Researchers estimate 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.[61]

dents in the top ability quartile and the lowest socioeconomic quartile, 25 t of the males and 40 percent of the females fail to enter college.[62]

participation in postsecondary education decreases relative to men's at ve 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[63]

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[64]

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[65]

ducational goals of college-bound high school seniors in 1978 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[66]

nd male enrollments in fields of study within the various levels of post y education reflect patterns of sex stereotyping which are similar to parent in secondary education. These patterns result in part from the effect"[67] of women's lower participation in science and mathematics at school level.

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.[68]

Sex-stereotyed 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.[69]
- 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[70]

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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 validty. 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

on spatial visualization may disappear, however, when the number of athematics completed is equal for students of both sexes. Females' equal n in secondary school mathematics is discouraged by elementary cs textbooks in which girls appear less often than boys, by the y of female role models teaching secondary mathematics, and by the typed perception of many counselors (as well as teachers, parents, and mathematics is not important for female career patterns. Sex stereotyping tes as a self-fulfilling prophecy.

typing and sex differentation in education function to the particular of females, who emerge from elementary-secondary education at a ge relative to males in basic skills, in academic options and , in vocational and career opportunities, and in anticipated economic

mpletion of secondary education, females as a group lag behind males er of measures of basic verbal and mathematical skills. This deficit in formance is of particular concern in light of research which suggests es are superior to males in basic verbal abilities.

' academic options are limited as insufficient preparation in high school cs restricts their entry into college majors and occupational education n scientific and technical fields. As high school seniors, young women ely than young men to aspire to degrees beyond the graduate level. al 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 are prepared. The high school course-enrollment patterns of college-men help to direct them toward higher education programs for which nt potential and financial rewards are limited.

, according to current trends, large numbers of young women now in l will be responsible for the financial support of themselves and their ne potential effects of these disadvantages extend beyond this . Not only will individual women experience personal and financial esulting from these disadvantages, but their children will be more likely s 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; and 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 flexiblity 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.

reotyping and sex differentiation in education undermine the efforts of rs to provide high quality, equitable education.

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

society characterized by rapid and continuing changes in les of females and males within its various institutions, high y, equitable education will be a reality only when all nts—females and males from all racial-ethnic and socio-mic groups—are provided educational experiences which:

p them with the highest-level basic verbal and mathematical s consistent with their individual abilities;

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

pare them to assume the range of responsibilities involved in e and family maintenance, including the day-to-day rearing hildren and the provision of economic support for other ily members;

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

ble them to recognize and respect the historical experiences contributions and the current concerns and perspectives of ales and males from diverse racial-ethnic, cultural, and ily backgrounds;

ble them to explore and recognize their individual abilities, rests, needs, and values, and to make academic, career, and onal decisions consistent with this self-knowledge and an rmed understanding of the changing societal roles and itutions which will shape their futures;

- ***equip them with the flexibility and self-confidence which can enable them to cope with a rapidly changing society through continuing adult learning and growth.***

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

...students with the ...gh quality, equitable ...d experiences described ...onclusion of the ...section will require ... commitment and ...t of all educators. ...ex stereotyping and ...ntiation do not ...n education, if educators ...o fulfill its responsibility ...o students and to ..., it can and must ... to the reduction or ... of such stereotyping ...differentiation.

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- In one state, a survey by the state education agency indicated that 98% of local education agencies in the state were not in compliance with the procedural requirements of Title IX of the Education Amendments of 1972, the federal law which prohibits sex discrimination in education programs receiving federal financial assistance. The same survey identified 39 instances in which course catalogues contained listings of sex restricted courses, which are illegal under Title IX requirements.[2]
- An analysis of teacher education texts published between 1973 and 1978 documented that
  - 23 of 24 texts devoted less than 1% of their material to a consideration of sex equity concerns
  - in the 24th text, 1.7% of the material addressed sex stereotyping, sex differences, and the experiences and contributions of women and men
  - one-third of the texts contained no mention whatsoever of sex equity concerns; the majority of these books dealt with science and mathematics education, areas in which there are notable sex differences in student achievement
  - no text included strategies and resources designed to combat sex stereotyping and sex differentiation in the classroom.[3]

These findings suggest the critical importance of continued and renewed efforts by leaders in elementary/secondary education.

The particular kinds of effort and leadership which will be most positive in any particular area, institution, or situation must be determined by educational leaders based on their expertise and their understanding of the unique needs presented. There are, however, a number of general functions which must be performed by educational leaders if quality and equity in education are to become a reality for females and males. These include:

- ***building a consensus regarding the importance of the achievement of equity for females and males in education***
- ***increasing understanding of the operation and effects of sex stereotyping and sex differentiation in education***
- ***articulating goals which can direct efforts to achieve sex equity in education***
- ***supporting and stimulating the development of models and the implementation of programs which can promote these goals***
- ***obtaining and allocating human and financial resources for educational equity efforts***
- ***increasing the capability and skills of education personnel to achieve sex equity in their professional responsibilities***
- ***developing and maintaining systems for the monitoring and reporting of sex equity progress and problems and the reinforcement of efforts to expand opportunities for both sexes.***

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 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

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Educational leaders can employ personal influence and organizational resources to emphasize the importance of eliminating sex bias in education 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

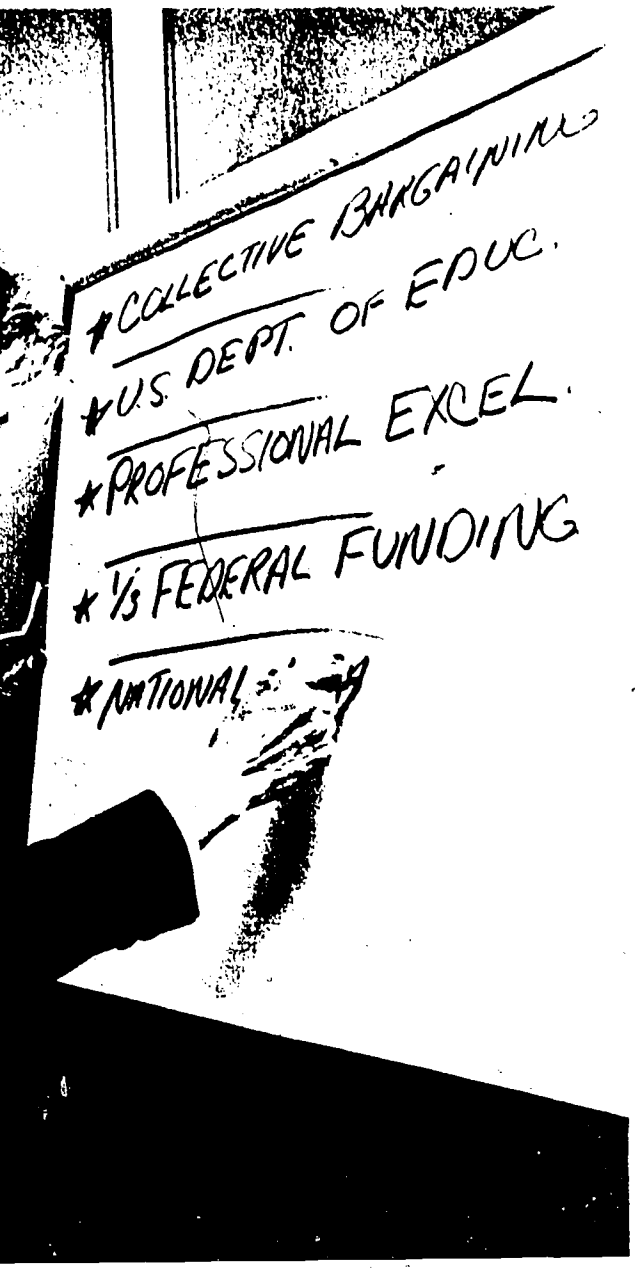
An understanding by educators and community members of the operation and effects of sex stereotyping and sex differentiation in education can both contribute to a consensus regarding the importance of their elimination and provide guidance for the development of new programs and the assessment of their 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 distribution and use of federal, state, and institutional funds can be employed by educational leaders 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

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ntiation as these are manifest in their own areas of professional competence, the skills to correct stereotyping and differentiation in their own professional behaviors, and the capability to design and implement sex equitable programs in accordance with their own job functions.

Educational leaders can work to insure that all education personnel are provided 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 standards for sex equity training or competence may be included in requirements for the certification (or recertification) of education personnel. Programs of inservice training can be developed and implemented by state and local education agencies and by professional organizations. Educational leaders should work not only to insure that training is provided, but also that 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 insure that the futures of students and the development of our socie ' 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.

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