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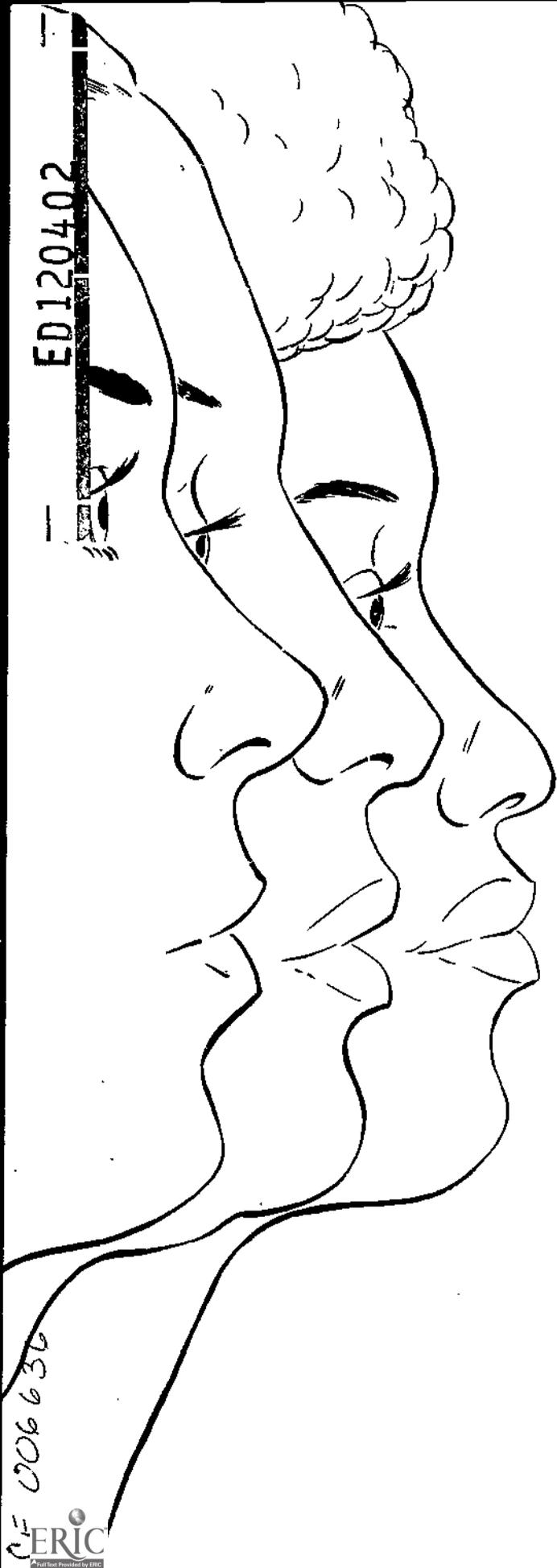
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ABSTRACT

The document describes findings of the Education Subcommittee of the Secretary's Advisory Committee on the Rights and Responsibilities of Women regarding the impact of Federal vocational education legislation and HEW policies on women. Section 1, A Summary of the 1975 Report of the Subcommittee on Education (four pages), examines: Title 9, areas for further study, HEW record keeping policies regarding programs specifically for women, 5 recommendations regarding current legislation, and 10 recommendations regarding HEW policy. Section 2, Vocational Education and Women (27 pages), discusses the reality of the labor market, historical background on education and working women, the distorted face of vocational education for women, and underlying problems in vocational education. Section 3, Recommendations for Change (five pages), examines the Vocational Education Amendments of 1968 (VEA), the Administration's bill to revise it, and HEW policy and practice; and lists 10 recommendations to be added to the 5 from Section 1. Tables are provided. Appended material lists research and development projects dealing with careers and vocational education for women under States and under HEW (the National Institute of Education, Office of Education, and Fund for the Improvement of Postsecondary Education [FIPSE]). (LH)

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The VOCATIONAL PREPARATION of WOMEN

REPORT
AND RECOMMENDATIONS
OF THE SECRETARY'S
ADVISORY COMMITTEE
ON THE RIGHTS
AND RESPONSIBILITIES
OF WOMEN

1975

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

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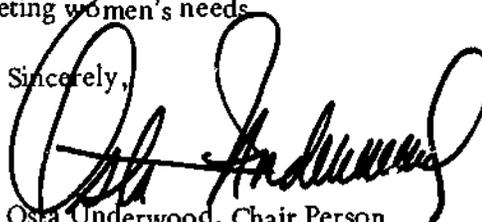
Dear Mr. Secretary:

Women have begun entering the labor market in unprecedented numbers. Traditional barriers to the employment of women are being overcome through the combined impact of equal rights legislation and social change. Yet the education system does not seem to be preparing women to take advantage of these expanded opportunities. Quite the opposite. Young women in our schools today are still either not preparing for employment at all or are preparing only for low paying, dead end jobs.

Because of the history of Federal funding and Federal leadership in vocational education and the current drafting of new legislation in this area, HEW officials have been deeply concerned with general issues of policy concerning the Federal role in vocational education. At the request of former Secretary Caspar W. Weinberger, the Education Subcommittee of the Secretary's Advisory Committee on the Rights and Responsibilities of Women undertook an investigation in order to advise the Secretary with regard to a problem which had been overlooked in previous analyses: the impact of Federal vocational education legislation and HEW policies on women. The attached report describes the Committee's findings and presents recommendations for change.

The Committee's recommendations concerning vocational education for women seem particularly timely in the light of current Congressional consideration of revisions to the Federal vocational education legislation. We would like to commend HEW for the leadership it has shown in the past in advancing opportunities for women in employment and education and commend to your attention the urgent need for Federal leadership in bringing the vocational education system up to date in meeting women's needs.

Sincerely,



Osta Underwood, Chair Person
Secretary's Advisory Committee
on the Rights and Responsibilities
of Women



THE SECRETARY OF HEALTH, EDUCATION, AND WELFARE
WASHINGTON, D. C. 20201

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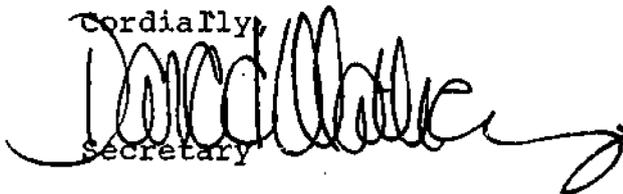
Osta Underwood, Chairperson
Secretary's Advisory Committee
on the Rights and Responsibilities
of Women
330 Independence Avenue, S.W.
Washington, D.C. 20201

Dear Ms. Underwood:

Thank you for providing me with a copy of "Vocational Preparation of Women", a report of the Secretary's Advisory Committee on the Rights and Responsibilities of Women. I have asked William A. Morrill, Assistant Secretary for Planning and Evaluation, to coordinate the Department's follow-up to the Committee's report and to keep me informed of his progress.

The relationship between education and work is important. "Vocational Preparation of Women" represents a significant contribution to our understanding of this relationship. Please convey my personal appreciation to the members of your Committee for their hard work.

Cordially,


Secretary

VOCATIONAL PREPARATION OF WOMEN

**A Report of the
Secretary's Advisory Committee
on
The Rights and Responsibilities of Women**

July 1975

**By
JoAnn M. Steiger, Ed.D.
and
Sara Cooper**

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Mr. Walter Abrams

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on the Rights and Responsibilities of Women

1974 - 1975

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**I. SUMMARY OF THE 1975 REPORT OF
THE SUBCOMMITTEE ON EDUCATION**

ACTIVITIES AND FINDINGS

Title IX

During Fiscal Year 1975 the Education Subcommittee has worked closely with HEW personnel in the development of the regulation for TITLE IX of the EDUCATION AMENDMENTS of 1972, which prohibits sex discrimination in education. The Subcommittee was pleased to render its advice to the Secretary on the content of the regulation and, now that the final regulation has been issued, looks forward to continuing an active role in reviewing the implementation of TITLE IX and advising the Secretary on its findings.

Vocational and Career Education for Women

Because of the intense ferment in recent years over the role of women in the work force, the Subcommittee has been devoting a major portion of its time to investigating vocational and career education for women. We have found that girls and women tend to be enrolled in vocational education programs which, like many home economics programs, either do not prepare them for gainful employment or which prepare them only for low-paying, dead-end jobs. For example, in 1972 (the last year in which the Office of Education collected vocational education enrollment data by sex), 49.5% of all female vocational education enrollments were in non-gainful home economics, and 30.5% were in office occupations—mostly in typing and filing courses. At the same time, only 4.8% of the female enrollments were in the trade and industrial programs which lead to higher paying jobs, and which accounted for 46.9% of the male enrollments.

A major consequence of this pattern of vocational training of women is that it perpetuates—at a time in which the majority of women over age 18 are in the labor force, and more and more women are heads of households—a labor market structure in which women are concentrated in occupations paying much lower wages than do the occupations in which men tend to be employed. In 1973, the median annual earnings of men who worked full-time, year-round were \$11,186. That same year the median annual earnings of women who worked full-time, year-round were \$6,335 or 56.6% of the male median. The single greatest factor causing this disparity was the tendency of women to work in lower paying occupations. Women also tend to be much more highly concentrated in just a few jobs than are men. In 1970, half of all women workers were employed in just 17 occupations, while one needed 63 occupations to include half of all male workers.

The enforcement of laws mandating equal opportunity in employment and the heightened awareness among employers that women can successfully perform jobs previously restricted to men, have led to a significant increase in opportunities for women to enter non-traditional occupations. To be able to take advantage of these opportunities, however, a woman must acquire the appropriate marketable skills. Current vocational education programs (aimed at providing skill training) and career education programs (aimed at increasing career awareness) are not adequately meeting this challenge.

Areas for Further Study

In the course of investigating vocational and career education for women, the Subcommittee identified two topics for further study. The first is the multiple problems faced by

economically disadvantaged women who wish to acquire training for employment. The second concerns the role of home economics education in the schools. The Subcommittee plans to investigate both of these areas in depth during Fiscal Year 1976 and to develop recommendations for the Secretary regarding related HEW policies.

Accelerating HEW Programs to Improve Career and Vocational Education Opportunities for Women

Although, in a broad sense, almost all HEW programs can be said to help women, as they help all people, the number of programs targeted specifically on women to help them overcome the disadvantages imposed on them by society because of their sex, has been and remains small. The data available to the Subcommittee suggest that research and development efforts to improve career and vocational education opportunities for women have not been a high priority in HEW. According to National Institute of Education figures for example, in FY 73, \$1,930,871 or 1.8% of the NIE research budget was spent on such projects. In FY 74, \$1,158,791 or 1.5% of the budget was so allocated. In FY 75, the amount devoted to projects addressing these issues was reduced to \$940,000 or 1.3% of the budget, and the proposed amount for FY 76 is only \$780,000 or 1% of the budget. The Committee recommends (Recommendation 9 below) that this decline in dollars and percent of funds be reversed and the allocation of funds to research and development projects concerning career preparation of women be increased by at least 200% over the proposed FY 76 amount.

Comparable figures on expenditures by the Office of Education could not be obtained for two reasons.

First, no one in the Office of Education maintains a comprehensive list of special projects addressing women's needs. Considerable information concerning projects monitored by OE staff related to career and vocational education for women was obtained through interviews with program staff, but the list thus developed by the Subcommittee is undoubtedly not all-inclusive. This experience has led the Subcommittee to recommend (Recommendation 11 below) that the Office of Education institute procedures to maintain central listings of projects specifically concerned with helping women overcome disadvantages they suffer because of sex.

The second problem in assessing the use of Federal funds in improving opportunities for women concerns those programs, such as TITLE I and TITLE III of the ELEMENTARY AND SECONDARY EDUCATION ACT, where project decisions are made on the state or local level, and no central files are kept. For example, the Subcommittee by chance discovered one program in New Jersey, funded through TITLE III, on which \$240,000 has been spent over the last three years to develop curriculum materials to help expand girls' career horizons. No information concerning this program was obtainable from the TITLE III office in OE because, as a program officer explained, OE no longer keeps any records on Federally assisted state projects.

The findings has led the Committee to recommend (Recommendation 12 below) that OE reinstitute the policy of keeping records of projects in the states funded with Federal monies

and that it establish a system for tagging projects which specifically deal with the needs of women.

The pattern of HEW-funded projects related to career preparation of women which emerged in the Subcommittee's necessarily limited review was one of a great deal of emphasis on guidance and counseling, numerous reviews of literature, and relatively little effort to induce change in the vocational education enrollment patterns in the schools. This picture may be somewhat distorted because of the problems with the data base described above. However, there appeared to be a dearth of projects aimed at developing curriculum materials and exemplary programs designed to increase female enrollments in traditionally male vocational education programs. Also lacking were in-service training programs for teachers and administrators to increase their awareness of the career training needs of women today.

RECOMMENDATIONS

The Committee recommends that HEW make overcoming sex bias and sex stereotyping in vocational and career education a high priority. Our specific recommendations fall into two categories. The first suggests amendments to the bill offered by the Administration to replace expiring Federal vocational education legislation. The second pertains to HEW policy and practice.

Legislative Recommendations

The Committee recommends that the Administration's vocational education bill be amended as follows:

1. *Statement of Purpose.* A clear declaration that it is the intent of the law to provide equal opportunity for vocational education to both sexes and to overcome barriers to such equal opportunity should be added to the statement of purpose.
2. *Advisory Council Membership.* The law mandates that many specific interests be represented on Advisory Councils. A mandated position should be added to both the National and State Councils for a person familiar with the problems of sex bias and sex stereotyping in training and employment.
3. *Special Needs.* The Administration bill provides a set-aside of funds for students with special needs, defined as those who require "special supportive, educational or guidance assistance in order to benefit from vocational education programs and services." Although technically this section could be interpreted to include women enrolling in courses which have been traditionally male, the Committee fears that in practice these funds will not be used to provide services to assist women in overcoming the legacy of sex bias in vocational education. Experience has shown that support services, including special guidance and counseling assistance, vastly increase the retention rate of women in such programs. The Committee, therefore, recommends that funds be specifically designated, either under this section of the Act or as a separate section, to provide support services for women. This set-aside should be maintained only so long as remedial action is necessary for overcoming sex bias and sex stereotyping in vocational education. It should be limited

at present to the period of the authorization of funding for the bill and reconsidered thereafter.

4. *State Plan.* The bill states a number of specific requirements that all state plans for vocational education must meet. A provision should be added that each plan provide self-assessment of the state's progress in reducing sex bias and sex stereotyping in vocational education and establish objectives for expanding female enrollments in non-traditional programs, so long as such remedial action is necessary.
5. *Data Collection.* A provision should be added stating that all enrollment and employment data for vocational education should be collected by the Office of Education simultaneously by sex, by race, by program and by level and that such data shall be published annually, nationally and by state. Data on enrollments in non-gainful home economics programs should be kept separately from, and not aggregated with, each enrollment data.

HEW Policy Recommendations

SACRRW has been concerned since its inception with HEW's role as a model of policies promoting equal opportunities for women. We commend the Secretary on the progress that has been made in providing opportunities for women within HEW, and urge that improving the status of women remain a high priority within the Department. In addition, we specifically recommend the following:

6. HEW should serve as an example to educational institutions by appointing women to a fair share of top level positions, by encouraging upward mobility for women employees at all levels, and by providing in-house training on sex-role stereotyping.
7. As we have recommended in previous years, HEW should take a visible leadership role in encouraging state and local educators to strive to overcome sex bias and sex stereotyping in vocational and career education. Present activities should be expanded and new activities added in such areas as including the topic in major speeches, placing the topic on the agenda of meetings, scheduling special workshops, and rendering technical assistance.
8. Overcoming sex bias and sex stereotyping in vocational education should be established as official HEW objectives, entered into the Management by Objectives system, and highlighted as objectives for Secretarial tracking.
9. The National Institute of Education should increase its proposed FY 76 budget for research and development concerning career education and women by at least 200%, increasing the dollar amount from \$780,000 to \$2,340,000, an increase from 1% of their total budget to 3%.
10. The Assistant Secretary for Education should take special care to ensure that the findings developed through NIE's basic research into career preparation of women are not merely put on the shelf but are used to develop appropriate changes in programs for which the Office of Education is responsible.

11. The Office of Education should institute procedures whereby central listings of all OE funded women's projects are maintained.
12. The Office of Education should reinstate a policy of keeping records of projects in the states funded with Federal monies, and should establish a system for tagging those projects which specifically deal with the needs of women.
13. The Office of Education should allocate research and development monies, in addition to those funds currently being spent on projects to advance opportunities for women, to fund pilot projects in each state, in great variety, to explore ways to break down sex-role barriers in vocational education. Each project should be fully documented, be designed so as to be replicable, and be fully evaluated. A concerted effort should then be made to disseminate information about the most successful programs.
14. Priority should be given to further efforts in the following areas:
 - a. develop of curriculum materials for vocational and career education courses which are non-sexist;
 - b. develop and operation of inservice training programs for teachers and administrators to increase their awareness of the career training needs of women today;
 - c. research and development efforts to overcome sex bias in guidance instruments and seek new and better ways of assessing skills;
 - d. revision of training programs for guidance counselors to overcome sex bias and sex stereotyping.
15. HEW should develop guidelines on sex bias in educational materials for internal use. All education materials developed with HEW funds should be subject to the provisions of those guidelines. This is important for all aspects of education, but is particularly important in the development of vocational and career education curriculum materials.

II. VOCATIONAL EDUCATION AND WOMEN

INTRODUCTION

For at least the last 100 years, as industrialization and the corporate system have come to dominate the nation's economy, Americans have increasingly relied upon formal education of various sorts as a fundamental vehicle for assuring or improving the individual's economic and social future. Confronted with difficult problems, the United States regularly has turned to its educational system. Schools played a major role in the assimilation of millions of immigrants in the late 19th and early 20th Centuries, the challenge of Sputnik was answered in large part from the nation's classrooms, and it is to education that many still look as disadvantaged minorities demand greater social and economic opportunity. It is not surprising then, that as women enter the labor force in ever-increasing numbers, they look to the schools for help. Unfortunately, the record thus far indicates that the educational system is not yet meeting the new challenge. More and more women are seeking jobs. More and more have substantial need for good jobs. Barriers to greater vocational opportunity for women have at last begun to fall. But the vocational training received by most women is still so rooted in traditional ideas of the woman's role and capabilities that it does not help them seize the new opportunities.

Instead of offering the right kind of assistance, many educational programs actually hinder women: stereotypes are reinforced, female students are encouraged to prepare for homemaker roles even though the vast majority will at some point in their lives seek jobs outside the home, and vocational training concentrates on the traditional "female" occupations, where pay is low and opportunity for advancement limited.

The difference between the reality of women's actual experience in the labor market and the misperception of that reality which apparently underlies the approach of many U.S. schools to vocational education for women is easily illustrated.

The reality of the labor market is this. More than 90% of all American women work for pay at least part of their lives. At any given time, about half the female population is so employed and this percentage is expected to increase. Almost 40% of the total labor force, male and female, now consists of women, and that proportion also is expected to increase over the next five to ten years. The social, personal, economic, and educational factors which influence women's decisions on whether or not to seek work appear to be changing in ways that encourage outside employment. The stigma that once attached to working mothers has dissolved as more families have found two incomes necessary or desirable, and as women have chosen or been compelled to support themselves financially. Women are having fewer children, which reduces the number of years they may be removed from the labor pool. Changing attitudes make more and more women willing to work even during the years their children are young. Levels of education, which are the greatest single determinants of female employability, are rising.

At the same time, the labor market into which increasing numbers of increasingly educated and motivated women are thrusting themselves is becoming more receptive. Historically, most women have clustered together in a relatively small number of job categories that are important, even indispensable to society, but also involve relatively low pay and slight opportunity for advancement. More than 25% of all women can be found in just five occupational categories: secretary, teacher in a public elementary school, retail sales clerk, book-keeper, waitress. The average wages of women working full-time are approximately half of

those of their male counterparts. As a result of equal rights legislation, government policies, and a variety of social and economic pressures, however, the historical straitjacket has begun to loosen.

Employers, sobered in some cases by the sight of major business firms forced to pay millions of dollars in settlements for illegal discrimination, have begun to treat women more fairly. Most important, women are increasingly able to enter job fields dominated by men and it is there that they find the best opportunities for higher pay and the greatest potential for advancement. (While women as a group earn less than men in all fields, women in fields dominated by men earn substantially more than women in fields dominated by women.)

The contrast between all this and the scene in most schools is dramatic. Half of all U.S. women enrolled in so-called vocational education programs are taking homemaking courses, while an additional 30% are training for secretarial, clerical, or other office occupations, and 14% more are scattered in courses oriented toward other traditional "female" job categories. A mere eight percent are being prepared to work in fields traditionally dominated by men--precisely the fields where women now have the most promising opportunities and thus should be preparing in greatest numbers.

Perhaps more serious than the immediate failings of women's vocational classes is the extent to which schools in general tend to inculcate stereotyped images of women and work. Textbooks, course offerings, guidance counseling systems, and the personal attitudes conveyed by many teachers combine, sometimes subtly and sometimes bluntly, to perpetuate restrictive images of the woman's proper role, on the job and elsewhere. In this respect the schools only reflect what have been the predominant attitudes of U.S. society as a whole, but the schools appear to be changing more slowly than the society at large. And the failure of the educational system to adapt to new realities is particularly serious because of the central role assigned to schools in the socialization of both men and women. If students emerge from school handicapped by outmoded attitudes, perceptions, and training, they will find that society offers them little opportunity to change in their adult lives.

There is one further element that adds to the urgency of the problem for women. Available evidence on the probable shape of the labor market over the next five years or so, admittedly imperfect but still worthy of consideration, suggests that competition for society's more desirable jobs, particularly those in white collar fields, will become intense. The economy probably will not be able to increase the supply of such jobs as fast as society increases the number of people--male and female--who want them. The Department of Labor estimates, for example, that the decade ending in 1980 will have seen a 39% increase in professional and technical jobs, but a 45.3% increase in the number of people seeking such jobs. The recent history of the effort to increase job opportunities for social minorities suggests that progress becomes more difficult when the dominant social group is itself beset by problems of diminished opportunity. The implication for women would seem to be that if vocational education for them is not improved rapidly, female workers may find that the tide of history begins to flow against them.

HISTORICAL BACKGROUND ON EDUCATION AND WORKING WOMEN

During the early agrarian history of the United States, vocational training was an intrinsic part of growing up for most people, boys as well as girls. For boys who learned crafts other than

those of their fathers and took places in the system of small manufacturers, apprenticeship seems to have been considered satisfactory well into the 19th Century. This was primarily a male-only structure, of course, as Oscar and Mary Handlin noted in *Facing Life*, their study of the evolution of ways young Americans have entered the work force and adulthood:

The numerous forms of apprenticeship that led the boys away from home were not open to their sisters. The girls needed no such exit; they could gain whatever training they required for the move from a father's to a husband's household right at the mother's side. Home was the place for *Little Women*, as Louisa May Alcott's story explained. (1868)¹

The demands of industrialism, national expansion in the West, the rise of impersonal corporate enterprises, changes in family structure, and the instability associated with rapid growth—offering unimagined opportunities for some, ruinous disappointment for others—had begun to disturb the system well before Louisa May Alcott's time, however. What had worked for a nation of coastal farmers and village artisans, what continued to work well for home-steaders and other pioneers of "the nation realizing westward," became progressively less satisfactory in the eastern regions of the country where factories and cities had begun to grow. Industries needed new kinds of workers. Individuals needed new avenues of vocational training if they were to face the future with hope.

Early Role of Women

Surprisingly perhaps, women at first had an important role in all this and it was in this churned, often troubled soil that the roots of women's modern vocational problems grew. Looking back through the tinted glass of current stereotypes, one might expect to find men preempting the new opportunities of factory work, but in many areas women played a major role in the new labor force. Particularly in New England, with its emerging textile, clothing, and footwear industries, women went to work in large numbers as the 19th Century began. Men preferred agriculture and commerce. Power machinery and the subdivision of labor in the factory system made it feasible to use the strength of women, and also young children. As one advocate put it, they could become "the little fingers. . . of the gigantic automatons of labor-saving machinery."² As early as 1791, Alexander Hamilton wrote that "Women and children are rendered more useful, and the latter more early useful, by manufacturing establishments than they would otherwise be."³ What probably counted most heavily for employers was that women would work for less money than men, and during the periodic slackenings of the economy, they could be sent back home to live with fathers, husbands or brothers.

Beyond these narrow economic advantages for owners, however, the opening of industrial jobs for women was widely considered national progress. As a source of supplemental income for families, of opportunity for widows and others threatened by poverty, and of new experiences for women tired of homemaking, factory work had much to recommend it, many people believed. Nor were the Puritan leaders of the age unmindful of the moral efficacy of disciplined work. According to Edward C. Kirkland, in his *History of American Economic Life*,

The early factory promoters from Samuel Slater to Francis Cabot Lowell were not regarded as exploiters of the unprotected classes of the community. Rather they were the benevolent heralds of a new day. . . . In fact, the girls went to Waltham and to Lowell (Mass.) because it was the equivalent of an education. Home industry was breaking down, and other occupations such as teaching had not yet been opened extensively to women. Restless, energetic young women wanted freedom and the chance to make money.⁴

By 1860, women constituted 20% of the nation's factory force. In the manufacture of boots and shoes they were 40% of the work force, 60% in the production of cotton textiles and men's readymade clothes, though in the clothing and footwear fields many worked at home on material partially pre-processed in what was known as the "put-out" system.⁵

Education as a Vocational Key

As the 19th Century reached its mid-point, the position of women in factories continued to expand but it had begun to lose its favorable aspects. Corporate ownership had displaced the paternalistic founders in many cases; the new owners were more interested in maximizing profits than in providing social benefits. Besides, efforts to provide decent housing, pleasant working conditions, and other attractions that had been thought necessary when society still had to be convinced of the propriety of women's working outside the home became unnecessary when women grew to depend on such jobs. At the same time, changes in the general society were convincing most people that a secure, promising vocational future must begin with some sort of formal schooling. Writing about the period after 1870, the Handlins wrote:

Increasingly the best places seemed to be the professions, to which aspirants gained access by formal education. The expectation gradually spread that entry to the practice of law, medicine and engineering and into large areas of corporate enterprise would come not by inheritance or apprenticeship, but rather by passage through a defined course of instruction in an institution of higher learning. A combination of needs fed that expectation. In a complex society, large organizations found dependable credentials such as degrees useful in recruiting and identifying talent for very specialized tasks.⁶

It was largely in their relationship to this trend toward education as a vocational key, which obviously has continued to the present, that working women began to find themselves in difficulty and to see go glimmering what hopes may have been raised by their early entry into the modern work force. For the increasingly important special instruction and schooling was not open equally to men and women. As early as the 1830's, Oberlin College in Ohio and others began to admit women, but the women were allowed to take only a limited set of courses; the full rigor of the academic program was alleged to be too strenuous for them. Women thus were likely to find themselves barred from exactly those areas of education and training that were indispensable for workers hoping to advance in the new industrial, corporate system. Vocationally, education was important, but not all types of education were equally important.

The pattern, then, seems to have been set quite early: Women were encouraged to work and society was capable of modifying its thinking quickly if female workers appeared useful for

the changing economy, but they were denied access to the training that could have given them independence or strengthened their positions in the competition for more desirable jobs.

Expansion of Women's Participation in the Labor Force

In the 20th Century, women have expanded their participation in the nation's labor force, but they have had little success changing the twin elements of the pattern that had taken shape during the previous 100 years. By 1900, women constituted 18.1% of the work force.⁷ They had come to dominate public school teaching, at least at the elementary level, but the large supply of potential women teachers and the dearth of alternative occupations forced them to work for relatively low wages and opportunities for advancement were limited. The spread of the telephone, the typewriter, and other implements of modern business created new vocational slots for women, subject to the old limitations. Kirkland describes some of the results:

By 1920 in the food industries, bakeries, candy factories, fruit and vegetable canning, over half of the workers were women, which was natural since women had prepared the food in the home; cigar and tobacco factories followed cotton mills and clothing factories as the greatest employers of women. . . .

In 1870 only 350 women were reported employed as telephone and telegraph operators; in 1920 the 175,500 employed women constituted 93.8 per cent of the telephone operators. . . .

In 1870 there were somewhat fewer than 10,000 women employed in (stenographic) occupations; in 1920 their number had increased to 1,380,000 and some of these occupations they had made distinctly feminine. Over 90 per cent of the stenographers and typists were women.⁸

The percentage of women in the total work force had grown to 20% by 1920. World War I had seen many women move into armament and munitions industries, replacing men called into the Armed Services. The effect of World War II was similar. Yet at no time during this period did women occupy more than 5% of the skilled jobs.⁹ The post-war expansion of the nation's economy and technology further extended work opportunities for women: they had been responsible for the largest element in labor force growth since 1940 and accounted for 60% of the increase between 1960 and 1970.¹⁰ Not only have women steadily increased their proportionate place in the total work force, but a steadily larger proportion of American women are working. The following table illustrates the parallel developments.

By November 1974, 46.3% of adult women were either employed or actively seeking work and they constituted 39.9% of the nation's total labor force.¹²

Several factors appear to be reinforcing the trend and may in fact intensify it.

Changes in the Family

The first of these has to do with children. Historically, women with children have been less likely to work than those with no children or with older children who are less directly

TABLE 1¹¹

Women in the Labor Force
Selected Years, 1900-72

Year	Women in Labor Force (thousands)	Women in Labor Force As Percent of	
		Total Labor Force	All Women of Working Age
1900	5,114	18.1	20.4
1910	7,889	20.9	25.2
1920	8,430	20.4	23.3
1930	10,679	22.0	24.3
1940	12,845	24.3	25.4
1945	19,270	29.6	35.7
1950	18,412	28.8	33.9
1955	20,584	30.2	35.7
1960	23,272	32.3	37.8
1965	26,232	34.0	39.3
1970	31,560	36.7	43.4
1972	33,320	37.4	43.8

NOTE: Data for 1900 to 1940 are from decennial censuses; beginning 1945, data are annual averages.

For 1900 to 1945, data include women 14 years of age and over; beginning 1950, data include women 16 years of age and over.

Labor force data for 1900 to 1930 refer to gainfully employed workers.

Data for 1972 reflect adjustments to 1970 Census benchmarks.

dependent on their families. This pattern, which reflects both societal attitudes toward mothers who work while having young children and also availability of alternative child-care systems, appears to be changing. In 1950, 31.4% of American women with no children under 18 were working outside the home; in 1974 there were 53.8% of these mothers at work outside the home, a rise of 64%. More startling still, the percentage of mothers holding outside jobs while they had children under six rose from 13.6% in 1950 to 36.6% in 1974—a jump of 169%.¹³

Indeed, a 1974 woman with pre-school children at home was more likely to be working than was a 1950 woman who had no children under 18.¹⁴

The second factor pointing toward increased labor force participation by women is the crude birth rate—the number of children born each year for each 1,000 persons in the population.

It has dropped from 25.3 in 1957 to 14.8 in 1974. If the fertility rate holds for women now of childbearing age, it will produce the smallest average family size in the history of the country: 1.8 children per family, compared with the presently recorded low of 2.2 reached during the Great Depression of the 1930's.¹⁵ Smaller family size implies that women who elect to stay at home while their children are small will be out of the labor force for a shorter period of time, and thus are likely to work more years of their lives.

Increased Education

A third factor contributing to the prospect of increased female participation in the job market is education. The more highly educated a woman is, the more likely she is to work and more women are getting more education than ever before. Among women aged 24-50, 75% of those with only a grade school education have at some point belonged to the nation's labor force. Of those who started but did not finish high school, 85% have had outside jobs, compared with 90% of those graduating from high school, 94% of those women who attended college, and 96% of those who graduated from college.¹⁶ A great many factors are no doubt responsible for this correlation between education and likelihood of work, but two seem obvious: additional education will generally make it easier for workers to find jobs, if only because they may qualify for a wider range of opportunities and because they probably have a wider vision of potential jobs; also, to the extent that additional education leads to better jobs, better educated women will tend to have the sorts of positive work experiences that encourage individuals to remain in the labor force.

The level of education among women has been rising gradually for at least 25 years and is expected to continue doing so. The percentage of women aged 18-24 who were enrolled in college was only 7.1% in 1950 and reached 19.6% in 1972. Between 1950 and 1972, the percentage of women 25 years old or older who had completed at least four years of college rose from 5% to 9%, while in the same period the percentage of female college graduates in the 25-29 year old category rose from 5.8% to 16%.¹⁷ Similarly, 22.6% of the U.S. women had graduated from high school in 1950, 34.1% in 1970. The trend, according to the Department of Labor projections, will continue. By 1980, it is expected that 15.3% of all women above age 25 will have graduated from college, 46.1% from high school.¹⁸

Anti-Discrimination Legislation

The final factor, and the one that may have the greatest potential for accelerating the entry of women into the job market, is legal. Beginning in 1963, the Congress enacted a series of laws and the Executive Branch issued a variety of rules and regulations forbidding many of the discriminatory practices that held back working women in earlier periods. Since these legal sanctions have become progressively broader and tougher, especially in the last three years or so, it seems probable that their greatest impact lies ahead. Briefly, these are the major elements:

-The Equal Pay Act of 1963 provided that where equal skill, effort, and responsibility are required to perform jobs under similar working conditions, an employer may not discriminate in wage payments on the basis of sex. The Supreme Court held in 1970, in *Schultz v. Wheaton Glass*,¹⁹ that the law applies wherever jobs are "substantially" equal; thus employers cannot

avoid granting equal pay by creating slight or irrelevant differences between men's and women's jobs. In 1972, the law was extended to cover executive, administrative, and professional workers, as well as outside sales persons.

--The Civil Rights Act of 1964, Title VII, prohibits discrimination in employment based on sex, race, color, religion, and national origin. A 1972 amendment extended coverage to state and local government agencies and public and private schools. Discrimination is forbidden in hiring or firing; wages; fringe benefits; classifying, referring, assigning, or promoting employees; extending or assigning use of facilities; training; or any terms, conditions, or privileges of employment.

The guidelines issued by the Equal Employment Opportunity Commission (EEOC), charged with enforcing Title VII, state that this law supersedes any state "protective" laws which prohibit women from working in certain kinds of jobs or for more than certain hours. The guidelines also bar classifying jobs as "men's jobs" and "women's jobs," and restrict exemptions to a very narrow definition of bona fide occupational qualification (such as, only men can be sperm donors and only women can be wet nurses).

The Equal Pay Act and Title VII were the basis of government action against the American Telephone and Telegraph Company alleging discrimination which resulted in landmark settlements. In January 1973, AT&T agreed to a settlement requiring \$45 million in back pay and wage adjustments to non-management employees, and in May 1974 the company agreed to a settlement requiring \$30 million in back pay and wage adjustments to management employees.²⁰

Executive Order 11246 (effective September 24, 1965), which required that all government contracts include provisions forbidding the contractor to discriminate on the basis of race, color, religion or national origin, as amended by Executive Order 11375 in 1967 to include a ban on sex discrimination. In 1971 the Secretary of Labor and the Director of the Office of Federal Contract Compliance revised regulations to require affirmative action goals and timetables for increasing the representation of women in job categories in which they were underrepresented.

Sex discrimination in educational institutions was addressed directly in Title IX of the Education Amendments of 1972. This law states that "no persons in the United States shall, on the basis of sex, be excluded from participating in, be denied the benefits of, or subjected to discrimination under any education program or activity receiving Federal financial assistance. . . ."²¹

Concentration of Women in Jobs

Important as these legal bans, guarantees, and sanctions are, they alone are not capable of assuring the improved job opportunities women need. Much of today's vocational situation for women lies outside the area of overt sex discrimination and thus is outside the purview of the legal system. As a result of discrimination, historical developments, and the almost-invisible channeling effects of childhood socialization, women are concentrated in a comparatively small number of fields, chiefly in the low-paying levels where status and potential for advancement are most limited. In 1970, half of all working women could be found in

only 17 occupations. To account for half the male workers in that year one would have had to combine the totals from 63 different occupations.²²

Similarly, while the five occupational areas with the largest concentrations of women—secretary, retail sales clerk, bookkeeper, waitress, and public elementary school teacher—accounted for 25.4% of all women workers, the five job categories in which men are most heavily clustered—operative, foreman, truck driver, farmer, and janitor—accounted for only 14.4% of all working men.²³

The occupational distinctions that contribute to the lower vocational standing of women are sometimes subtle. While women comprise almost half, or 5,400,000, of all workers employed in the retail trade, they are only 25%, or about 900,000, of the more than 3,500,000 workers in the wholesale trade, where salaries generally are higher. The result is a 65% pay differential in favor of men in the field. In department stores, and other retail merchandising outlets, where average weekly earnings at the beginning of 1973 were only \$82, women made up two-thirds of the sales force.²⁴ (And, in addition to being relatively undesirable, these jobs are particularly threatened by such retailing trends as self-service, automation, and the use of vending machines.)

Women Receive Lower Wages

In terms of pay differentials between male and female workers, women on the whole earn less for two well known reasons: historically, they have been paid less than men for the same work, and women workers have been disproportionately concentrated in the lower-paying job classifications.

In 1970, average annual earnings for men were \$9,030 and for women \$4,873. According to one study, educational differences accounted for \$360 of the disparity, job seniority \$360, absenteeism \$8, differences in hours worked for \$575, and \$2,854—68.7% of the disparity—is unexplained.²⁵ Such disparities are greatest among women who have moved in and out of the job market. Those who have worked steadily since leaving school earn 75% as much as men on the average; employed women who have worked only half the years since they left school earn only 23% as much as men.²⁶

Some of the income consequences of women's disproportionate concentration in lower job categories are capsuled in the 1974 report by Waldeman and McEdday:

In January 1973, most industries paying average weekly earnings of less than \$100 were female-intensive. Several were paying under \$90 a week, while the weekly paycheck for all industries averaged \$138. The average salary for all manufacturing workers was \$159 a week in January 1973. For those in manufacturing industries that were female-intensive, the average was much lower—for example, the apparel industry, in which 81% of the employees were women, paid average weekly salaries of only \$93.²⁷

Other statistics illustrate the situation from a variety of perspectives: Almost as many women as men today work in factories but very few of the women are in the skilled crafts which provide about 21% of all such jobs for men²⁸—one woman in five has a service occupation,

compared with one man in twelve²⁹—20% of the job categories in which at least 40% of the slots are occupied by women pay less than \$2,200 a year³⁰—the higher the average earnings for an occupational category, the fewer women will be found in it.³¹

While increased education in general correlates directly with the likelihood that a woman will work, the relationship between education, occupation, and earnings for women is quite different from what conventional wisdom about the financial worth of schooling might lead one to expect. The pattern discernible fairly early in the last century still holds: women as a group get less education than men, but they suffer a disproportionately greater loss in terms of the vocational benefits that ordinarily are thought to flow from education. That is, men earn high returns on investment for education, both in status and income. Women as a group do not, suffering both in earnings and job security. Steele's analysis is illustrative:

Women do not obtain returns equal to men's. Female-intensive clerical work, in which 12% of the women were college graduates, had median earnings for women of \$5,551, whereas men in clerical work, only 5% of whom were college graduates, had median earnings of \$8,617. The education and talent of women seriously are under-utilized, a waste to them and a loss to society. Women who stay in the labor market continuously earn only two-thirds the amount earned by men in the same occupation. Lower job status for women is accompanied by greater rates of unemployment. Whereas men had 4.9% rate of unemployment in 1972, women experienced an unemployment rate of 6.6%. While education assists in equalizing women's position with that of men, the problems of under-pay and underutilization of female talent continue.³²

Indeed, a comparison of annual earnings and median years of schooling for men and women in the five occupations most popular with each in the year 1969 shows that women had more schooling but received far less money throughout:

TABLE II³³

Women's Annual Earnings and Median School Years Completed
In Each of the Most Popular Female Occupations in 1969

	Earnings	Years of School Completed
Public elementary school teachers	\$6,883	16.6
Secretaries	\$4,803	12.7
Bookkeepers	\$4,477	12.5
Sales clerks, retail trade	\$2,208	12.2
Waitresses	\$1,662	11.5

Compare these figures with the equivalent information on men employed in typical male occupations in 1969:³⁴

TABLE III
Men's Median Annual Earnings and Median School Year Completed
In Each of the Most Popular Male Occupations in 1969

	Median Annual Earnings	Median Years of School Completed
Foreman	\$10,018	12.2
Truck drivers	\$7,246	10.5
Operatives	\$6,896	11.3
Farmers	\$4,816	10.7
Janitors	\$4,771	9.9

Women who have been able to break out of the bounds of the traditionally female occupations have been able to achieve substantially higher earnings. A 1974 analysis of the wages received by men and women in all occupations revealed that women who work in predominantly male occupations earn more than women in occupations that are predominantly female. Most of the top paying jobs for women have fewer than 10 percent female workers. At the same time, more than 20% of the occupations with 40% or more female workers pay women less than \$2,200 per year, putting them in the bottom decile of female workers.³⁵

A more comprehensive overview is provided by the following table:

TABLE IV³⁶
Occupational Distribution of Employed Persons by Education, Sex, and Income in 1970

Occupational Groups	High School				College Graduates		Median Income of Year-Round Full-Time Workers*		
	1-3 Years		4 Years		Percent Men	Percent Women	Men	Women	Women's Earnings as Percent of Men's
	Men	Women	Men	Women					
Professional, technical and kindred workers	2.7	3.6	7.6	7.1	58.9	77.4	\$11,806	\$7,878	66.7
Managers and proprietors	6.9	2.9	11.4	3.8	20.1	4.8	12,117	6,834	56.4
Sales workers	5.6	10.2	7.5	8.1	8.6	2.3	9,750	4,188	42.8
Clerical and kindred workers	6.8	25.3	10.0	50.4	4.9	12.1	8,617	5,551	64.4
Craftsmen	25.3	2.4	26.4	1.8	3.3	.4	9,254	5,089	55.0
Operatives	27.3	22.5	20.6	11.4	1.4	.6	7,623	4,510	59.2
Nonfarm Laborers	9.9	1.6	5.3	.8	.5	.1	6,563	4,291	65.4
Farm Laborers & foremen	1.9	.6	.9	.3	.7	.1	3,519	---	
Farmers & farm managers	2.2	.2	2.9	.2	.8	.1	1,260	---	
Service workers excluding private household	10.8	25.4	7.5	14.5	1.4	1.9	6,955	3,953	56.8
Private household service workers	.2	5.2	(1)	1.7	(1)	.3	---	2,101	

(1) Less than one tenth of 1 percent.

Note - Detail may not add to totals because of rounding.
Source: Bureau of the Census, Department of Commerce.

* Source: *Economic Problems of Women*, Hearings before the Joint Economic Committee, Congress of the United States, Ninety-third Congress, First Session, Part I, July 10, 11, and 12, 1973, Washington: U.S. Government Printing Office, 1973, Table 27, p. 102.

The problem, of course, is not that education per se is lost on women, but rather that in vocational terms most women have been receiving the wrong sort of training. Where women have obtained the skills necessary to work in areas dominated by men, they have been able to narrow the income gap significantly. (Many factors other than education or training are involved in gaining such opportunities for women, as has been seen and will be discussed further, but the recent progress made in coping with the other factors is threatened by the failure of educational systems to adapt more quickly to the needs of working women.) Most of the top-paying jobs now held by women are in fields where men hold 90% of the slots.³⁷ To cite one colorful example, 99% of all railroad and auto shop mechanics were men in 1969, but the 1% who were women had median annual earnings of \$7,230, while women medical secretaries—who accounted for 99% of all medical secretaries—had median annual earnings of \$4,701.³⁸ Similarly, certain fields in which it is difficult or impossible to avoid giving the same pay to men and women have seen surges of interest by women in recent years. Only 9% of the nation's real estate sales people were women in 1940, but in 1973 women accounted for 36% of the jobs³⁹—in part at least because income is based on a fixed percentage of sales or rentals and state licensing systems are likely to be less discriminatory than the screening mechanisms women must penetrate for many other lucrative jobs.

Projections of Job Openings

If the cumulative implication of the data on women entering the work force, on education, legal gains, and breakthroughs into predominantly male occupational areas, is that women can and should raise their vocational sights and broaden their vision, assessments of what lies ahead for the job market impart a note of additional urgency. The U.S. Department of Labor estimated that between 1974 and 1985 the number of jobs will increase in all fields except household work and agriculture, but the most rapid growth will be in technical and professional areas.

A larger percentage of the labor force will hold white collar jobs—51.5% in 1980, 52.9% in 1985, compared with 47.8% in 1972—but this growth will come in the professional, technical, and clerical areas because the proportion of jobs in management, administration, and sales will remain nearly constant.⁴⁰

It is important to note, however, that government analysts do not expect the growth in white collar jobs to keep pace with the increased number of workers trying to squeeze into them. The following projections cover labor supply and demand by job categories.

TABLE V⁴¹

Comparison of Projected Percentage Increases in Labor Force and Employment by Occupational Status Group, 1970 to 1980

Occupational status group	Labor force increase (1)	Employment increase (2)	Difference (1) - (2)
Group I, professional, technical, and kindred	45.3	39.0	6.3
Group II, managerial, clerical, and sales ¹	24.6	21.9	2.7
Group III, craft and kindred (part of) ²	15.1	16.5	-1.4
Group IV, operatives (part of) ³	11.0	16.9	-5.9
Group V, laborers (part of) ⁴	4.4	10.6	-6.2

¹ Also includes police, fire fighters, and related occupations. Does not include shipping and receiving clerks, messengers, and office helpers.

² Includes farmers; operatives in selected higher wage industries, e.g., transportation equipment, chemical, and petroleum; and barbers, bartenders, and practical nurses.

³ Includes auto mechanics; construction painters, plasterers, cement and concrete finishers, and roofers; selected service occupations, e.g., hospital attendants, waiters, guards, and housekeepers; metal-working industry laborers and shipping and reviewing clerks, messengers, and office helpers.

⁴ Includes most farm and nonfarm laborers, cooks and kitchen workers, cleaning and building service workers, domestic workers, and laundry and dry cleaning operatives.

Thus there is likely to be more work than workers in many of the industrial, transportation, and service crafts over the next decade, as well as in some of the construction trades. Overall, employment opportunities for craft workers will increase 16.5% while the number of persons seeking such jobs will rise only 15.1%. Conversely, while technical and professional job openings will increase by 39%, competition for those desirable jobs will become even more intense than it is now because there will be a 45.3% increase in the number of people striving for them.⁴²

Women preparing for employment, therefore, would be well advised to look beyond the occupational categories in which women traditionally cluster and to give particular consideration to some of the craft and industrial jobs which traditionally have been considered most foreign to "feminine" nature. Most important of all, women hoping for good working futures should obtain the specific kinds of vocational and other education necessary to fit them for the job market they will face. And it is here that prospective women workers are likely to have severe problems.

THE DISTORTED FACE OF VOCATIONAL EDUCATION FOR WOMEN

The essential facts about the ways in which women workers are clustered in a relatively small number of comparatively low-paying, often dead-end job categories have been known for many years. So have the basic data about the steady increase in numbers of women seeking work outside the home. Yet women's vocational education programs, which are themselves long-established elements in American public education, have not actively sought to provide women with the particular skills they need if they are to seek or hold better, more promising jobs. Nor have they encouraged women to challenge clearly identified barriers in the job market. Instead, the schools have been—and in most cases continue to be—among the major social forces perpetuating the stereotyped images of women, their vocational opportunities, aptitudes, and interests. Schools continually direct young women toward vocational and educational choices that later will tend to lock them into undesirable segments in the labor market.

Vocational Education Enrollments

The problem is not that women avoid vocational or task-oriented courses in school. Women constituted just over half of all vocational education students in the nation during 1972, the last year for which such data is available.⁴³ The size of this proportion is misleading, however; even though 90% of all U.S. women seek employment outside the home for at least part of their adult lives, 49.5% of the women taking vocational education courses in 1972 were enrolled in homemaking or consumer education classes that were not meant to prepare them for employment.⁴⁴ And most of the remaining 50.5% were taking courses designed to prepare them for work in the traditional, sharply limited, "female" job categories. Home economics courses, for example, are, at best, likely to result in stereotypical jobs for women,* but in 1972, the U.S. Office of Education found that 92% of the women enrolled in home economics courses were studying material that was not intended to lead to wage-earning jobs of any kind; instead they were concentrating on housewife skills and related material.⁴⁵ The following table shows the percentage of male and female students enrolled in each of the major vocational education categories for 1972; there may well have been significant progress in shifting enrollments toward a more realistic alignment since 1972, but these are the most current available figures and the basic outlines of the situation are believed to remain unchanged.

Note that after homemaking, the most popular vocational education choice among female students is courses associated with office occupations, which account for 30.5% of female enrollments. If the traditional female fields of homemaking, home economics, and office skills are combined, they account for 84.1% of all women taking vocational courses.

*In pointing out the problems inherent in considering home economics courses to be vocational training programs, we do not mean to imply that these courses are not of great value. But instruction in homemaking and family life—equally important for boys as for girls—might better be considered part of a liberal education rather than vocational training. SACRRW plans to investigate this question in greater depth in Fiscal Year 1976.

TABLE VI⁴⁶

Percentage of Total Vocational Education Enrollment of Each Sex Enrolled in Vocational Field of Study Nationwide, 1972

Field of Study	% of Total Male Enrollment Nationwide	% of Total Female Enrollment Nationwide
Agriculture	18.8%	0.8%
Distributive	7.8%	4.9%
Homemaking and Consumer	5.5%	49.5%
Gainful Home Economics	0.9%	4.1%
Office	12.3%	30.5%
Technical	6.7%	0.6%
Trade and Industrial	46.9%	4.8%
Health	1.1%	4.8%
Total*	100.0%	100.0%

*Columns may not add to 100% because of rounding.

Not only are most of the home economics students devoting themselves to non-wage earning skills, but most of those in the office occupations are being prepared for the least desirable positions. Women predominate in classes devoted to stenographic, secretarial, clerical, and similar skills; where instruction is given in business data processing systems, enrollment is 51% male, according to the most recent data, and in courses on supervisory-administrative management the enrollment is 72% male. As Steele observes: "It is ironic that within a traditional female program area, young women enroll in supportive rather than in management occupations."⁴⁷

Another occupational program in which female students are concentrated is the health related vocations; girls make up 84.7% of the enrollment in these vocational courses, but they are concentrated in such relatively low-paying specialties as practical nurse, nurse's aide, and dental technician.⁴⁸

The trade, industrial, and technician education courses, which point toward fields in which students' prospects for employment would be brighter and wages generally higher, are predictably dominated by male enrollment. Nationwide, these courses as a group account for 53.5% of all male vocational student enrollments. Only 4.8% of the women taking vocational courses were to be found in the trade and industrial fields, a mere 0.6% in technical courses.⁴⁹ It is worth noting that there are virtually no physical requirements

militating against women in the technical fields, but many of them require mathematical and/or scientific training as prerequisites and comparatively few girls have enrolled in these "threshold" courses in secondary school.⁵⁰

The data above have demonstrated the distribution among occupational training categories of women who are enrolled in vocational education courses. The following data show the relative position of women in the total vocational education picture--the percentages women form of total enrollment in each field.

Nationwide, technical programs, for example, are 90.2% male and 9.8% female.

TABLE VII⁵¹

Enrollment Total and Percentage Female Enrollment in Each Vocational Field of Study, Nationwide, 1972

Field of Study	Enrollment Nationwide	% Female Nationwide
Agriculture	896,460	5.4%
Distributive	640,423	45.3%
Health	336,652	84.7%
Homemaking and Consumer	3,165,732	92.1%
Gainful Home Economics	279,966	86.1%
Office	2,351,878	76.4%
Technical	337,069	9.8%
Trade and Industrial	2,397,968	11.7%

Post-Secondary Enrollments

A significant number of women choose to pursue career training beyond the secondary school level, enrolling in community colleges, post-secondary technical institutes, and regional vocational-technical schools. About 11% of all women enrolled in vocational education nationwide are in this category. As might be expected, the patterns of the lower level schools are continued as women seek advanced training: women are concentrated in a disproportionately narrow range of vocational categories and within these categories tend to aim for the supportive, less rewarding jobs instead of reaching higher. According to recent studies, women tend to cluster in the health and public service categories.⁵²

The enrollment in dental hygiene classes was 99.3% female in 1971, while enrollment in electronics and machine technology courses was 99.7% male.⁵³ In various categories of

mechanical or engineering technology, women predominated in only one study area: textile technology. In classes devoted to the rapidly expanding field of data processing, enrollment in courses to train key punch operators was over 85% female, while only about 27% of those studying computer programmer technology were women, and there were no women studying maintenance of data processing equipment.⁵⁴ Similarly, in the health and paramedical field, enrollment in courses on medical record technologies was reported 96% female, while only 33% of those studying institutional management were women.

The natural science technologies, many of them comparatively new and not sex-limited for physical reasons, might seem a promising place to look for expanded effort by women, but the U.S. Office of Education data confirms that in this area too the old pattern holds. Enrollment in 1971 in home economic technologies, which are categorized as part of the natural sciences, was 91.4% female, though women constituted only 33.3% of those studying food service technologies. Only 8.2% of the students in marine and oceanography technologies were female, in sanitation and public health inspection areas only 10.3%.⁵⁵

Of the business and commercial technologies, women predominated in three: they accounted for 98.3% of students in secretarial and office machine training, 93.8% in such personal service technologies as cosmetologist or airline stewardess, and 54.8% in such applied arts as advertising design, fine arts and graphics.⁵⁶

The following table gives a complete breakdown of female enrollment in vocational technology training.⁵⁷

TABLE VIII

Occupational Program	Total	Total Female	Percent Female
Data Processing Technologies			
Data processing technologies general	5,027	1,725	34.3
Key punch operator and other	648	567	87.5
Computer programmer technology	2,149	595	27.7
Computer operator	387	199	51.4
Data processing equipment maintenance	431	0	--
Other	<u>103</u>	<u>27</u>	<u>26.2</u>
Total	8,745	3,115	35.6
Health and Paramedical Technology			
Health services assistant technologies	258	230	89.1
Dental assistant technologies	2,191	2,138	97.6
Dental hygiene technologies	2,506	2,489	99.3
Dental laboratory technologies	264	93	35.2
Medical or biological laboratory assistant technologies	1,335	1,030	77.1
Animal laboratory assistant technologies	55	23	41.8
Radiologic technologies (x-ray, etc.)	1,139	782	68.6
Nursing, R.M. (less than 4-year program)	14,408	13,799	95.8
Nursing, practical (L.P.N. or L.V.N.--less than 4-year program)	7,708	7,496	97.2
Occupational therapy technologies	243	217	89.3
Surgical technologies	244	204	83.6
Optical technologies (include ocular care, ophthalmic, optometric technologies)	81	8	9.9
Medical record technologies	374	359	96.0
Medical assistant & medical office assistant technologies	1,256	1,176	93.6

TABLE VIII -- Continued

Occupational Program	Total	Total Female	Percent Female
Inhalation therapy technologies	570	270	47.4
Psychiatric technologies (include mental health aide programs)	1,189	429	36.1
Electro diagnostic technologies (include E.K.G., E.E.G., etc.)	22	17	77.3
Institutional management technologies (rest home, etc.)	276	91	33.0
Physical therapy technologies	467	196	42.0
Other	815	560	68.7
Total	34,518	31,607	91.6

Mechanical and Engineering Technologies

Mechanical & engineering technologies, general	2,560	22	.9
Aeronautical and aviation technologies	2,173	19	.9
Engineering graphics (tool and machine drafting and design)	2,917	60	2.0
Architectural drafting technologies	1,938	53	2.7
Chemical technologies (include plastics)	589	104	17.6
Automotive technologies	4,041	4	.1
Diesel technologies	721	9	1.2
Welding technologies	1,097	7	.6
Civil technologies (surveying photogrammetry, etc.)	1,637	12	.7
Electronics & machine technologies (television, appliance, office machine repair, etc.)	7,851	25	.3
Electromechanical technologies	1,301	4	.3
Industrial technologies	1,657	20	1.2
Textile technologies	155	107	69.0
Instrumentation technologies	203	2	.1
Mechanical technologies	2,749	17	.6

TABLE VIII -- Continued

Occupational Program	Total	Total Female	Percent Female
Nuclear technologies	65	9	13.8
Construction & building technologies (carpentry, electrical work, plumbing, sheet metal, air conditioning, heating, etc.)	4,229	14	.3
Other	<u>1,554</u>	<u>34</u>	<u>2.2</u>
Total	37,437	522	14.0

Natural Science Technologies

Natural science technologies, general	666	173	26.4
Agriculture technologies (include horticulture)	2,870	262	9.1
Forestry & wildlife technologies (include fisheries)	1,087	8	.1
Food services technologies	693	231	33.3
Home economics technologies	872	797	91.4
Marine & oceanographic technologies	183	15	8.2
Laboratory technologies, general	144	60	41.7
Sanitation & public health inspection technologies (environmental health technologies)	145	15	10.3
Other	<u>378</u>	<u>41</u>	<u>10.8</u>
Total	7,028	1,602	23.0

Business and Commerce Technologies

Business & commerce technologies, general	11,008	3,017	27.4
Accounting technologies	5,301	1,710	32.2
Banking and finance technologies	572	56	20.0

TABLE VIII - Continued

Occupational Program	Total	Total Female	Percent Female
Marketing, distribution, purchasing, business, and industrial management technologies	9,237	2,571	28.0
Secretarial technologies (include office machines training)	16,534	16,255	98.3
Personal service technologies (stewardess, cosmetologist, etc.)	1,262	1,184	93.8
Photography technologies	577	61	10.6
Communications & broadcasting technologies (radio/television, newspapers)	728	201	27.6
Printing and lithography technologies	512	25	4.9
Hotel & restaurant management technologies	916	222	24.2
Transportation & public utility technologies	324	86	26.5
Applied arts, graphic arts, & fine arts technologies (include advertising design)	2,998	1,643	54.8
Other	1,368	549	40.1
Total	51,037	27,580	54.0

Public Service Related Technologies

Public service technologies, general	277	175	63.2
Bible study or religion related occupations	744	404	54.3
Education technologies (teacher aide and 2-year teacher training programs)	3,856	3,267	84.7
Library assistant technologies	471	440	93.4
Police, law enforcement, corrections technologies	6,873	420	6.1
Recreation & social work related technologies	1,146	620	54.1
Fire control technology	735	19	2.6
Public administration & management technologies	111	15	13.5
Other	571	383	67.1
Total	14,784	5,743	38.8

TABLE VIII – Continued

Occupational Program	Total	Total Female	Percent Female
Organized Occupational Curriculums Below the Technical or Semiprofessional Level			
Science or engineering related	2,628	327	12.4
Non-science and non-engineering related	1,818	772	42.5
Total	4,446	1,099	24.7

Source: Mary Evans Hooper, *Associate Degrees and other Formal Awards Below the Baccalaureate, 1970-71*, National Center for Educational Statistics, Office of Education, Department of Health, Education, and Welfare, Washington, D.C.. U.S. Government Printing Office, 1973, pp. 320-325.

Career Preparation at Four-Year Colleges

The picture is much the same for women who attended four-year colleges. A 1968-69 survey by the U.S. Office of Education⁵⁸ found 39% of women who received bachelor's degrees that year were in teacher education, 22% in humanities, 15% in the social sciences, and 4% each in health professions and natural sciences. A more recent study⁵⁹ of 1,646 women who were juniors and seniors in college found that 1,537 were preparing for careers in areas traditionally considered female. Their choices are shown in the following table.

TABLE IX⁶⁰
Career Choices of Women College Students

Career	Number of Students	Percent of All Students
Traditional:		
Teacher	803	48.8
Counselor, social worker	94	5.7
Nurse or other health	77	4.7
Librarian	28	1.7
Housewife	10	.6
Other traditional	<u>211</u>	<u>12.8</u>
Total	1223	74.3
Nontraditional:		
Scientist	20	1.2
Clinical psychologist	15	.9
Physician	14	.8
Lawyer	11	.7
Government	10	.6
Computers	7	.4
Other nontraditional	<u>32</u>	<u>1.94</u>
Total	109	6.54
Don't know	314	19.0

Note that only 0.6% of the women in this sample are aiming at careers as housewives, yet only 6.54% are planning to venture beyond the traditional areas of female effort. Given the present and projected outlook for jobs in teaching, the fact that 48% of those surveyed were specializing in that field is particularly distressing.

These are bright spots in the over-all picture of women in vocational education, of course, and a combination of social, political, and legal pressures are coming to bear on the problem in a positive way. It is cheering to note that 1974 figures from the Association of American Colleges indicate there has been a steady increase in the percentage of women among students of law and medicine, rising from five and eight percent respectively in 1965 to 20% each in 1973.⁶¹ Yet the scene is predominantly discouraging: While adult women are increasingly seeking paid employment, female students continue in overwhelming numbers to select (or be guided into) vocational studies that prepare them for no income-producing work or at best, for the careers that promise the least pay, the least status, and the least hope for the future.

UNDERLYING PROBLEMS IN VOCATIONAL EDUCATION FOR WOMEN

Ill-adapted as it seems to be to today's reality, the pattern of course selection and instruction found among women in vocational education is only a reflection of the attitudes, assumptions, and beliefs that prevail in American schools generally. The schools in turn reflect the society that created them. One might hope the educational system would work to counteract ingrained stereotypes that have, at the least, become outmoded. In reality, little such social or educational leadership is to be found.

Sex Role Socialization

Sex-differentiated treatment begins with birth. In clothing, games, household chores, birthday presents, books, and a thousand other everyday ways, boys and girls are treated differently. Popular culture—magazines, movies, television programs, records—confines itself for the most part to stereotyped portrayals of males and females. Not nearly enough research has been done for anyone to speak with certainty about the precise consequences of sex distinctions and stereotypes in society, or even to state exactly what they are and how they manifest themselves. An extensive literature does exist, however, and Safilios-Rothschild summarizes some of the principal differences found in existing studies concerning parental (predominantly maternal) treatment of boys and girls:

Mothers maintain physically close and affectionate relationships with girls for a longer period of time (Lewis, 1972a). Mothers expect girls to be more dependent and give them more physical attention (Dropleman and Schafer, 1963). On the other hand, boys are given more independence training (Barry, Bacon and Child, 1957), more punishment (Dropleman and Schafer, 1963) and are encouraged more in intellectual curiosity (Lynn and Sawrey, 1963). Mothers place a greater degree of pressure for achievement and punish more dependency in boys than girls of pre-school age. In addition, boys' aggression is rewarded as appropriate "masculine" behavior while girls' aggression is never rewarded though indirect expressions are tolerated. Mothers place pressures on girls for "feminine" neatness, obedience and conformity, while pressure on boys is for independence and achievement (Hatfield, Ferguson and Alpert, 1967). Mothers of girls are more strict about neatness, demand obedience and control verbal protests by using withdrawal of love, while mothers of boys use negative sanctions (deprivation of privileges) to control verbal protests from boys (Baurind and Black, 1967).⁶²

The parental and childhood experiences, among other things, appear to feed into society's attitudes toward men and women in relation to work. As has been endlessly documented, American culture holds and conveys strong opinions about what it is appropriate for men and women to do vocationally. Girls are told directly and indirectly that many careers are unfeminine; the ideal still seems to be a household in which a husband has a good, well-paying job that conveys status upon the entire family and the mother "does not have to work." (Historically, as has been shown, American society can be quite flexible about what sorts of work women may properly do, depending on the nation's varying needs and the conditions effecting men at the time, but this apparently has not significantly altered the society's basic conviction that most jobs are presumed to be unfeminine and that society's policy of restrictiveness is proper where women are concerned.)

The assumptions of adult society are reflected in students themselves. In a recent survey of high school seniors, 45% of the boys and 29.4% of the girls agreed that "Women should stick to women's jobs and not compete with men."⁶³

Schools tend to reflect these attitudes and assumptions in curriculum materials, textbooks, and the ways teachers or counselors deal with individual students.

Sex Stereotyping in Curriculum Materials

A number of studies indicate that many curriculum materials reflect traditional sex stereotypes. A 1972 analysis of 2,760 stories in 134 children's reading texts, for example, found that men were shown in 147 different jobs and women in only 26; all of the work done by women in the stories fell within the traditional concept of appropriate "women's jobs."⁶⁴ The texts included biographies of 88 different men, compared with 27 biographies of 17 women, suggesting that the authors at least perceived a distinct shortage of women worth writing about. Stories about boys out-numbered those about girls more than two to one and boys were almost never shown doing household chores while girls were shown cooking 33 times and cleaning 27 times. More important, perhaps, the central figures in stories dealing with ingenuity, creativity, bravery, perservance, achievement, adventuresomeness, curiosity, autonomy, and self-respect were boys four times as often as they were girls.

Similarly, an examination of American history textbooks by another group⁶⁵ found that illustrations in eight were entirely male-oriented and that such activities as pioneering were often portrayed as male accomplishments when in fact women played equally important, demanding, and sometimes heroic roles. The women's suffrage movement was scarcely mentioned and the eight books found room to mention only 33 women, compared with 1,103 men.

Sex Stereotyping in Guidance

Problems with school guidance personnel are likely to occur in two areas. First, the counselors may themselves embrace the larger society's stereotypes and in many cases will themselves be guided by incorrect and/or outdated perceptions of reality in the job market. Second, guidance materials available for use by counselors often have serious shortcomings, if not negative biases, with respect to women.

More research would be useful on what personal value judgements underlie the advice and guidance given to female students by vocational counselors. Some existing studies indicate that counselors, instead of providing realistic information and guidance concerning the changes underway in society, are apt to lag in their own thinking. Thus, presumably unaware that they are pointing women students away from the greatest opportunities, counselors often direct them into the same old female fields.

A 1970 study⁶⁶ used an actress to portray a woman student trying to decide whether to seek a career as a teacher or an engineer. Sessions between the "student" and real counselors, both men and women, were tape recorded. Considerable bias was found among counselors of both sexes: both wanted the "student" to choose the traditional woman's field, teaching. A group of caseworkers studied in 1971⁶⁷ exhibited negative attitudes toward women who combined jobs and families. A UCLA program planner with extensive experience among mature college-level women seeking employment concluded at a recent conference:

Women continue to be counseled into areas of teaching and the behavior and social sciences. Although we feel practitioners in these fields are extremely valuable to our society, we believe that indications are clear that employment opportunities are rapidly diminishing. We are committed to developing new careers for women and encouraging women to enter traditionally male fields. Based on eight years experience in designing and presenting programs for women, we feel it is urgent to implement a program which will increase the number of women engineers, architects, and managers.⁶⁸

Problems With Guidance Tests

Even where counselors understand the changing world their students face, the guidance effort often may be handicapped or led astray by testing and related materials that are not up to date or have other serious shortcomings for prospective women workers. The National Institute of Education is preparing to publish a detailed study on testing problems.⁶⁹

The tests most frequently used by counselors in connection with vocational guidance are those which catalog a client's interests, likes, and dislikes, then use the results to match the client with potential occupations. Some of these tests, such as the Kuder Occupational Interest Survey,⁷⁰ compare a client's expressed interests with those of people currently working in a particular field. The other commonly used test is one, such as the Self-Directed Search,⁷¹ which clusters client responses to questions about interests on an arbitrary or empirical basis; each cluster is believed to indicate affinity for particular types of work or work environment.

By establishing that a client's taste in reading or recreational activity corresponds to the preferences of doctors, let us say, or office managers, one may surmise that the client has something in common with many doctors or office managers and thus might be suited to those occupations. Similarly, a client whose interests and preferred activities implied physical dexterity or a mechanical bent might be guided toward occupations in which successful workers are known to exhibit those qualities.

Especially as applied to contemporary women facing vocational education or job market decisions, a number of problems arise. The tests in no direct way measure intelligence, aptitude, skill or knowledge. Thus they offer no firm conclusions about the capacity of a client to master the skills necessary to work in a particular field.

Also, cultural factors can distort the implications of such tests. Most lawyers may express interest in reading about history, for example. A student from a disadvantaged minority, or a woman who grew up in a household dominated by old-fashioned ideas of what is ladylike or simply had influential parents with different tastes, might well fail to give the "lawyer's" response. Yet the ghetto child or the woman raised on John Keats might still have the makings of acceptable lawyers. This cultural bias, or acculturation distortion, may be particularly harmful to women where experience with scientific, technical, or physical activities are considered important test indicators. Relatively few women grow up tinkering with automobiles, but a great many have shown themselves capable of mastering mechanical subjects in the interest of better jobs. It is worth remembering that many men spend successful lives doing work that has little relationship to the activities of their youth, or for that matter, with their adult tastes and interests. The American labor force is ruled more by Adam Smith's invisible hand than by Plato's philosopher kings. Women who hunger for more rewarding jobs can be as pragmatic and adaptive as men.

Some of the interest inventories do provide separate scales for women in an effort to filter out distortions caused by the different societal experiences of men and women. These are too few of these separate scales, however. The Minnesota Vocational Interest Blank,⁷² the only interest inventory designed specifically for non-professional occupations, offers only male scales. Also, since women have perforce been concentrated in a narrow range of occupations, when their responses are translated into separate job scales or clusters, they imply an unwarranted degree of specificity. A great variety of women are to be found in teaching, for example, because teaching often has been the best of a small set of choices, yet to interpret women's answers on an inventory as being a specific indication of what sort of woman is suited to teaching would be misleading: the teaching women's scale of interests actually encompasses the interests of women who would have been doing a great many other kinds of work if the other jobs had been available.

Finally, since women often are influenced by society's stereotyped visions of them, many have a tendency to project onto these tests what they think is expected of them instead of what they really feel. Or, women may share society's restrictive attitudes without realizing that the lack of a broader view is one of the things constraining their vocational hopes. A 1970 study⁷³ had a group of 50 women above the age of 40 take an interest inventory test without special instructions; they showed typical female responses. The test was then administered again, but this time the women were told to answer as though men and women had equal opportunities for job advancement, family and career could be combined successfully, and men liked intelligent women. The results changed drastically. Their career aspirations were much higher than they had been the first time. This would seem to indicate that standard career interest inventories may measure perception of social role as much as they measure true individual interest patterns, and thus be of extremely limited use in counseling women in these times of great social change.

SUMMARY OF FINDINGS

Our investigation into career and vocational education for women has led us to the conclusion that most vocational training received by women is rooted in traditional concepts of woman's role and is inappropriate to present day needs. Our basic findings supporting this conclusion are as follows:

1. Most women are now workers. Ninety percent of all women in the United States work for pay at some time in their lives and the majority of adult women are in the labor force now.
2. Female vocational education students are either not being prepared for gainful employment or are being prepared only for low-paying, dead-end jobs. In 1972, 49.5% of all female vocational education enrollments were in non-gainful home economics. Another 30.5% were in office occupations—mostly typing and filing courses. At the same time only 4.8% of female enrollments were in the trade and industrial programs which accounted for 46.9% of the male enrollments.
3. This pattern of training perpetuates a labor market structure in which women are concentrated in occupations paying much lower wages than do the occupations in which men tend to be employed. In 1973, the median annual earnings of men who worked full-time, year-round were \$11,186. That same year the median annual earnings of women who worked full-time, year-round were \$6,335 or 56.6% of the male median. The single greatest factor causing this disparity was the tendency of women to work in lower paying occupations. Women also tend to be much more highly concentrated in just a few jobs than are men. In 1970, half of all women workers were employed in just 17 occupations, while one needed 63 occupations to include half of all male workers.
4. The enforcement of laws mandating equal opportunity in employment and the heightened awareness among employers that women can successfully perform jobs previously restricted to men, have led to a significant increase in opportunities for women to enter non-traditional occupations. To be able to take advantage of these opportunities, however, a woman must acquire the appropriate marketable skills.
5. Rather than helping prepare women to take advantage of emerging opportunities, the schools themselves tend to reflect and reinforce traditional sex-role stereotype which limit women's occupational choice. Outdated curriculum materials, guidance and counseling materials, and attitudes on the part of teachers, administrators and counselors contribute to a narrowing of career options for female students.

These findings led the Committee to investigate two avenues for encouraging needed changes in the education system: 1) amending the Federal vocational education legislation, and 2) changing HEW policies. A brief discussion of our findings and specific recommendations for change can be found in section III of this paper.

III. RECOMMENDATIONS FOR CHANGE

INTRODUCTION

In response to problems described in the foregoing chapter regarding vocational preparation of women, the Committee has developed two types of recommendations for change: 1) changes in Federal vocational education legislation, and 2) changes in HEW policy and practice. The Committee, in focusing on changes needed at the Federal level, is not unaware of policy changes needed also at the regional, state, county and local level. It is our hope that the Federal government, and HEW in particular, can serve as a model of equal opportunity for women and through its own policies and practices promote improvement in opportunities for women throughout the country. Likewise, we believe that strong language in the Federal vocational education legislation supporting women's desires for career preparation in a wide range of fields, including those fields traditionally considered suitable only for males, can have nationwide impact in opening up new opportunities by encouraging state and local education agencies to adjust their policies to meet the needs of today's women.

AMENDMENTS TO THE FEDERAL VOCATIONAL EDUCATION LEGISLATION

Background

The basic Federal vocational education legislation, known as the Vocational Education Amendments of 1968 (VEA), officially expired on June 30, 1975.* An automatic extension keeps the law in force for one year from that date. Congress is in the process of considering renewing or revising the law. Several bills have been introduced in the House and Senate representing slightly different views of how the Federal law should be structured.

Under the VEA, the core of the Federal program for vocational education is the State Plan. To qualify for its share of basic (Part B) Federal funds (allocated on a formula basis) each state must submit to the Office of Education a plan explaining the objectives of the state's vocational education program and the way in which Federal funds will be used to meet those objectives. The VEA requires that the states match the Federal funds at least one-to-one. In fact most states overmatch, with a national average of approximately 4.7 state and local dollars to every Federal dollar. The VEA requires that 15% of Part B funds be spent on programs for the disadvantaged and 10% be spent on programs for the handicapped. It also requires that 15% be spent at the post-secondary level.

The VEA also has special categorical programs for research (Part C), exemplary programs (Part D), residential schools (Part E, this section has never been funded), consumer and home-making education (Part F), cooperative education programs (Part G), work-study programs (Part H), curriculum development (Part I), and bilingual education (Part J).[†] Each of the categorical programs has different programmatic and funding requirements.

*Technically, only the sections of the law authorizing categorical programs expired. However, Congress, the Administration and various interest groups are using this opportunity to reconsider the entire act.

[†]Bilingual vocational education was added to the vocational education legislation in 1974 as part of Public Law 93-380. The amendment gives authority to spend Part B funds on bilingual programs, as well as creating a separate section.

The VEA also established a National Advisory Council on Vocational Education, whose members are appointed by the President, and State Advisory Councils on Vocational Education, whose members are appointed by the Governor or State Board of Education.

All of the bills introduced thus far would leave the State Plan system, and the network of advisory councils, basically intact. The Administration's bill attempts to improve the planning process in a number of ways, including changing the plan from one which discusses only Federally financed programs to one which presents a plan for those programs in the context of the state's total effort.

All of the bills combine Parts C (research), D (exemplary programs) and I (curriculum) into a single title for innovative programs. The Administration bill also eliminates Parts E, F and G, incorporating the purposes of those categorical programs into the list of allowable expenditures under the general state program.

The bill of the American Vocational Association likewise eliminates Parts E, F and G, but it creates a separate title for prevocational education.

The bills submitted by the American Association of Community and Junior Colleges and that of the National Association of State Universities and Land-Grant Colleges mandate that 40% of core (Part B) funds be spent on post-secondary education, up from 15% in the present law.

The American Personnel and Guidance Association has submitted a bill to strengthen career guidance and counseling programs.

The VEA nowhere mentions the problems of sex bias and sex stereotyping in vocational education. Neither, with one exception, do the bills introduced to amend that law.

The exception is the Administration's bill which lists "the correction of sex-role stereotyping in training and employment opportunities" as one of the priorities for which a state may spend Federal research money (under Title IV of the bill, replacing Parts C, D and I of the current law).

The Administration bill also states that appointments to Advisory Councils should be made so that there is appropriate representation of "both sexes, racial and ethnic minorities, and the various geographic regions." The American Vocational Association bill contains the same recommendation. The current law has no such provision.

Although the Administration bill, as it currently stands, is an improvement over the VEA in these respects, there are a number of ways it could and should be strengthened.

Legislative Recommendations

The Committee recommends that the Administration's vocational education bill be amended as follows:

1. *Statement of Purpose.* A clear declaration that it is the intent of the law to provide equal opportunity for vocational education to both sexes and to overcome barriers to such equal opportunity should be added to the statement of purpose.

2. *Advisory Council Membership.* The law mandates that many specific interests be represented on Advisory Councils. A mandated position should be added to both the National and State Councils for a person familiar with the problems of sex bias and sex stereotyping in training and employment.
3. *Special Needs.* The Administration bill provides a set-aside of funds for students with special needs, defined as those who require "special supportive, educational or guidance assistance in order to benefit from vocational education programs and services." Although technically this section could be interpreted to include women enrolling in courses which have been traditionally male, the Committee fears that in practice these funds will not be used to provide services to assist women in overcoming the legacy of sex bias in vocational education. Experience has shown that support services, including special guidance and counseling assistance, vastly increase the retention rate of women in such programs. The Committee, therefore, recommends that funds be specifically designated, either under this section of the Act or as a separate section, to provide support services for women. This set-aside should be maintained only so long as remedial action is necessary for overcoming sex bias and sex stereotyping in vocational education. It should be limited at present to the period of the authorization of funding for the bill and reconsidered thereafter.
4. *State Plan.* The bill states a number of specific requirements that all state plans for vocational education must meet. A provision should be added that each plan provide self-assessment of the state's progress in reducing sex bias and sex stereotyping in vocational education and establish objectives for expanding female enrollments in non-traditional programs, so long as such remedial action is necessary.
5. *Data Collection.* A provision should be added stating that all enrollment and employment data for vocational education should be collected by the Office of Education simultaneously by sex, by race, by program and by level and that such data shall be published annually, nationally and by state. Data on enrollments in non-gainful home economics programs should be kept separately from, and not aggregated with, other enrollment data.

HEW POLICY AND PRACTICE

Background

In Fiscal Year 1975 the Subcommittee on Education of the Secretary's Advisory Committee on the Rights and Responsibilities of Women began a review of the programs of the Division of Education, DHEW, which are related to the career and vocational preparation of women. Preliminary findings are discussed below.

The data available to the Subcommittee suggest that research and development efforts to improve career and vocational education opportunities for women have not been a high priority in HEW. According to National Institute of Education figures, for example, in FY 73, \$1,930,871 or 1.8% of the NIE research budget was spent on such projects. In FY 74, \$1,158,791 or 1.5% of the budget was so allocated. In FY 75, the amount devoted to projects addressing these issues was reduced to \$940,000 or 1.3% of the budget, and the

proposed amount for FY 76 is only \$780,000 or 1% of the budget. The Committee recommends (Recommendation 9 below) that this decline in dollars and percent of funds be reversed and the allocation of funds to research and development projects concerning career preparation of women be increased by at least 200% over the proposed FY 76 amount.

Comparable figures on expenditures by the Office of Education could not be obtained for two reasons.

First, no one in the Office of Education maintains a comprehensive list of special projects addressing women's needs. Considerable information concerning projects monitored by OE staff related to career and vocational education for women was obtained through interviews with program staff, but the list thus developed by the Subcommittee is undoubtedly not all-inclusive. This experience has led the Subcommittee to recommend (Recommendation 11 below) that the Office of Education institute procedures whereby central listings of women's projects are maintained.

The second problem in assessing the use of Federal funds in improving opportunities for women concerns those programs, such as TITLE I and TITLE III of the ELEMENTARY AND SECONDARY EDUCATION ACT, where project decisions are made on the state or local level, and no central files are kept. For example, the Subcommittee by chance discovered one program in New Jersey, funded through TITLE III, on which \$240,000 has been spent over the last three years to develop curriculum materials to help expand girls' career horizons. No information concerning this program was obtainable from the TITLE III office in OE because, as a program officer explained, OE no longer keeps any records on Federally assisted state projects.

The finding has led the Committee to recommend (Recommendation 12 below) that OE reinstitute the policy of keeping records of projects in the states funded with Federal monies and that it establish a system for tagging projects which specifically deal with the needs of women.

The pattern of HEW-funded projects related to career preparation of women which emerged in the Subcommittee's necessarily limited review was one of a great deal of emphasis on guidance and counseling, numerous reviews of literature, and relatively little effort to induce change in the vocational education enrollment patterns in the schools. This picture may be somewhat distorted because of the problems with the data base described above. However, there appeared to be a dearth of projects aimed at developing curriculum materials and exemplary programs designed to increase female enrollments in traditionally male vocational education programs. Also lacking were in-service training programs for teachers and administrators to increase their awareness of the career training needs of women today.

HEW Policy Recommendations

SACRRW has been concerned since its inception with HEW's role as a model of policies promoting equal opportunity for women. We commend the Secretary on the progress that has been made in providing opportunities for women within HEW, and urge that improving the status of women remain a high priority within the Department. In addition, we specifically recommend the following:

- *6. HEW should serve as an example to educational institutions by appointing women to a fair share of top level positions, by encouraging upward mobility for women employees at all levels, and by providing in-house training on sex-role stereotyping.
7. HEW should take a visible leadership role in encouraging state and local educators to strive to overcome sex bias and sex stereotyping in vocational and career education. Present activities should be expanded and new activities added in such areas as including the topic in major speeches, placing the topic on the agenda of meetings, scheduling special workshops, and rendering technical assistance.
8. Overcoming sex bias and sex stereotyping in vocational education should be established as HEW objectives, entered into the Management by Objectives system, and highlighted as objectives for Secretarial tracking.
9. The National Institute of Education should increase its proposed FY 76 budget for research and development concerning career education and women by at least 200%, increasing the dollar amount from \$780,000 to \$2,340,000, an increase from 1% of their total budget to 3%.
10. The Assistant Secretary for Education should take special care to ensure that the findings developed through NIE's basic research into career preparation of women are not merely put on the shelf but are used to develop appropriate changes in programs for which the Office of Education is responsible.
11. The Office of Education should institute procedures whereby central listings of all OE funded women's projects are maintained.
12. The Office of Education should reinstate a policy of keeping records of projects in the states funded with Federal monies, and should establish a system for tagging those projects which specifically deal with the needs of women.
13. The Office of Education should allocate research and development monies, in addition to those funds currently being spent on projects to advance opportunities for women, to fund pilot projects in each state, in great variety, to explore ways to break down sex-role barriers in vocational education. Each project should be fully documented, be designed so as to be replicable, and be fully evaluated. A concerted effort should then be made to disseminate information about the most successful programs.
14. Priority should be given to further efforts in the following areas:
 - a. development of curriculum materials for vocational and career education courses which are non-sexist;
 - b. development and operation of inservice training programs for teachers and administrators to increase their awareness of the career training needs of women today;

*Numbers continued from recommendations on page 43.

- c. research and development efforts to overcome sex bias in guidance instruments and seek new and better ways of assessing skills;
 - d. revision of training programs for guidance counselors to overcome sex bias and sex stereotyping.
15. HEW should develop guidelines on sex bias in educational materials for internal use. All education materials developed with HEW funds should be subject to the provisions of those guidelines. This is important for all aspects of education, but is particularly important in the development of vocational and career education curriculum materials.

FOOTNOTES

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3. *Ibid.*
4. *Ibid.*, pp. 314 and 319.
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6. Handlin, *op. cit.*, p. 146.
7. "The Economic Role of Women." *Economic Report of the President, 1973*. Washington: Women's Bureau, Employment Standards Administration, Department of Labor, 1973, p. 91.
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APPENDIXES

APPENDIX A

HEW Research and Development Projects

Dealing with Career and

Vocational Education for Women

1. National Institute of Education

Study on Sex Bias and Sex Fairness in Career Interest Inventories. FY 1974. Contractor: Lawrence Johnson and Associates, Washington, D.C. Funding: \$42,199. A workshop was held concerned with constructing guidelines for assessing sex bias and sex fairness in career interest inventories. Participants included knowledgeable people in many different fields. As a result, NIE published "Guidelines for Assessment of Sex Bias and Sex Fairness in Career Interest Inventories." Other products related to this study include:

1. *Issues of Sex Bias and Sex Fairness in Career Interest Measurement.* FY 1974. Contractor: Mr. William Frazer, Chicago, Illinois. Funding: \$4,000. A book of readings from the commissioned papers, minority reports, and guidelines for determining sex bias in interest inventories.
2. *Learning Kit for Guidance Counselors and Counselor Educators to Aid in the Delivery of Sex Fair Counseling.* FY 1974. Contractor: Patricia Cook, Abt Associates, Inc., Cambridge, Massachusetts. Funding: \$63,843. This kit for guidance counselors and counselor educators shows how and why occupational sex role stereotyping occurs and provides a variety of tools and procedures to promote sex fair career counseling.
3. *Performance Consequences of Sex Bias in the Content of Major Achievement Test Batteries.* FY 1974. Contractor: Thomas F. Donlon, Educational Testing Service, Princeton, New Jersey. Funding: \$60,000. This study will examine the major achievement test batteries for sex bias. These achievement tests are used both at the elementary and secondary school levels.

Freeing Sex Roles for New Careers. FY 1974. Contractor: Janice Birk, Counseling Center, University of Maryland. Funding: \$4,879. Conference and report—conference designed to help post-secondary counselors deliver counseling free of sex role stereotypes, and institute programmatic changes.

Women: Issues of Career Guidance and Vocational Counseling. FY 1974. Contractor: Dr. Helen Farmer, Human Interaction Research Institute, Los Angeles, California. Funding: \$18,033. This study reviews the literature which relates to women in the labor market and education. It discusses the issues that relate to the interaction of counseling and the educational-career process of women. Products include a Counselor Sourcebook, a Counselee Handbook, and an annotated bibliography.

The Development of Career Choices by Girls and Boys. FY 1974. Contractor: Rosalind C. Barnett, Weston, Massachusetts. Funding: \$4,440. This review of the literature of occupational and educational goals examines the aspirations and expectations of boys and girls at different ages. It gives special attention to the tendency of girls to confine their goals to a few traditional occupations. A product is the report "Occupational and Educational Aspirations and Expectations: A Review of Empirical Literature."

Career Planning Support System – Career Development of Women Work Unit. FY 1975. Contractor: Lo Jetter, Center for Vocational and Technical Education, Ohio State University, Columbus, Ohio. Funding: \$164,542. The Career Planning Support System provides information to help senior high school counselors improve their career guidance

to students. The work unit on career development of women will provide curriculum units for counselors relating to career counseling for women and a brochure for parents.

The Role of Women in American Society. FY 1973. Contractor: Adeline Naiman, Educational Development Corporation, Newton, Massachusetts. Funding: \$54,646. This study was designed for use through twelfth graders as a teaching program to help young women realize the variety of the choices available, help destroy existing sex role stereotypes, and examine the current female experience in relation to other times and cultures.

The Career Counseling and Guidance Project. FY 1973-1975. Contractor: Vivian Guilfooy, Education Development Center, Inc., Newton Massachusetts. Funding: \$2,335,531. This project is concerned with home-based adults who wish to enter into the labor market. The target population is primarily women who no longer have child-rearing responsibilities, youth who are not in school but wish to obtain additional training, and retired adults. A variety of multimedia outreach strategies have been designed to reach this population. A film has been developed on women and the world of work.

Sex as a Factor Influencing Career Recommendations of Public School Guidance Counselors. FY 1973. Contractor: David Klemmack, Department of Sociology, Virginia Polytechnic Institute and State University, Blacksburg, Virginia. Funding: \$9,691. This study will attempt to determine if sex bias exists in school counseling. The research involves a mail questionnaire survey of all junior and senior high school counselors in Virginia.

The Development of Career Awareness in Young Children. FY 1974. Contractor: Aimee Dorr Leifer and Gerald Lesser, Graduate School of Education, Cambridge, Massachusetts. Funding: \$56,108. This review of career education literature is concerned with the development of career awareness in young children.

Education, Expectancies, and Employment of Women and Minorities. FY 1974. Contractor: Patricia Gurin, Institute for Social Research, University of Michigan. Funding: \$70,795. This study examines what effects prior educational and occupational experiences have on the aspirations and expectations of women and minorities.

Effects of Social Class Background on the Career Commitment of Women Attending Non-Elite Colleges. FY 1974. Contractor: Dr. Mary Guttmacher, Lowell State College, Lowell, Massachusetts. Funding: \$13,629. This study examines the relation of socio-economic background to the role conceptions of female working class students and how this related to career commitments.

The Impact of Colleges and Universities on Educational and Occupational Aspirations of Women. FY 1973. Contractor: Michelle Patterson, Department of Sociology, University of California, Santa Barbara, California. Funding: \$9,976. The study examines the influences of the college or university and family background on the educational and occupational aspirations of women. It also follows the changes in these aspirations from the freshman to the senior year.

Evaluating the Returns to the Education of Women. FY 1974. Contractor: Janice Madden, University of Pennsylvania, Philadelphia, Pennsylvania. Funding: \$25,843. This study examines the economic returns—earnings and home productivity benefits—in the education of women. Explains the differences in the distribution of education for females as a group, and for males as a group.

The Impact of Educational Attainment on Fertility and Female Labor Force Behavior. FY 1973. Contractor: T. Paul Schultz, Department of Economics, University of Minnesota, Minneapolis, Minnesota. Funding: \$92,021. This project examines the costs and benefits of education in economic terms, and the economic costs of women bearing children and staying home.

The Effect of Alternative Post-Secondary Educational Policies. FY 1974. Contractor: John H. Bishop, Institute for Research on Poverty, University of Wisconsin, Madison, Wisconsin. Funding: \$66,296. This study examines how changes in government policy can help low income women and youth attain more education and have better jobs.

Education Requirements for Work in the Public Sector. FY 1974. Funding: \$27,665. This study examines the educational and experience requirements for work in the public sector, with emphasis on the differences in the treatment of sex and race.

Girls at Twelve. Produced by Joyce Chopra. Funding: \$54,646. This is a film which explores career choices women face and the pressures which influence girls to stay within traditional sex roles.

Compendium of Career Education Materials. FY 1976. Contractor: Women on Words and Images (WOWI), Princeton, New Jersey. Available through Education Products Information Exchange Institute. Two volume compendium of career education materials to be used by vocational educators. Will have a section on sex and race bias and give information on how to deal with biased material already in use by teachers and counselors.

TV Career Awareness Program for Young Children. FY 1976. A television program designed to make young children aware of the career options available to everyone. It will show women and men in life roles without sex or race stereotypes.

Career Choices Faced by Women. FY 1976. Contractor: Education Development Corporation. A proposed series of films to be used as a take-off point for discussion on career choices of women.

The Vicarious Achievement Project. FY 1974. Funding: FY 74, \$3,625; proposed FY 76, \$70,000. This is an in-house research project on vicarious achievement patterns of women. NIE expects this study to shed light on the internal conflicts which women face in the attainment of success in all aspects of their lives.

A Conceptual Model for the Analysis of Sex-Role Learning and Sex Discrimination in Education. FY 1974. Contractor: Dr. Constantina Safilios-Rothchild, Wayne State University. Funding: \$145,050. This model attempts to integrate a set of psychological and social-psychological components which are at the heart of sex-role socialization.

A Model of Sex-Role Transcendence: Role Polarity and Sex Discrimination in Education. FY 1974. Contractor: Dr. Robert Hefner, Department of Psychology and Ms. Virginia Davis Norden, Institute of Continuing Legal Education Center for the Study of Higher Education, University of Michigan. Funding: \$122,076. This study reviews the literature in the areas of sex role socialization, sex discrimination, and other discrimination processes.

Life Plans: The Impact of the Women's Movement on Educational and Occupational Behavior and Attitudes of Married Women. FY 1974. Funding: FY 74, \$2,223; proposed FY 76, \$50,000. In-house research project.

The Minority Women Project. FY 1976. Proposed funding: \$180,000. Research to review literature on the educational needs of minority women.

Differences in the Achievement Affiliation Conflict. FY 1974. Contractor: University of Texas. Funding: \$31,466. This research project examines the motives for women's failure to achieve in the face of success as the fear of failure and the fear of success (achievement-affiliation conflict).

Effects of Alternative Classroom Structures on Cross-Sex Interaction. FY 1974. Contractor: Johns Hopkins University. Funding: \$38,888. This research shows varied competitive tasks and cooperative tasks and the positive and negative rewards for the completion of the tasks.

Study of Women as Graduate Students—A Question of Discrimination. FY 1973. Contractor: The Wright Institute, Berkeley, California. Funding: \$44,746. This study attempts to determine the existence of sex discrimination of female graduate students and in what form it exists.

The Modification of Female Leadership Behaviors in the Presence of Males. FY 1973. Contractor: Educational Testing Service, Princeton, New Jersey. Funding: \$22,000. The purpose of this study is to determine whether female leadership behavior differs from that of males and whether this behavior changes in the presence of males.

Effects of Interest in Material on Sex Differences in Children's Reading Comprehension. FY 1973. Contractor: University of Illinois at Urbana, Illinois. Funding: \$9,977. This study examines the causes for the poorer reading scores of elementary boys than girls.

Chapter 622: Massachusetts Law, Women and Vocational Education. FY 1973. Contractor: Organizations for Social/Technical Innovation. Funding: \$69,110. This is a study to determine the interaction between a state law which enlarges educational opportunities for girls and women attending a vocational education system and attending public school.

Education Input and Fertility Response. FY 1973. Contractor: University of Houston. Funding: \$56,630. This study's aim is to develop a model linking fertility decisions to work choice, income, educational choice and the costs of each.

2. Office of Education

BUREAU OF OCCUPATIONAL AND ADULT EDUCATION (BOAE)

"The Kingdom of Could Be You" - Films. FY 1973. Contractor: Sutherland Learning Associates, Los Angeles, California. Funding: Part I (Curriculum), \$214,000. A series of television cartoon films created to give young children a look at the variety of jobs performed by both sexes.

Peanuts Cartoon Career Education Instructional Materials. FY 1975-1979. Contractor: Charlie Brown Educational Ventures, Burlingame, California. Funding: Part I (Curriculum), \$384,750. Development of film strips, cassettes, pamphlets, and films examining various careers. These materials are being produced, avoiding any sex stereotyping, for kindergarten through adult programs.

Non-Traditional Vocational Education Programs for Women. FY 1975. Contractor: Jacob J. Kaufman, Pennsylvania State University, University Park, Pennsylvania. Funding: Part C (Research), \$110,000. This study is a comparison of traditional and non-traditional vocational education programs, observed and evaluated. The final report will be based on the steps that the study results indicate are necessary to establish successful non-traditional (non-sex biased) programs.

Women in Administrative Positions in Public Education. Funding: EPDA, Part A. This paper examines the problems encountered by women in public education.

Regional Seminars and Workshops on Women in the World of Work. FY 1972-1973. Contractor: Dr. Mary Ellis. Technical Education Research Centers, Washington, D.C. Funding: EPDA, FY 72 for two regional conferences, \$40,000; FY 73 for five regional conferences, \$100,000. This report resulting from these seminars and workshops made recommendations on methods of eliminating discrimination of women in education and employment.

Building New Career Ladders in Clerical Occupations. FY 1974. Contractor: Mrs. Helen Rachlin, National Council of Negro Women, 815 Second Avenue, New York, N.Y. Funding: \$111,409. Development of a curriculum guide and career ladder recommendations.

New Careers for Women. FY 1974. Contractor: Occupational Education, Consad Research Corporation, Pittsburgh, Pennsylvania. Funding: \$333,108. A program to help women taking MDTA training widen their occupational opportunities beyond clerical, health, and food service fields.

Business and Community Leadership. FY 1974. Contractor: Community Services and Continuing Education for Women, North Dakota State University of Agriculture and Applied Science. Funding: \$129,645. A TV project to develop the business and community leadership potential of rural women.

Leadership Development Among Rural Women. FY 1974. Contractor: Florida State University. Funding: \$164,088. An interstate model resource utilization for leadership development among rural women.

Research Designed to Facilitate, Improve and Develop Cooperative/Vocational Education Programs and Affirmative Action/EEO Programs. FY 1974. Contractor: Dr. E. Buchanan,

Tidewater Community College, Virginia Beach, Virginia. Funding: \$31,800. An investigation of the extent of participation of women, minorities, veterans, and handicapped individuals in existing post-secondary cooperative vocational education programs. The project will measure the extent of enrolling, attracting, and holding the students in two- and four-year institutions.

Assessing and Field Testing Career Planning and Development Approaches for Adults, Minorities, and Women. FY 1974. Contractor: Joseph Bellenger, San Jose Unified School District, San Jose, California. Funding: \$100,000. Identification through a nationwide search, of those viable career guidance, counseling, placement, and follow-up approaches for female and minority adult populations.

A Career Decision-Making Model Utilizing Adult Basic Education and Career Counseling for the Under/Unemployed Adult. FY 1974. Contractor: Mr. James H. Mason, Jr., City Board of Education, Huntsville, Alabama. Funding: \$98,555. A career decision-making model involving about 250 women (and same number of men) to aid in career training and job placement.

Top of Alabama Regional Adult Secondary Education Model. FY 1974. Contractor: Mr. Kyo R. Jhin, Huntsville, Alabama. Funding: \$140,008. Through three components—educational television, learning centers, and home tutors—to prepare adults for GED certificates.

Operation COPE (A Family Learning Center). FY 1974. Contractor: Dr. Edmonia W. Davidson, National Council of Negro Women, Inc., Washington, D.C. Funding: \$145,669. A comprehensive adult education multi-service resource for educationally disadvantaged solo female parents.

Choctaw Adult Basic Education Project. FY 1974. Contractor: Ms. Nell Rogers, Choctaw Indian Tribal Office Building, Philadelphia, Mississippi. Funding: \$120,207. A home-based teaching program by Choctaw teacher assistants which enables Choctaw adults (50% women) to overcome educational deficiencies prohibiting them from earning a living wage and from assuming adult responsibilities in their families, their communities, and in their individual lives.

Mobility Through Work Experience Education (MTWE). FY 1976. Contractor: Tidewater Community College, Virginia Beach Campus, 1700 Diana Lee Drive, Virginia Beach, Virginia 23456. Creates an MTWE Advisory Council of representatives from business, industry, labor, minorities, and sub-group advocacy groups to establish training banks to place students in non-traditional positions for low minority worker participation.

An Analysis of Participation of Women of Different Racial/Ethnic Groups in Training for Non-Traditional Occupations in Area Vocational/Technical Schools, and Factors Which Influenced Their Decisions to Enter and Remain in Such Training. FY 1976. Contractor: R. J. Associates, Inc., 1018 Wilson Boulevard, Arlington, Virginia 22209. Funding: \$69,977.

Compilation of a Bibliography on Successful Employment of Women in Non-Traditional Occupations. FY 1975. Contractor: Dr. Martha Tack, Assistant Dean, College of Education, University of Alabama, P.O. Box 3425, University, Alabama 35486. Funding: \$2,500.

OFFICE OF CAREER EDUCATION

Penetrating School Strata Through Career Education. FY 1975. Contractor: Robert Edmonson, Bristol School System, 985 Farmington Avenue, Bristol Connecticut. Funding: \$2,944. A series of 4 workshops for interested teachers, counselors, and administrators. The focus of the project will be on attempting to reduce sex role stereotyping that tends to categorize women in restricted careers.

Equity Career Education Program. FY 1975. Contractor: Dr. Audrey Norris, Maple Heights City Schools, 5500 Clement Drive, Maple Heights, Ohio. Funding: \$131,000. This project reaches staff, students and community by providing non-sex biased resources and activities designed to raise the career aspiration level of students, particularly females, in non-traditional areas.

"Anything You Want to Be"—A project to Introduce Girls to the Full Ranges of Career Opportunities. FY 1975. Contractor: Patricia Mayhew, Girl Scouts of Milwaukee Area, 2500 N. Mayfair Road, Milwaukee, Wisconsin. Funding: \$27,716. A project designed to introduce girls aged 9-11 to the wide range of career opportunities through the Girl Scout program.

WOMEN'S PROGRAM STAFF

Sex Equality in Guidance Opportunities. FY 1974. Contractor: American Personnel and Guidance Association, Washington, D.C. Funding: \$181,872. A training project to assist elementary and secondary school counselors and related educational personnel to recognize and alter guidance practices and attitudes.

Sex Equality in Education. FY 1974. Contractor: American Association of School Administrators, Arlington, Virginia. Funding: \$162,237. An informational project to develop and publish three handbooks — *Sex Equality in Educational Materials*, *Sex Equality in Schools* and *Sex Equality in Education Administration*. Three regional conferences will examine the elimination of sex stereotyping from textbooks, the equalization of educational opportunities for girls and boys, and the movement of women into educational leadership positions.

Title IX — Development of Technical Assistance Instruments. FY 1975. Contractor: National Foundation for the Improvement of Education (NFIE), 1156 15th Street, N.W., Suite 918, Washington, D.C. 20005. Funding: \$155,140. Purpose is to render a service to educational systems by addressing common problems in the implementation of Title IX and disseminating the products of the contract to the educational community.

Expanding Career Options for Women. FY 1975. Contractor: Center for Research on Women, Wellesley College, Wellesley, Massachusetts 02181. Funding: \$93,722. Purpose is to develop alternative approaches, strategies and programs for the entry of girls and women into fields of occupation in which they are under-represented or from which they have been either excluded or only included in stereotyped roles.

NATIONAL CENTER FOR EDUCATION STATISTICS (NCES)

Employment Practices. FY 1975. Contractor: Roslyn D. Kane, 1018 Wilson Boulevard, Arlington, Virginia 22209. Funding: \$42,650. Employment practices relating to teaching, supervisory, administrative, and other professional personnel in educational institutions—public, parochial, and private. Personnel at all levels of education are to be included, from pre-kindergarten through graduate and professional programs, as well as adult education.

Guidance and Counseling. Contractor: Higher Education Research Institute, Inc., 924 Westwood Boulevard, Suite 850, Los Angeles, California 90024. Funding: \$38,626. Availability of appropriate guidance and counseling services for students in secondary schools (including junior and senior high schools) and in post-secondary education, higher education, and adult education. Public, parochial, and private schools and institutions are to be included.

Access to Education. FY 1975. Contractor: Higher Education Research Institute, Inc., 924 Westwood Boulevard, Suite 850, Los Angeles, California 90024. Funding: \$48,298. Access to various types of programs in post-secondary education, including occupational, technical, and professional education, higher education, and adult education. Public, parochial, and private institutions are to be included.

BUREAU OF POSTSECONDARY EDUCATION

Project Discovery: Re-entry of Women. FY 1974. Contractor: William Lawson, Ventura Community College, Ventura, California. Funding: \$19,600. A program to provide support services to community agencies working with women and encouraging their enrollment in re-entry programs. Target group is women whose past education opportunities have been limited by family responsibilities, economic hardship, and lack of information and self-awareness. Includes personal and career counseling.

Educational Counseling for Women. FY 1974. Contractor: Mae Carter, University of Delaware. Funding: \$8,300. Expansion and improvement of a current program providing educational, counseling, and placement opportunities for women who want to improve their educational and/or career status.

Women as Participants in Societal Change. FY 1974. Contractor: Marilyn Whisler, Florida Technological University. Funding: \$6,999. A series of seminars providing close examination of subjects of interest to women seeking employment or seeking to take part in the formulation and implementation of public policies. The seminars are designed to reach employers and community leaders, as well as employable women.

Continuing Education for Women. FY 1974. Contractor: Beatrice Ettinger, Valencia Community College, Orlando, Florida. Funding: \$23,652. Through seminars, workshops, lectures, classes, etc., the program provides information motivation and supportive services for mothers and housewives re-entering the labor market and the women who after years of working are still at low-level positions.

Project 21st Century Women. FY 1974. Contractor: Anita Harrow, Seminole Junior College, Sanford, Florida. Funding: \$21,845. An on and off-campus counseling and referral service. Extensive testing and evaluation to help each participant assist her own abilities and the marketability of her own talents.

The Right to Choose. FY 1974. Contractor: Gene Clark, Berry College, Mt. Berry, Georgia. Funding: \$2,000. A project conducted in two meetings to expose the participant groups—Northwest Georgia women and selected employers—to lectures, films, and demonstrations on these topics: The Job Market and the Women, Women Learn from Women, Traditional and Nontraditional Role of the American Women, and Media and the Woman. Employers will better understand the employment rights of women and women hear the employers' side.

The Physical Woman, Retooling for New Careers. FY 1974. Contractor: Fred Burgess, Columbus College, Columbus, Georgia. Funding: \$6,100. A three-faceted effort: (1) to provide information on means of overcoming discriminatory employment practices based on sex, (2) to train teams to carry health-care programs to lower socio-economic levels of the community, and (3) to acquaint women with career opportunities and the means of obtaining or changing employment.

Women's Educational Resource Center. FY 1974. Contractor: Northeastern Illinois University, Chicago, Illinois. Funding: \$125,737. A program to train incarcerated and low income women through courses for college credit, career development classes, and special interest and enrichment courses.

College-Community Program for Marion College. FY 1974. Contractor: Barbara Fassler, Central College, Pella, Iowa. Funding: \$9,190. A project, involving all major local women's organizations, provides training for women in management, a workshop for businessmen on affirmative action, a career education program, a marriage counseling service, and a course on "Women in America."

Individual Planning for Education and Career. FY 1974. Contractor: Louise Ottavi, Clarke College, Dubuque, Iowa. Funding: \$10,400. A program to develop women as prime determiners of their own futures, away from stereotyped roles; to plan for their vocational future; to deal with interpersonal conflict; to improve their reading and concentration ability; and to understand and receive marriage/family counseling.

Living Room Seminars – Personal Career and Community Re-Orientation Programs for Low Income Women. FY 1974. Contractor: Mele Koneya, University of Kansas at Lawrence. Funding: \$7,800. Discussions in students' homes of such subjects as career opportunities, legal protection, nutrition, family planning, and government services.

Women's Center. FY 1974. Contractor: Constance Carlson, Bangor Community College, Bangor, Maine. Funding: \$18,959. The Center is developing an outreach and recruitment program for women; offers career and support services for women re-entering education; writing of educational contracts for student based on employment goals, interests and aptitudes; facilities for social activities and babysitting.

Chrysallis Center for the Development of Human Potential of the Undereducated and/or Underemployed. FY 1974. Contractor: Rosella Collamer, Saginaw Valley College, University Center, Michigan. Funding: \$14,500. Assistance to adult women includes recruitment; and in reassessing personal, education, and career goals; counseling to evaluate and achieve alternative life styles; and testing ways in which life experience can be used as academic credit.

Women in Local Government. FY 1974. Contractor: Terry Richey, Columbia College, Columbia, Missouri. Development of hard data about number, position and salary of women employed in Missouri local government. The data is used in film, public service announcements, and non-commercial TV, and to facilitate affirmative action programs.

Video Cooperative Project. FY 1974. Contractor: Barbara Davis, Dartmouth College, Hanover, New Hampshire. Funding: \$10,400. The project originally dealt with the social service needs of women, now focuses on developing human resources through videotape programs on physical and mental health, counseling, education, career development, etc.

Women's Information Service for Education (WISE). FY 1974. Contractor: University of New Hampshire. Funding: \$9,283. Workshops to help women develop skills for the career counseling of other women.

Affirmative Action Programs. FY 1974. Contractor: Donald Hall, University of Oklahoma. Funding: \$20,500. A technical assistance and training program to improve the recruitment, employment, and promotion of women and minorities.

Women: Job Outreach Broadcasts. FY 1974. Contractor: Sue Gordon, Oregon State Higher Education System, Eugene, Oregon. Funding: \$2,400. A series of programs to inform women needing employment and potential employers about re-entry internships, more flexible job training, paried jobs, and part-time opportunities.

Seminar in Management for Women. FY 1974. Contractor: Philip Graf, Bryant College, Smithfield, Rhode Island. Funding: \$8,000. Seminars for underemployed women in non-profit organizations to help them advance their careers and develop personal reference portfolios, to explore management's response to women in management, and to achieve the realistic occupational potential of women in community service.

Career Mobility Project. FY 1974. Contractor: Jean Rehwinkel, University of Washington at Seattle. Funding: \$5,000. A training project directed toward employers to help create a climate conducive to change in education, business, industry and government, and eventually to improve the educational and employment opportunities for women.

New Directions for Women. FY 1974. Contractor: Gail Denton, Edmonds Community College, Lynnwood, Washington. Funding: \$4,570. Career exploration and development for women who are divorced, older, or with lesser family obligations.

Employment Cooperative. FY 1974. Contractor: Cecile Andrews, North Seattle Community College, Seattle, Washington. Funding: \$4,570. A job-sharing, counseling, and interviewing base for women to help each other find jobs.

FOCUS: Opportunities for Women. FY 1974. Contractor: Lynn Blackwell Whatcom Community College, Firndale, Washington. Funding: \$4,570. A mobile unit providing information; referral services and prevocational counseling and testing from women desiring to re-enter the academic and/or occupational world.

Directions for Women. FY 1974. Contractor: Mildred Andrews, Shoreline Community College, Seattle, Washington. Funding: \$5,000. A resource program for mature women desiring to return to education and/or work.

Women's Programs. FY 1974. Contractor: Mitzi Rochester, Skagit Valley College, Mt. Vernon, Washington. Funding: \$5,000. Establishment of a Women's Center to meet the needs of women returning to colleges. Services include information, referral, self-development and career exploration courses and seminars.

Women's Program. FY 1974. Contractor: Nancy Andrews, South Seattle Community College, Seattle, Washington. Funding: \$5,000. Seminars to discuss the college's resources with people from the local industrial area, and a Woman's Center to provide information, referral, and self-evaluation and career education courses.

Women's Studies Program. FY 1974. Contractor: Donn Adams, Walla Walla Community College, Walla Walla, Washington. Funding: \$5,000. A central clearinghouse for information and referral about women's services, courses of special interest, referral to volunteer and community agencies, and services for educational and career planning.

**3. Fund for the Improvement of
Postsecondary Education
(FIPSE)**

Women's Inner-City Educational Resource Service Center (WINNERS). FY 1973-1975. Contractor: Marguerite Goodwin, 90 Warren Street, Roxburg, Massachusetts 02119. Funding: FY 1973, \$209,890; FY 74, \$198,161; FY 75, \$155,000. A service center designed to improve the career and educational opportunities of adult women in the greater Boston area.

Purdue University. FY 1973-1974. Contractor: Lynn Harrington Brown, Mathematical Sciences Building, West Lafayette, Indiana 47907. Funding: FY 73, \$60,596; FY 74, \$39,341. A program of intensive counseling, seminars and research experiences to increase the retention of women in the biological, physical and mathematical sciences.

Barat College. FY 1973. Contractor: Marguerite Cleary, Lake Forest, Illinois 60045. Funding: \$49,572. A predominately residential college for 18-22 year olds was converted into a more fully client-oriented post-secondary institution also serving the needs of women in surrounding communities.

San Jose College. FY 1973-1975. Contractor: Guadalupe D. Hernandez, Women's Re-Entry Program, San Jose City College, 2100 Moorpark Avenue, San Jose, California 95128. Funding: FY 73, \$51,781; FY 74, \$52,161; FY 75, \$57,312. A program of services designed to facilitate the re-entry of minority women into post-secondary education.

Temple University. FY 1974-1975. Contractor: Barbara Bloom, Director, Office of Continuing Education for Women, Temple University, Philadelphia, Pennsylvania 19122. Funding: FY 74, \$50,125; FY 75, \$69,000. Temple's Office of Continuing Education is forming a regional network among four community colleges to promote career programs and services for adult women, particularly minority women in the Philadelphia region. Activities include training the staffs of the various institutions to effectively work with women, and developing new services for women, e.g. job referral.

Mills College. FY 1973-1974. Contractor: Bertram Gordan, Seminary and MacArthur, Oakland, California 94613. Funding: FY 73, \$75,600; FY 74, \$25,000. A women's center for career and life planning, concentrating on the integration of materials/concepts into the liberal arts curriculum, including workshops to familiarize faculty with the new approaches.

Women's History Research Center, Inc. FY 1973-1974. Contractor: Laura X, 2325 Oak Street, Berkeley, California 94708. Funding: FY 73, \$50,457; FY 74, \$38,000. Local collections of materials sensitive to the needs of women were developed by training interns and by consultation with librarian interested in providing services to women. The completed library collection is now kept at the University of Wyoming and Northwestern University.

Educational Testing Service (ETS). FY 1974-1975. Contractor: Ruth B. Ekstrom, Education Testing Service, Princeton, New Jersey 08540. Funding: FY 74, \$95,055; FY 75, \$58,970. A project to evaluate the competencies that women have acquired through their domestic and voluntary activities.

Formative Evaluation Research Associates. FY 1975. Contractor: Margaret Talburtt, 1130 Hill Street, Ann Arbor, Michigan 48104. Funding: \$33,998. A formative evaluation of 4 types of post-secondary education programs designed to prepare women for full participation in the modern world. The project will compare stated program objectives with outcomes and will use the information to improve the programs.

National Council of Negro Women. FY 1975. Contractor: Helen Rachlin, 815 2nd Avenue, Suite 901, New York, N.Y. 10017. Funding: \$77,769. A joint project with Pace University in New York City to develop with business representatives an AA program to prepare minority women for preprofessional jobs.

Northeastern University. FY 1975. Contractor: Marilyn Weiner, 360 Huntington Avenue, Boston, Massachusetts 02115. Funding: \$50,918. A project to develop with the business sector portfolios of job-linked courses designed as a time-shortened alternative to traditional degree programs for adult women.

Wesleyan University. FY 1975. Funding: \$28,484. Continues research into the origins and manifestations of "math anxiety" and to test curricular responses to the problem.

Women's Institute (Denver, Colorado). FY 1975. Funding: \$46,000. Provides administrative resources for the development of a graduate school in alternative psychotherapy for the preparation of future therapists and the continuing education of practicing professionals.

APPENDIX B

State Research and Development Projects

Dealing with Career and

Vocational Education for Women

ALABAMA—administering state: LOUISIANA, MISSISSIPPI—participating states. *Educational Equity: Strengthening the SEA's Ability to Identify Opportunities for Women*. FY 1975. Contractor: Mr. Billie Mellow, State Department of Education, Montgomery, Alabama 36104. Funding: \$27,000. The objective of this project is to assist the SEA in identifying opportunities for the study of women in general, and minority women in particular, and to generate support for future research and training for women in this tri-state consortium. Exploring the opportunities which exist or should exist and the development of other alternatives should strengthen each SEA's ability to assist local school districts in improving the educational programs within their districts.

ALASKA, CALIFORNIA, IDAHO, MONTANA, NEVADA, OREGON and WASHINGTON. Project Awareness: *A Multi-State Leadership Project Addressing Sex Discrimination Issues*. FY 1975-1976. Contractor: Beth Voorhees Wilke, Associate Supervisor, Equal Educational Opportunities, Office of the Superintendent of Public Instruction, Old Capitol Building, Olympia, Washington 98504. Funding: FY 75, \$44,725; FY 76, \$38,659 (proposed). This project results from a proposal submitted by the State Departments of Education. Training designs will be developed for assisting them in dealing with sex discrimination.

ILLINOIS. *Broadening the Scope of Involvement of Young Women in Occupational Education*. FY 1975-1976. Contractor: Steiger, Fink and Smith, Inc., McLean, Virginia. Funding: \$75,000. A program of the Department of Vocational and Technical Education to develop curriculum materials for students and teachers to raise the awareness concerning sex stereotyping in employment and training and to help broaden students' career horizons.

MISSOURI. *Women and Career Options: A Research Project to Facilitate Upward Mobility for Women*. FY 1976. Contractor: Central Missouri State University. Funding: \$26,894. Objectives are: to examine attitudes and stereotypic assumptions about women workers that vocational educators and administrators may hold; to promote better understanding about women in the labor force; to understand the effects of upward mobility on individual women and their families; to continue the growth process by follow-up on the job.

NEW JERSEY. *Project HEAR (Human Education Awareness Resources)*. FY 1973-1975. Contractor: Center for Organizational Evaluation and Development, Princeton, New Jersey. Funding: FY 73, \$74,950; FY 74, \$68,818; FY 75, \$96,674. Curriculum materials were developed for the elementary, junior high and high school levels to overcome sex role stereotyping of jobs. The materials were validated throughout the state and were demonstrated to be effective in changing students' attitudes. Greatest effects were found at the younger ages.

NORTH CAROLINA. FY 1975-1976. Funding: \$51,000. A project of the Department of Public Instruction to assess the status of women in employment and training in the state, develop strategies for improving opportunities for women in North Carolina and begin to implement them, and develop an in-service training program for educators concerning sex stereotyping in vocational education.

TEXAS. *Women in Vocational Education*. FY 1975-1976. Contractor: Center for Human Resources, University of Houston. Funding: \$81,000. A project of the Texas Education Agency to develop a model program to recruit males and females into programs previously dominated by the opposite sex. It is anticipated that the information gathered in this project will eventually be written up as a manual for educators.

WISCONSIN. *An Exploratory Study of the Sociological and Psychological Impacts of Mid-Career Changes for Women.* FY 1975. Contractor: University of Wisconsin at Stout. Funding: \$5,259. The purpose of this study is to investigate the sociological and psychological impacts of mid-career changes for women. An attempt will be made to delineate those areas which present specific conflicts, benefits, and obstacles to women who change careers.