

DOCUMENT RESUME

ED 181 326

CE 023 951

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**TITLE** Factors Influencing Nontraditional Vocational Education Enrollments: A Literature Review. Research and Development Series No. 150.  
**INSTITUTION** Ohio State Univ., Columbus. National Center for Research in Vocational Education.  
**SPONS AGENCY** Office of Education (DHEW), Washington, D.C.  
**PUB DATE** 79  
**NOTE** 169p.  
**AVAILABLE FROM** National Center Publications, The National Center for Research in Vocational Education, The Ohio State University, 1960 Kenny Road, Columbus, OH 43210 (\$8.75)

**EDRS PRICE** MF01/PC07 Plus Postage.  
**DESCRIPTORS** Educational Research: \*Enrollment Influences; Family Influence; Literature Reviews; Mass Media; \*Nontraditional Occupations; Occupational Choice; Parent Influence; Peer Influence; \*Sex Discrimination; Sex Fairness; Sex Role; \*Sex Stereotypes; \*Socialization; Student Ability; Student Interests; \*Student Recruitment; Teacher Influence; Vocational Education; Work Attitudes; Working Women

**ABSTRACT**

The literature on factors influencing nontraditional enrollment choices may be approached in this order: background information on the labor force and vocational education, factors influencing nontraditional enrollments, and strategies for increasing nontraditional enrollments. Despite an increase of women in nontraditional occupations, research shows that occupational sex segregation and related wage disparities continue to exist. The problem can be traced to male-dominated and -oriented training programs. Studies of nontraditional students reveal interest and ability as influential enrollment factors: parents are the most important other people involved. The literature on sex role socialization indicates that family members, the mass media, and all elements of public education influence vocational choices. All have been criticized for perpetuating rigid sex roles. The order of influence of "significant others" on occupational preference is parents, peers, teachers, and counselors. Personal factors to be considered in nontraditional choices are ability and interest. An extensive literature on strategies for increasing nontraditional enrollments provides suggestions for programming from the prevocational level to the recruitment of mid-career students at the postsecondary level. Much information is available in the need areas of information, policy planning and implementation, occupational awareness, self-awareness, sex fair counseling/curriculum development, in-service programming, and collaborative efforts.

(YLB)

ED181326

Research and Development Series No. 150

FACTORS INFLUENCING NONTRADITIONAL  
VOCATIONAL EDUCATION ENROLLMENTS:  
A LITERATURE REVIEW

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The National Center for Research in Vocational Education  
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1960 Kenny Road  
Columbus, Ohio 43210

1979

CE 023 951

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## FOREWORD

The professional field of vocational education needs a data base for implementing the requirements of Title II, Vocational Education, of the Education Amendments of 1976 for policies and procedures that will assure equal access to vocational education programs by both women and men, including incentives to encourage the enrollment of both women and men in nontraditional programs of study.

Because of the recognized need for such information, this project, Factors Influencing Nontraditional Enrollments, sponsored by the Bureau of Occupational and Adult Education under the terms of the U.S. Office of Education contract with the National Center for Research in Vocational Education, was undertaken. This publication is intended to provide a review and synthesis of the pertinent information in the literature.

The National Center is particularly indebted to Louise Vetter, project director, and Judith Sechler, Cheryl Meredith Lowry, and Vivien Canora for carrying out the work of the project. Significant contributions were made to the project by its technical panel: Mary Bach Kievit, Acting Dean, Graduate School of Education, Rutgers University; Dale J. Prediger, Director, Program Support Services Unit, R & D Division, the American College Testing Program, Iowa City; and Amanda J. Smith, education consultant in sex equity, Durham, North Carolina.

Credit is also deserved by the reviewers of the publication: Dale J. Prediger and Amanda J. Smith of the technical panel and Shirley A. Chase and Lila C. Murphy of the National Center staff. A special note of appreciation is extended to Mary LaBelle, project secretary, for her assistance.

Robert E. Taylor  
Executive Director  
National Center for Research in  
Vocational Education

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## EXECUTIVE SUMMARY

Title IX of the Education Amendments of 1972 prohibits discrimination on the basis of sex in education. Title II, Vocational Education, of the Education Amendments of 1976 requires that sex discrimination, sex bias, and sex stereotyping be eliminated from all vocational education programs. Further, each state is required by Title II to set forth policies and procedures that will assure equal access to vocational education programs by both women and men, including incentives to encourage the enrollment of both women and men in nontraditional programs of study.

This review synthesizes information from widely scattered sources on factors influencing nontraditional enrollment choices as perceived by vocational students, other students, teachers, counselors, researchers, and theorists. The review is presented in three sections: background information on the labor force and vocational education; factors influencing nontraditional enrollments; and strategies for increasing nontraditional enrollments.

Much of the information available on nontraditional enrollments in vocational education is from women nontraditional students. This information indicates that these students' interest and ability constitute their reasons for enrolling in the nontraditional programs. Parents are the most important other people involved in the students' decisions to enroll. School personnel have not typically been very much involved in the students' selection of nontraditional options.

The literature on sex role socialization indicates that family members (parents, in particular), the mass media, and nearly every element of public education operate as agents that contribute to the sex role socialization of children and, by implication, contribute to young people's vocational choices. All of those agents have been criticized in the literature for helping perpetuate rigid sex roles that limit people's vocational options to those traditional to their sex. Nearly all the research in this area has been descriptive and thus cannot show "effect." However, the few experimental studies found in this literature search have indicated, for instance, that sexist language and sexist instructional materials actually have an effect on students.

A number of studies have looked at the effects of "significant others" as these influences are reflected in the preferences of people for traditional or nontraditional occupations. Parents



have been found to have the most influence over their children's choice of a traditional or nontraditional career, followed by peers, teachers, and counselors.

In summarizing the findings of the relationships of personal factors to nontraditional choices of educational programs, the following can be indicated. While there are some average sex differences in abilities between the sexes, the important thing to keep in mind is the abilities of the specific individual, girl or boy, man or woman, who is choosing an educational program. Interests in occupations tend to be sex stereotyped, perhaps more for "real" choices than for "ideal" choices. Measured interests and abilities almost certainly are affected by the attitudes and practices of families, school personnel, and materials used by the students. Ability tests and interest inventories must be used very carefully so that past stereotypes are not perpetuated.

An extensive literature on strategies for increasing nontraditional enrollments provides suggestions for programming from the prevocational level to the recruitment of mid-career students at the postsecondary level. Much information is available in the need areas of information, policy planning and implementation, occupational awareness, self-awareness, sex fair counseling/curriculum development, in-service programming, and collaborative efforts.

Recommendations stemming from this literature review follow:

1. Much more information needs to be made available on the concerns and needs of boys and men as they relate to nontraditional enrollments.
2. Focus efforts to increase enrollments in nontraditional programs on helping students choose vocational programs on the basis of interest and prospects for obtaining fulfilling employment.
3. Encourage and support those students who enroll in nontraditional courses and/or who are considering nontraditional occupations.
4. Involve all school personnel in efforts to expand general awareness of sex stereotyping, its effects, and the means to eliminate it.
5. Strive to include the students, their parents, and other members of the community in these efforts.
6. Realize that there are a great number of resources available--strategies for increasing nontraditional enrollments that have been used in a variety of situations.

7. Remember that change is a process--many strategies, well planned, implemented, and evaluated over time will help reach the goal of increasing nontraditional enrollments.

This information is being presented to aid all those who are involved in the task of encouraging the enrollment of both women and men in nontraditional programs of study. Educational researchers and developers will find it useful in planning and carrying out projects for recruiting nontraditional students. Administrators, counselors, and teachers will find much to be considered and applied in their local situations. Information specialists (librarians, abstracters) can use it as a ready source of information to respond to questions arising from the concerns that all of us have for providing the broadest possible range of options for all students.

## INTRODUCTION

Title IX of the Education Amendments of 1972 prohibits discrimination on the basis of sex in education. Title II, Vocational Education, of the Education Amendments of 1976 requires that sex discrimination, sex bias, and sex stereotyping be eliminated from all vocational education programs. Further, each state is required by Title II to set forth policies and procedures that will assure equal access to vocational education programs by both women and men, including incentives to encourage the enrollment of both women and men in nontraditional programs of study.

The Final Regulations for Title II, issued October 1977, provide the following definitions:

sex bias: behaviors resulting from the assumption that one sex is superior to the other.

sex stereotyping: attributing behaviors, abilities, interests, values, and roles to a person or a group of persons on the basis of their sex.

sex discrimination: any action which limits or denies a person or a group of persons opportunities, privileges, roles, or rewards on the basis of their sex.<sup>1</sup>

However, since this literature review primarily covers the period from 1972 until 1978, the "official" definitions may not always be used by authors cited.

Nontraditional enrollments are defined as those enrollments by women in vocational education programs that have traditionally enrolled primarily men and those enrollments by men in vocational education programs that have traditionally enrolled primarily women. As no "official" standard has been established, researchers and writers in the area have used a variety of percentages of each sex that are enrolled in a program to define what is a nontraditional program. Some have used 80 percent as the cut-off point, some have used 75 percent, and others have used the proportion of women in the labor force (40 percent) as the cut-off point for defining nontraditional programs. Some writers have used national statistics in determining nontraditional programs, others have used local statistics. However, in the review that follows, it is safe to assume that nontraditional programs are the ones that have primarily enrolled one sex in the past.

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<sup>1</sup>"Final Regulations for Public Law 94-482," Federal Register, Vol. 42, No. 191, Monday, October 3, 1977, Section 104.73.

The review is presented in three sections: background information on the labor force and vocational education; factors influencing nontraditional enrollments; and strategies for increasing nontraditional enrollments. The reader who is familiar with the background information may prefer to go directly to Section II.

The intent of this review is to synthesize information from widely scattered sources on factors influencing nontraditional enrollment choices as perceived by vocational students, other students, teachers, counselors, scholars, researchers, and theorists. This information is being presented to aid all those who are involved in the task of encouraging the enrollment of both women and men in nontraditional programs of study. Educational researchers and developers will find it useful in planning and carrying out projects for recruiting nontraditional students. Administrators, counselors, and teachers will find much to be considered and applied in their local situations. Information specialists (librarians, abstracters) can use it as a ready source of information to respond to questions arising from the concerns that all of us have for providing the broadest possible range of options for all students.

## SECTION I: BACKGROUND INFORMATION

### LABOR FORCE

#### Introduction: Women in the Work Force

American women are still struggling to achieve economic, political, and social equality with men, according to a report submitted to President Carter and Congress by the National Advisory Committee for Women. Entitled The Spirit of Houston, the report urges "prompt and positive" action on behalf of women. Among the committee's findings:<sup>1</sup>

- . Although the number of working women has more than doubled in the last twenty-five years to 41 percent of the labor force, women earn only 60 percent of what men do.
- . More than 6 million children of preschool age have working mothers. Only 2 percent of those children are in day care centers.
- . Women over sixty-five have a median income of \$2,800 a year, about half the income of elderly men.

Almost 42 million women, or about half of all women in the United States sixteen years of age and over, were either working or were reportedly looking for work in mid-1978. The Bureau of Labor Statistics of the U.S. Department of Labor reports that this is the first time that at least half the women in America are working or looking for work.<sup>2</sup>

In 1900 the proportion of the work force composed of women was a bare 20 percent. It subsequently increased to 29 percent in 1940, 33 percent in 1960, then to 38.1 percent in 1970, and finally to 40.7 percent in 1976.

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<sup>1</sup>The Scientific Manpower Commission, Manpower Comments /ol. 15, No. 7 (September 1978), p. 20.

<sup>2</sup>U.S. Department of Labor, Bureau of Labor Statistics, Employment in Perspective: Working Women (Washington, D.C.: U.S. Department of Labor, 1978), p. 1.

The labor force projections to 1990 issued by the Bureau of Labor Statistics of the U.S. Department of Labor forecast a significant expansion in the proportion of the labor force accounted for by women to about 45-46 percent of the total by 1990.

Rieder notes that a number of factors account for the increase of women in the work force,<sup>3</sup> namely: (1) the availability of jobs, particularly in those rapidly growing fields of sales, clerical, and service where there is a preponderance of women; (2) the rising divorce and declining birth rates and incidence of later marriages; (3) the increasing number of women who are educated, particularly female college graduates who want to pursue careers; (4) the high inflation rate which makes a second income necessary for a family to survive, or to maintain a standard of living; and (5) the women's movement which has raised social consciousness and not only made working for pay outside the home more socially acceptable for mothers but also fostered the view that through work women can find additional intellectual and personal fulfillment.

Women have universally been observed to constitute a large portion of the labor force and to take active part in their countries' economic activities. Kievit cites mechanization and technological advances as factors that have created more jobs and brought many of these within the range of women's physical abilities.<sup>4</sup>

With human energy needs opening up opportunities for women in the work world, society has come to accept the fact of women being employed. Also, congruent with the times, the women's movement is supportive of more and more women desiring meaningful careers outside the home. The woman's erstwhile province of homemaking and child rearing has come to be viewed by society in terms of shared responsibilities with the spouse complemented by help from outside.

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<sup>3</sup>Corinne H. Rieder, Women, Work, and Vocational Education, Occasional Paper No. 26 (Columbus, Ohio: The Center for Vocational Education, The Ohio State University, 1977), p. 2.

<sup>4</sup>Mary Bach Kievit, Women in The World of Work (Columbus, Ohio: The Center for Vocational and Technical Education, The Ohio State University, 1972), pp. 3-17.



Economic, social, political, and psychological factors are believed to have contributed to this present situation.

A workshop on women and technology held at the Massachusetts Institute of Technology reiterated these observations concerning women's participation in the labor force, with conclusions substantiated mainly in light of rapid technological changes:<sup>5</sup>

- . Human energy projections indicate a rising need for technically competent workers at every level of education and training.
- . Men as well as women are questioning the roles they grew up believing they would assume.
- . There is a universal trend toward greater equality for all economically, socially, and politically.
- . The homemaker's role and family structure are evolving so that women need to work for the same compelling economic reasons as do men.
- . Families are getting smaller and women have less to do at home.
- . Divorce is much more common.
- . Women often need to support their children as well as themselves.

These last four factors underscore one of the main reasons believed by the U.S. Department of Labor to account for the increase in women's labor force participation:<sup>6</sup> more than one-third of the women who make up the labor force have children under eighteen, thus necessitating these mothers' seeking employment to add to their families' incomes.

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<sup>5</sup>Edith Ruina, ed., Women in Science and Technology (Cambridge, Massachusetts: Massachusetts Institute of Technology, 1973).

<sup>6</sup>U.S. Department of Labor, Women's Bureau, Why Women Work (Washington, D.C.: U.S. Department of Labor, 1974).

According to the U.S. Department of Labor, Bureau of Labor Statistics, over 10 million children were in families headed by women, and 61 percent of them had mothers in the work force.<sup>7</sup> And, over the past year, the labor force participation rate of women who headed families--8.2 million in June, 1978--rose to 59 percent after averaging less than 55 percent throughout most of the seventies.<sup>8</sup>

The Bureau of Census survey of the World War II production years showed 5.7 million women joining the labor force within the period from December 1941 to March 1944. Some of them entered the skilled trades, with about 2.9 million falling into the "craftsmen, foremen, operatives and nonfarm laborers" classification. Even with the number of craft workers increasing--with the 277,140 in 1960 growing to 494,871 in 1970, and, by 1973, swelling to 561,000--women were still accounting for only 4 percent of the total number of craft workers in the labor force.<sup>9</sup>

### Women in Nontraditional Occupational Roles

True, an increase of women in the labor market has been registered in the traditionally male skilled trades as well as in the heretofore male-dominated professional fields. In a number of these professional fields, the proportion of women has been observed to have increased substantially. A 1978 issue of the U.S. News and World Report cites some of these increases from 1960 to 1977, based on reports from the U.S. Departments of Commerce and Labor. The overall increase in the proportion of women in professions such as architecture, engineering, journalism, law, medicine, the social sciences, the life and physical sciences, college teaching and the clerical occupations from 1960 to 1977 was found to be 7.7 percent, or a rise from 32.8 percent in 1960 to 40.5 percent in 1977.

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<sup>7</sup>U.S. Department of Labor, Bureau of Labor Statistics, Employment in Perspective: Working Women, p. 1.

<sup>8</sup>Ibid.

<sup>9</sup>U.S. Department of Labor, Women's Bureau, Steps to Opening the Skilled Trades to Women (Washington, D.C.: U.S. Department of Labor, 1974).



The report goes on to state, however, that even with women now 41 percent of the total labor force, as of 1977 only one in six working women was in a profession or occupation associated with higher status and earnings. The rest--the majority--still held jobs in the traditional fields, i.e., the fields in which women had heretofore sought employment and been employed.

The June 1978 Department of Labor figures<sup>10</sup> showed that the greatest increases of employment of women occurred in the clerical and service occupations. Women comprised 62 percent of all clerical workers in 1950 but 79 percent in 1978. Among service workers, women increased their numbers from 45 percent of such workers in 1950 to 59 percent in 1978.

As the aforementioned MIT workshop on women in science and technology revealed,<sup>11</sup> women comprise only 3 percent of the workers in the skilled trades. Well over 70 percent of women are in what have been considered and referred to as the traditionally female occupations, namely: the clerical positions, sales, and teaching. Furthermore, even in the fields where they far outnumber men, women have seldom been found in management positions.

Rieder describes the "persistent and worsening problem of occupational segregation" in this way:<sup>12</sup>

- . More than 40 percent of all women in the work force are employed in ten occupations: secretary, retail sales, bookkeeper, private household worker, elementary school teacher, waitress, typist, cashier, nurse, and seamstress. By comparison, only 20 percent of males are concentrated in the ten largest occupations employing men.
- . Nearly 70 percent of working women are employed in three occupational groups: clerical (35 percent), service (18 percent), and professional and technical (15 percent). In comparison, only 50 percent of working men are employed in the largest three occupational groups employing men: skilled crafts (21 percent), professional and technical (14 percent), and managers (14 percent).

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<sup>10</sup>U.S. Department of Labor, Bureau of Labor Statistics, Employment in Perspective: Working Women, p. 1.

<sup>11</sup>Ruina, Women in Science and Technology, p. 5.

<sup>12</sup>Rieder, Women, Work, and Vocational Education, pp. 2-3.

• Sixty-three percent of all women employed in non-agricultural positions are concentrated in services (25 percent), retail (20 percent), and state and local government (18 percent, largely teachers). In comparison only 43 percent of all men employed are concentrated in the three largest industries employing men: manufacturing (19 percent), retail (14 percent), and state and local government (12 percent).

• In medicine, women are overrepresented in pediatrics, psychiatry, anesthesiology, and pathology but grossly underrepresented in surgery and surgical specialties. In addition, they are less likely than men to be in private practice and particularly in private solo practice.

• In law, few women are in the upper echelons of law firms, on judicial benches, or in prominent positions in state and national legislatures.

• In education, women account for nearly 85 percent of the nation's elementary teachers, but less than 50 percent of secondary school teachers and only 25 percent of teachers at the college level. In school administration, women account for only 19 percent of all elementary principals, 1 percent of secondary principals, and only .1 percent of school superintendents. Today there are only 150 women who are chief executives of colleges, mostly two- and four-year church-related colleges with small enrollments.

• Women are underrepresented in positions of high status and responsibility. Nearly one out of seven employed men are in managerial and administrative positions, while the comparable figure for women is one out of twenty.

### Wage Differentials

It has been found that a relationship can be established linking wage disparities between men and women, and women's occupational segregation in the labor market. As Rieder quotes economists: "wherever women are cordoned off into a circumscribed number of occupations and industries, the consequences are low wages."<sup>13</sup>

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<sup>13</sup>Ibid., p. 3.

Rieder cites substantiating facts and figures as of 1974:<sup>14</sup>

- . Women who work full time had median weekly earnings of \$124. This was about 60 percent of the \$204 reported for men.
- . Across industries, female earnings as a percentage of male earnings were best in agriculture (83 percent) and public administration (71 percent), and worst in finance, insurance, real estate (56 percent), and manufacturing (57 percent).

As the U.S. Department of Labor statistics make clear, in every year between 1955 and 1974 the average earnings of women were significantly lower than the average earnings of men.<sup>15</sup> The 1974 median income for women who worked full time throughout the year was only 57 percent that of the median income of men likewise employed full time throughout the year.<sup>16</sup>

The census bureau cites these figures on sex and income in its March 1977 report:<sup>17</sup> for calendar year 1976, the median yearly income of a full-time working woman employee was \$8,099. The median yearly income for a full-time working man was \$13,455. Women's median earnings were thus still only 60.2 percent of the salary of men.

Economists and other interested observers have judged from these figures that women are either: (1) still receiving lower wages for the same work as men, or are (2) still being denied the higher paying jobs.

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<sup>14</sup>Ibid.

<sup>15</sup>Marilyn R. Flowers, Women and Social Security: An Institutional Dilemma (Washington, D.C.: American Enterprise Institute for Public Policy Research, 1977), pp. 4-5.

<sup>16</sup>Ibid., p. 6.

<sup>17</sup>U.S. Department of Commerce, Bureau of the Census, Current Population Reports (Washington, D.C.: U.S. Department of Commerce, 1977).

## VOCATIONAL EDUCATION

### Introduction

The major problem of occupational sex segregation has, to a certain extent, been traced to the question of job preparation and training. True, both men and women employees have been reportedly found in all of the census-categorized occupations. But the majority of men and women have been employed in occupations that have been associated with their particular sex.

In terms of job preparation, the majority have been and still continue to be educated and trained in the fields linked with their sex. Thus, even with a number of the heretofore closed employment doors being opened to both men and women, there are often very few who can take advantage of the added occupational opportunities, preparation having been either inadequate or inappropriate for the positions made available.

Practically all of the professions have been opened to women, and the educational arenas--college and graduate school--have welcomed women students. While equal employment and education legislation is designed to assure women equal access to the skilled trades, vocational education programs and other training programs that are the necessary preparatory routes into the skilled trades are still more the province of men than of women. Or, where these courses and programs have since been opened to women, not too many individuals have as yet actually sought entry into them. Their numbers are less than expected, considering the explosive increase in the number of women who have joined the labor force--including the employed and those actively seeking employment--and those taking further steps in preparation for employment seeking.

### Vocational Education: Where Young Men and Women are Now Enrolled--National Figures

The report by the U.S. Office of Education of data for enrollments by sex in vocational education programs in 1975<sup>1</sup> show female students making up 9.2 percent of the agricultural programs enrollment; 10.7 percent of the

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<sup>1</sup>U.S. Office of Education, Request for Proposal (RFP Number 77-48) (Washington, D.C.: Grant and Procurement Management Division, Office of Education, 1977).

technical programs enrollment; 12.6 percent of the trade and industrial areas enrollment; 42.8 percent of the distribution education programs enrollment; 69.3 percent of the business/office-related areas enrollment; 71.7 percent of health area enrollment; 73.7 percent of the occupational home economics fields enrollment; and 81.9 percent of the consumer and homemaking fields enrollment.

Only the agricultural, technical and trade and industrial programs manifested growth in female student enrollments since Title IX became law in 1972. And what increase there was in these areas' enrollments was very slight in terms of percentages: 3.8 percent in the agricultural programs, 0.9 percent in the technical programs, and an identical 0.9 percent in the trade and industrial programs. In actual head-count figures, the picture was even less encouraging since the increases were hardly noticeable.

On the other hand, there was a marked growth in male students' enrollment in four of the eight vocational education program categories. The health programs registered a 13 percent increase in male student enrollments; the occupational home economics programs, 12.9 percent; the consumer and homemaking programs, 10.2 percent; and the business/office-related programs, 7.1 percent.

From the growth percentages it is apparent that the increases have been in enrollments of male students in what used to be the female-dominated areas, namely of health, occupational home economics, consumer and homemaking, and the business/office work programs. Although the vocational education programs that registered increased enrollments of female students had formerly been male-saturated areas, the observed enrollment growths have hardly been remarkable. These figures, by sex, of enrollment increases in vocational education areas indicate that a great deal has as yet to be done to achieve a balance in enrollments in these programs.

#### Apprenticeship for Nontraditional Occupations

For some time, women were believed to be neither interested, available, nor qualified for jobs in the skilled trades. But, this has since been dismissed as just one more myth--according to Sandra Carruthers of Better Jobs for Women--with experience showing that if the jobs are opened to women, they are not only interested and available, but can become qualified.<sup>2</sup> Steps are being taken to get them qualified for just such jobs.

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<sup>2</sup>Phyllis Lehmann, "Women Journey Into the Skilled Trades," Worklife Vol. 2, No. 8 (August 1977), p. 31.



Women are now training for the skilled, apprenticeable work fields, and as of the end of 1976, the twelve occupations with the largest number of registered women apprentices were: (1) barbers and beauticians, constituting 56.4 percent of the total number of registered apprentices for this occupation; (2) carpenters, 0.8 percent; (3) machinists, 1.6 percent; (4) electricians, 0.8 percent; (5) butchers and meatcutters, 5.2 percent; (6) pipefitters, 1.3 percent; (7) tool and diemakers, 1.6 percent; (8) cooks and bakers, 10.6 percent; (9) painters, 2.4 percent; (10) electronic technicians, 8.5 percent; (11) bookbinders and bindery workers, 16.8 percent; and (12) electrical workers, 2.0 percent.<sup>3</sup>

An interesting comparison can be made between the twelve occupations listed above and the ranking the Women's Bureau of the Department of Labor has of the twenty leading occupations of women: (1) secretaries, (2) sales clerks and retail trade, (3) bookkeepers, (4) elementary school teachers, (5) typists, (6) waitresses, (7) sewers and stitchers, (8) registered nurses, (9) cashiers, (10) private household cleaners and servants, (11) nursing aides, orderlies and attendants, (12) cooks (except private household), (13) secondary school teachers, (14) assemblers, (15) hairdressers and cosmetologists, (16) telephone operators, (17) checkers, examiners and manufacturing inspectors, (18) packers and wrappers (except meat and produce), (19) file clerks, and (20) receptionists.<sup>4</sup>

At one time social and institutional barriers kept women from the skilled trades and better wage levels. Not only was it believed for quite a time that many of these jobs were beyond the physical abilities and capacities of women, but there were state labor laws that excluded women from certain jobs. Today, even with half of American women employed outside the home and many of them working at jobs once considered the exclusive province of men, most of the lower-paying jobs are still held by women; and, in many instances, women still earn less than men, even those doing the same work.<sup>5</sup>

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<sup>3</sup>Ibid.

<sup>4</sup>Koba Associates, Inc., Women in Nontraditional Occupations: Final Report (Washington, D.C.: U.S. Office of Education, Bureau of Occupational and Adult Education, 1976), p. 6.

<sup>5</sup>Elizabeth J. Simpson, "Problems of Females in the World of Work," Theory and Practice Vol. 14, No. 1 (Winter 1975), p. 50.

In the academic world, the percentage of women declines at each successive level of advancement. Furthermore, as Simpson observes, many occupational training programs "still discriminate against women, although sometimes in quite subtle ways."<sup>6</sup>

Legislation has been undertaken to put an end to sex discrimination in hiring and apprenticeship. Aside from specific Department of Labor regulations that clearly prohibit sex discrimination in apprenticeship, Title VII of the Civil Rights Act bans job discrimination based on sex, and Executive Orders 11246 and 11375 prohibit sex discrimination in firms furnishing goods or services to the federal government or involved in federally funded construction.<sup>7</sup>

A project was undertaken in Wisconsin that might, first, find out ways of minimizing obstacles to women's entry into the skilled trades.<sup>8</sup> As early as 1911, in Wisconsin--a pioneer state in modern apprenticeship--the rights and responsibilities of apprentices and their employers had been defined by state law, and the State Division of Apprenticeship had been a party to all apprentice contracts for more than sixty years. Apprenticeship in Wisconsin had several progressive features: (1) apprentice pay and the number of hours of related theoretical instruction required were specified in the contract (with apprentice pay usually beginning at 50 percent of the journeyman rate and increased periodically until it reached 90 percent of the journeyman rate for the last six months of apprenticeship), (2) the contract also required employers to release apprentices for class on paid time, and (3) related instruction was provided to the apprentices by the vocational-technical education system at public expense.<sup>9</sup>

In 1970, the start of the three-year project, apprenticeship was the main means of getting into 360 of the state's skilled trades. At the time, 393 of the 8,547 apprentices were women. Practically all of them--324--were preparing for careers in cosmetology, a traditionally female occupation. The remaining 69 included 45 apprentice cooks, 10 apprentice barbers, and 14 others distributed among seven occupations one of which was in construction or heavy industry.

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<sup>6</sup>Ibid.

<sup>7</sup>Lehmann, "Women Journey into the Skilled Trades," p. 27.

<sup>8</sup>Norma Briggs, "Women Apprentices: Removing the Barriers," Manpower Vol. 6, No. 12 (December 1974), p. 2.

<sup>9</sup>Ibid.

Before the start of the project, the state's work force was 32 percent female, half of whom were in manufacturing; one percent of this half in manufacturing were technicians, and four percent were in the "craftsmen or other kindred workers" category. The economic status of Wisconsin working women had reportedly deteriorated over the past decade: what had ten years earlier been 63 percent, the average working woman's income was down to 58 percent of the working man's, with women workers clustered in low-skill, low-pay occupations; and, even though a third of the women on welfare were employed, their earnings were such that they still qualified for supplementary payments.<sup>10</sup>

Apprenticeship treats the newly hired worker as a learner. While preparing for a skilled occupation, s/he does not have to pay an educational institution; rather, as an apprentice, s/he earns money while s/he learns. After the time specified in the contract--three or four years--passes, the apprentice graduates into the rank of skilled worker. With the accompanying certificate of completion, the journeyperson's job prospects at skilled wage rates improve considerably.

As an important aspect of the Wisconsin apprenticeship study, data were gathered from answers to questions asked of the people that had anything to do with training apprentices. They were people in different groups: state apprenticeship agency representatives, trade and industry coordinators from vocational-technical schools, groups of union business agents, and employers who trained apprentices.

The primary and foremost reason they gave for women not being trained for the skilled trades was that it was simply a matter of tradition. The other reasons given were based on such commonly held (but false) assumptions as: (1) women are not serious about work--they only work to earn a little pin money, (2) it is a waste of time to give women skill training because most of them will marry and never use it; and (3) women workers have a high absenteeism rate.<sup>11</sup> Over half of the employers surveyed said they would hesitate to consider a woman for some apprenticeable trades--the jobs in question being "unsuitable" for women because they were too "dirty" or too "heavy" or involved long hours.<sup>12</sup>

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<sup>10</sup>Ibid., p. 4.

<sup>11</sup>Norma Briggs, Women in Apprenticeship--Why Not? Washington, D.C.: U.S. Department of Labor, Manpower Administration, 1974), p. 8.

<sup>12</sup>Ibid., p. 9.



The main conclusions arrived at by the project were: first, contrary to popular myth, the absence of women in skilled trades had little to do with their unwillingness to work at "unsuitable" jobs--women had been doing these tasks in unskilled capacities; this showed an urgent need for accurate information on the facts of women's work potential. Second, sex bias was less evident in those shops where women were already employed, with more employers of women in the shop thinking women and men made equally good employees in production than did those employers in whose plants there were no women on the shop floor; the implication of these findings was that shops in which women were already employed would be the best "starters" for women apprentices.<sup>13</sup>

The long-range goal for this and similar studies has been that of achieving apprenticeship positions for women, a goal constituting one more step toward the bigger aim of achieving occupational equality for women, the underlying assumption of occupational equality being that women are entitled to proportional representation in all occupations and that there are no jobs that they are less (or more) suited for than men.<sup>14</sup>

With women constituting 51 percent of the population, the development and training of this labor resource is certainly of prime importance. As we stated earlier, only one out of six of the women in the labor force is in the professions. The rest are either in the skilled or unskilled work fields. For most of those joining the work force and trying to gain entrance into the skilled trades, vocational education often constitutes the only answer to the job preparation problem.

Even into the seventies, vocational high schools characteristically admitted girls into the home economics and cosmetology courses readily enough, but not as readily into the electronics and mechanical courses of study. Educators and administrators in vocational education now advocate not only a review of the sex bias in existing courses and counseling practices, but a revision of the programs themselves, with a view toward putting women on an equal plane with men, especially as regards career and leadership opportunities, in the light of their own interests and abilities.

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<sup>13</sup>Ibid.

<sup>14</sup>Ibid.

The curriculum of most school systems, Cronin observes, both consciously and unconsciously prepares males for leadership roles and females for subordinate helping roles.<sup>15</sup> He traces the fault as being not solely that of the schools, since schools in most instances transmit the prevailing culture and the values of the generation at hand.<sup>16</sup>

### Nontraditional Male Students

Since the appearance of the phrase "dual role" in vocational education legislation in 1968, high school home economics teachers have shown a growing concern for their adolescent students, helping these students prepare themselves for the role of both homemaker and wage earner. Home economics teachers in consumer and homemaking education programs have been urged by the 1968 legislation to "...prepare youths and adults for the role of homemaker, or to contribute to the employability of such youths and adults in the dual role of homemaker and wage earner."<sup>17</sup> With women accounting for more than 41 million of those in the labor force, and more than one-third of them having children, it was felt that the need of these women for help in preparing for the dual role was immediate. And, with women leaving the home more and more, there has been the attendant growing need to prepare husbands and fathers for the role of sharing in the responsibilities of managing the home and rearing the children.

Lawson<sup>18</sup> provided a historical review of home economics for secondary school boys in the United States. Scattered records are available from the time of the 1930s. From his historical review, Lawson drew the following generalizations:

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<sup>15</sup>Joseph M. Cronin, "Educating the Majority: A Woman-power Policy for the 70's," Phi Delta Kappan Vol. 55, No. 2 (October 1973), p. 138.

<sup>16</sup>Ibid., p. 138.

<sup>17</sup>Judy K. Brun, "Educating for Changing Roles," Illinois Teacher of Home Economics Vol. 19, No. 2 (November-December 1975), p. 79.

<sup>18</sup>Royston J. Lawson, "Tigers Amongst the Roses: An Historical Review of Home Economics for Secondary School Boys in the United States," Illinois Teacher of Home Economics Vol. 20, No. 5 (May/June 1977), pp. 215-223.

- The nature and degree of participation of males in home economics education has been largely determined by the prevailing social climate.
- Male participation in home economics at the secondary level has been marginal and has shown relatively little improvement over time (however, greater proportions of males are registering in nontraditional courses such as "Consumer and Homemaking Education").
- Home economics educators have continued to see the male role as novel, and have been unaware of the professions' previous attempts to include males.
- When offered to boys, high school home economics courses have been assigned different titles, structure, and content from those offered to girls (with the advent of Title IX, this should no longer occur).
- Teachers of boys' home economics classes require a measure of stamina and special competencies.
- The enhancement/maintenance of "family life" has been the most common justification for including males in home economics programs.
- Home economics programs have continued to reinforce traditional sex role stereotypes.
- The urgency of including males in all facets of home economics has not been apparent to home economics professionals.
- Home economics teachers have accepted the status quo, and have seemed little concerned with the need to change and innovate.

Lawson indicates that the essential implication for home economics education is that it must be set free from the bonds of sex role stereotyping. Common content for home economics subjects should be identified for both males and females and taught on the same coeducational basis as history, English, or mathematics.

Studies have been conducted to ensure that the system can cope with the recognition of the emergence of the dual role concept. With boys, girls, men, and women educated in preparation for this role, the future is seen with men helping with child rearing and homemaking more and more and women working at jobs for economic and psychological reasons more and more.

Hoffer agrees with Cronin that "a subordinate culture is outlined for girls by the attitudes of the teachers and administrators, by the textbooks, and by the entire career counseling system."<sup>19</sup> Hoffer offers as initial evidence of this conditioning the very structure of the U.S. school system: in 1973, even though 961,500 of the 1,138,400 elementary school teachers were women, almost all--80 percent--of the elementary school principals were men. In high schools, with 50 percent of the teachers women, an overwhelming 97 percent of the high school principals were men.<sup>20</sup> He echoes the warning that since women comprise more than half of the country's population--and thus a considerable source of members of the work force--failure to help them achieve their maximum potential is wasting one of the country's largest resources.<sup>21</sup>

More than half of the women in public vocational education programs are being trained in home economics, and about one-third are studying office practices. This being the situation, the chances of the end result being what it has previously been are great: women will continue to be underrepresented in the skilled trades and in apprenticeable jobs.<sup>22</sup>

Ruth Shinn of the Women's Bureau, U.S. Department of Labor, notes:

There is virtually no job or career pattern that should now be called "for men only--for women only." In some occupations the demand for workers will be so great that women as well as men will be welcomed, and in others, to which women have traditionally looked for employment, the demands may diminish drastically and women will have to look elsewhere.<sup>23</sup>

The Women's Bureau, Employment Standards Administration, Bureau of Labor Statistics, U.S. Department of Labor, notes that women may have better chances of success in some of the new and emerging occupations which are not stereotyped as having always been reserved for men: data-processing, city planning, environmental control,

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<sup>19</sup>Hoffer, "Career Conditioning for the New Woman," p. 34.

<sup>20</sup>Ibid., p. 34.

<sup>21</sup>Ibid., p. 36.

<sup>22</sup>Ruth Shinn, "Up, Up the Ladder," Illinois Career Education Journal Vol. 30, No. 2 (Winter 1973), p. 39.

<sup>23</sup>Ibid., p. 40.

marketing research, employment counseling, occupational therapy, physical therapy, programming, systems analysis, and urban planning.<sup>24</sup>

### Nontraditional Female Students

To improve the general situation concerning women and their working at traditional jobs, research has been and is being undertaken on the manner in which females make career decisions and how they can be better helped in terms of advice towards the making of these decisions. Roby<sup>25</sup> is of the opinion that the final question is: "Will teachers and admissions officers admit women to traditionally male courses of study?" The problem, she adds, is not only organic to postsecondary vocational education programs, but to programs at the secondary level as well, considering the increasing number of girls marrying early or becoming pregnant inside or outside of marriage.

No hard figures are available, Roby says, that would indicate what proportion of women, given a real opportunity, would choose to move into the traditionally male jobs; but "all the information we do have suggests that, given a real choice, women would move into every level of the industrial hierarchy." The dicentennial census occupational listing bears her out.

Although, overall, there have not been too many nontraditional students as yet, their numbers have indeed been growing. And these students, enrolled in courses or programs not typical for their sex, have been and are being studied in an effort towards ultimately achieving a balance in enrollments by sex.

The Pennsylvania State University Institute for Research on Human Resources in 1974-1975 undertook such a study covering eleven vocational and comprehensive high schools that had at least five female students enrolled in one or more nontraditional courses. Current and former students as well as parents of the current students who had completed and returned the questionnaires were the subjects of the study. The focus of the study was the students' attitudes, experiences, and career plans, and the parents' attitudes toward male and female roles as well as their education and occupation.<sup>26</sup>

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<sup>24</sup>Ibid.

<sup>25</sup>Pamela Ann Roby, "Toward Full Equality: More Job Education for Women," School Review (February 1976), p. 191.

<sup>26</sup>Morgan V. Lewis and Lynn Warfield Keltreider, Attempts to Overcome Sex Stereotyping in Vocational Education (University Park, Pennsylvania: Institute for Research on Human Resources, The Pennsylvania State University, 1976), p. 4.



The major findings were: (1) there was very little indication that the experiences of the nontraditional students, judging from information on their family background, differed greatly from those of traditional students; (2) almost all of the parents were satisfied with their children's career choices, although parents of nontraditional females appeared to be more knowledgeable about and supportive of their daughters' career choices than the parents of traditional females; (3) most of the student respondents said they had made their career choices independently, mainly to study things of personal interest to them or to prepare for employment or postsecondary education, and this finding was supported by interviews with counselors and teachers, none of whom reported having encouraged students to consider nontraditional occupations; (4) counselors appeared to be more aware than teachers or administrators of the problems of providing equal opportunities to females; (5) most of the teachers did not consider equal opportunity for females an issue of concern, and they had few ideas about or awareness of how vocational education could be used to increase the probability of job success for nontraditional students; (6) none of the teachers indicated encouraging their students to think or talk about the effects of nontraditional enrollments in their classes, and, even though the teachers saw more positive than negative aspects of having females enrolled, this was rarely reflected in efforts to increase female enrollment.<sup>27</sup>

Lewis and Kaltreider underscore that one of the strongest impressions of the study on them was the observation that

...the choice of nontraditional programs was not an especially significant event in the lives of the students who were studied. Nor did these students seem to see or expect a great deal of relationship between what they did in high school and what they did after they left. When they were in high school they had to study something, and it appears that they "just happened" to make choices that a group of people

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<sup>27</sup>Ibid., pp. 4-6.

from a university considered important enough to investigate. Few of the students saw themselves as doing anything special, and most of them--traditional or nontraditional--did not have strong vocational goals. Very few held their schools accountable for what happened to them after they left school.<sup>28</sup>

The team's recommendations included:

- . expanding vocational options for all students
- . focusing efforts to increase enrollments in nontraditional programs on helping students choose vocational programs on the basis of interest and prospects for obtaining fulfilling employment
- . involving all school personnel in efforts to expand general awareness of sex stereotyping, its effects, and the means to eliminate it
- . striving to include the students, their parents, and other members of the community in these efforts<sup>29</sup>

Achieving career selection based on students' interests and aptitudes rather than sex is the ultimate aim of studies such as this. Lewis and Kaltreider have found that efforts toward this goal need the support of not only teachers, counselors, and school administrators, but the support of the students themselves, their parents, and the rest of the community.<sup>30</sup>

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<sup>28</sup>Ibid., p. 7.

<sup>29</sup>Ibid., p. 8.

<sup>30</sup>Ibid., p. 17.

## SECTION II: FACTORS INFLUENCING NONTRADITIONAL ENROLLMENT

### RESEARCH FINDINGS ON VOCATIONAL EDUCATION STUDENTS

A growing number of suggested recruitment strategies for encouraging students to enroll in nontraditional vocational educational courses are being generated by research. As these student-centered strategies are often perceived in the context of a comprehensive effort to reach more than one age group and both sexes, they have not been labeled in this review by target audience. Titles of specific studies may suggest the degree of relevance to readers' particular interests and concerns.

Typically, these studies have involved the use of questionnaires and interviews with students, but sometimes teachers, parents, and recent graduates have also been surveyed. (More concrete data have been collected at the vocational and postsecondary levels than the prevocational level; hence, the anticipated value of the forthcoming national survey for the research project which this literature review serves.)

Perhaps it is an indication that occupational sex equity is slowly beginning to take hold across the country in that at least three major studies have been able to involve an adequate number of nontraditional students for a sample. Thus far, however, both enrollment percentages and several research studies show that acceptance of and enrollment responses to nontraditional vocational education options for women and men are uneven and inconsistent, both by sex and across program areas. To demonstrate that the recruitment strategies must address several variables, some nontraditional enrollment findings of several studies of recruitment needs will be reviewed. Hopefully, then, the summary of suggested strategies in Section III can be more meaningful with the complexity of the problem in focus.

#### Studies of Recruitment Needs

A 1974-1975 study of eleven vocational and comprehensive high schools showed that in contrast to the national enrollment figures showing more number gains by men in nontraditional program areas, women nontraditional students in this study outnumbered men nontraditional students--who usually were nonwhite. Perhaps social bias and/or greater program options contributed, but interesting, too, is the feature that women nontraditional students were more likely to attend separate vocational schools than comprehensive schools.<sup>1</sup>

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<sup>1</sup>Lewis and Kaltreider, Attempts to Overcome Sex Stereotyping, pp. 71-73.



More recently, two Indiana studies conducted in 1977 further attest to the need to identify and implement strategies to help students follow through on their occupational interests and abilities by enrolling in nontraditional courses. In Mitchell's study of 1,108 girls in grades nine through twelve in thirty-five geographically representative high schools (including significant minority representation), findings showed that although girls have been enlightened, by considerable school effort, to believe that nontraditional opportunities in vocational education are broadening for girls, in practice they tend to adhere to stereotyped choices.<sup>2</sup> In the New Educational Directions study of 128 high school girls and boys, of the 13 percent who planned to have a nontraditional occupation, only one was male and the majority of girls' choices involved at least four years of education after high school. Of 111 students who had chosen traditional occupations, one-third had considered nontraditional options and four-fifths, or 35, of those were female. Many students said that nontraditional occupations were more acceptable for women than men, whose reluctance relates to masculinity and economic concerns. Many had considered nontraditional options earlier in junior high or high school, but feared being the only nontraditional student in class, lacked time in their schedule, or were discouraged by parents and/or school personnel.<sup>3</sup>

Research on needed recruitment strategies for mature women and men yields additional insights. In a 1975 study of sixty-six women aged thirty to forty-nine, the decisions to assume a nontraditional work role in addition to housewife/mother were made with more self-assurance. The primary motive was clearly financial as well as to improve self-image. Almost all these women had definite career goals in mind and through the nontraditional role had realized achievement and increased self-confidence. They felt that their greatest problem was not encountering sex prejudice in vocational schools, but involved adjusting to the student role and coping with dual responsibilities. In reflecting upon their situation, these women saw the need, among others, of reaching elementary as well as secondary students to open minds as a strategy to encourage nontraditional enrollments of women.<sup>4</sup>

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<sup>2</sup>Marianne H. Mitchell, Attitudes of Adolescent Girls Toward Vocational Education (Final Report) ED 142 847 (Bloomington, Indiana: Indiana University, June 1977), pp. 10-13.

<sup>3</sup>Indiana State Board of Vocational Education, New Educational Directions: Sex As A Determinant in Vocational Choice (Final Report) ED 145 135 (Indianapolis, Indiana: Indiana State Board of Vocational Education, June 1977), pp. 5-11.

<sup>4</sup>Sharon A. Nero, An Exploratory Study of the Sociological and Psychological Impacts of Mid-Career Changes for Women (Final Report) ED 120 567 (Menomonie, Wisconsin: University of Wisconsin, Stout Center for Vocational, Technical and Adult Education, 1975), pp. 25-33.

## Two Recent Major Enrollment Studies

Through federal funding from the Bureau of Occupational and Adult Education, two major studies rich in data on the nontraditional enrollment of women in vocational education have been completed by Rj Associates, Incorporated. Their 1976 study identified factors influencing women's enrollment in traditionally men's, traditionally women's, and sex-integrated programs at the postsecondary level. It also analyzed the data with regard to seven broad occupational areas and sex stereotypes of particular occupations. Of particular relevance to this review is a third component of the study: a survey of techniques useful to those educational personnel who were perceived by nontraditional students as influencing enrollment decisions. Of 132 secondary education personnel named, 78 (or 59 percent) responded; and of 158 postsecondary education personnel named, 88 (or 56 percent) responded. Responses used in the study thus came from the following groups.

- 360 women in nontraditional programs
- 452 women in sexually integrated programs
- 612 women in traditional programs
- 53 men secondary education personnel
- 25 women secondary education personnel
- 74 men postsecondary education personnel
- 14 women postsecondary education personnel<sup>5</sup>

Incidentally, Kane et al. provide a helpful profile of postsecondary enrollments. They confirmed that the majority of both women and men students in postsecondary vocational education are enrolled in programs traditional to their sex (i.e., traditional in the sense that 75 percent or more of enrollees are of that sex). Slightly greater percentages of all women students are enrolled in traditional men's and sex-integrated programs (i.e., those programs with enrollments of over 25 percent by each sex) than the percentages of all men students who are in traditional women's and sex-integrated classes. Table 1 shows the percentages:<sup>6</sup>

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Roslyn D. Kane, Pamela Frazee, and Elizabeth Dee, A Study of the Factors Influencing the Participation of Women in Non-traditional Occupations in Postsecondary Area Vocational Training Schools, Volume I--Narrative Report (Arlington, Virginia: Rj Associates, Inc., November, 1976), (See Volume II for Back Up Tables) pp. I-1--I-4, IV-1.

<sup>6</sup> Ibid.

Table 1

Postsecondary Vocational Education Enrollment  
Percentages by Sex Density

Program Type	Percent of all Women Enrolled	Percent of All Men Enrolled
Traditional Women's	62%	4%
Traditional Men's	9%	72%
Sex-integrated	29%	24%
	<u>100%</u>	<u>100%</u>

To put these percentages in perspective, perhaps it should be noted that while women comprise 55.5 percent (6.4 million) of the 11.6 million students enrolled in federally funded vocational education and two-thirds of all secondary vocational enrollments, nearly half of all women enrolled in vocational education are pursuing training for non-wage-earning work. Furthermore, underrepresentation of women exists in a greater number of specific occupations because of the broader range traditionally held by men.<sup>7</sup> Nevertheless, Table 1 statistics demonstrate that given sex segregation at the postsecondary level--for whatever reason(s)--recruitment may warrant the use of strategies with both women and men to correct a shared enrollment imbalance. These statistics call attention also to the finding of the study that a sizable percentage of women and men are enrolled in sex-integrated programs on the basis of which strategies may be devised to correct the sex-segregation of other programs.

The data compiled in this postsecondary enrollment study may hold tremendous potential for those selecting and developing recruitment strategies--both in terms of what was refuted and confirmed regarding influences upon nontraditional enrollment. In answer to the question "Who influenced postsecondary women most in enrolling?" the study found that--

- . men influenced nontraditional women enrollees more;
- . women influenced traditional women enrollees more;
- . men also influenced women in sex-integrated programs more, but less than nontraditional women (at the high school level, women and men were about equally influential to this group);
- . immediate family (especially parents) were more influential than school personnel to nontraditional women enrollees;

<sup>7</sup>Corinne H. Rieder, Women, Work, and Vocational Education, Occasional Paper No. 26, ED 145 084 (Columbus, Ohio: The Center for Vocational Education, Ohio State University, April 1977), pp. 4-5.

- . teachers were more influential than counselors to non-traditional women enrollees;
- . postsecondary staff were more influential to non-traditional women enrollees than high school staff;
- . junior high school staff were not identified by non-traditional women enrollees as influencing their decisions; and
- . more mothers were identified by nontraditional women enrollees as influencing their decisions than husbands or fathers.<sup>8</sup>

The study observes that the greater influence of male teachers on nontraditional women enrollees may stem from their being the majority teaching traditional male programs.

Also of relevance to recruitment strategy effectiveness are the answers found to another question: "What influenced postsecondary women most in enrolling?" At the outset, it should be noted that nontraditional women enrollees were less likely to be influenced by any counseling technique and became markedly less subject to the influence of other people earlier in life than traditional women enrollees. Yet these apparently independent thinkers did admit that individual counseling, jobsite visitations, and career education were the most useful strategies employed to help them choose training programs. Also, enrollment of four or more nontraditional students in class reduces perceived problems. Younger non-traditional women enrollees most often felt unprepared by high school training to enroll. Low income, urban, minority women in nontraditional programs felt least prepared. And, surprisingly, even if high school math and science preparation had been better, close to half the nontraditional women enrollees still felt unprepared for other reasons.

Yet there were motivating factors which compensated:

- . Interest and ability in a particular occupational area were viewed by nontraditional women enrollees as by far the most influential factors in encouraging them to enroll.
- . Good working conditions (e.g., steady work, many available jobs, and opportunity for advancement) were next in importance to both nontraditional and traditional women enrollees.

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<sup>8</sup>Kane, Frazee, and Dee, Factors Influencing Women in Postsecondary, pp. II-2--II-16.



- . Earnings were a more important enrollment factor to traditional women and even more so to women in sex-integrated programs.
- . Also, low income and minority women considered earnings a more important factor than more affluent or white women.
- . Regarding the motivational strategy of exploring options, only a small percentage of women in traditional or sex-integrated training had considered nontraditional options, whereas nontraditional enrollees had considered a balanced range of all three types of occupations.
- . Also, more women in sex-integrated programs than either those in nontraditional or traditional programs had considered an alternative.

Remarkably, this postsecondary study reveals more than one discrepancy between the students' and school personnel's perceptions of strategy effectiveness.

- . Nontraditional women enrollees viewed male vocational education teachers as most influential, whereas education personnel thought women counselors were.
- . School personnel thought they were more influential than nonschool personnel, whereas nontraditional students mentioned school personnel half as often as immediate family.
- . Fifty percent or more nontraditional students were critical of every method listed for use by counselors and teachers to help them in their program choice, but teachers and--even more so--counselors indicated that all the techniques were useful.
- . Nontraditional women enrollees felt parental involvement as well was more important in their occupational decision making than did education personnel.<sup>9</sup>

Apparently, more tuning in to postsecondary women students is needed so that recruitment strategies can be maximally empathetic and effective.

Meanwhile, a 1978 Rj Associates companion study has identified factors which influence nontraditional enrollment of women at the secondary school level. The survey sample included the following representation from 156 Area Vocational Technical Schools in thirty-six states:

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<sup>9</sup>Ibid., pp. II-3--II-16.

19 women counselors	1062 women in nontraditional programs
35 men counselors	1002 women in traditional programs
9 women vocational education teachers	1006 women in sex-integrated programs
42 men vocational education teachers	
3 women art teachers	
3 men art teachers	
11 women academic teachers	
4 men academic teachers	

These secondary school personnel constituted 135 of a total of 414 named by 29 percent of the nontraditional women students as having been very influential in their decision to enroll in training for a nontraditional occupation.

Classification of programs was based on three sex-density categories as well as on stereotype image (feminine, masculine, or neutral). Because of special circumstances, the sample underrepresents large central cities, California, and states that do not offer secondary vocational education at Area Vocational Technical Schools. Since several of these states are pacesetters in assisting nontraditional enrollment, the impact of some of their newer programs is not reflected. Where data made it possible, analysis of black and white students was conducted.<sup>10</sup>

Table 2 shows a profile, based on a 1974 Office for Civil Rights sample, of secondary vocational education enrollments that Kane and Frazee provide.

Table 2

Secondary Vocational Education Enrollment  
Percentages by Sex Density

Number and Training Types	Percent of all Women Enrolled	Percent of all Men Enrolled
38 Traditional Women's	74.3%	3.5%
59 Traditional Men's	4.9%	87.4%
19 Sex-integrated	20.8%	9.1%
	<u>100%</u>	<u>100%</u>

An even greater majority of women and men are enrolled in training that is traditional to their sex. As in postsecondary vocational education, the percentage of all women students enrolled in traditional men's fields is slightly greater than the percentage of all men students enrolled in traditional women's

<sup>10</sup>Roslyn D. Kane, and Pamela E. Frazee, Women in Non-traditional Vocational Education in Secondary Schools (Arlington, Virginia: Rj Associates, Inc., May 1978), pp. 1-6, B-2.



fields. According to the number of training classifications, underrepresentation of women in nontraditional fields occurs more frequently than for men because of the greater number of traditionally male fields (especially since nontraditional enrollments are not equally dispersed within each field). Again, it would seem that an alternative recruitment strategy aimed at increasing sex-integrated enrollments might--even more than at the postsecondary level--facilitate balancing the sex density in others.

There seem to be fewer demographic distinctions among secondary enrollment groups than at the postsecondary level. Factors such as race, income, education, and parents' occupations affected vocational decisions similarly--unlike professional women's decisions. Nevertheless, it was noted that among nontraditional secondary vocational education women students--

- . a greater percentage live in metro areas;
- . a greater proportion of black women are represented than in traditional training;
- . a smaller proportion of black women are represented than in sex-integrated training;
- . there is, as well as in sex-integrated training, a high participation of black women from metro areas in the South;
- . there is a relatively high percentage of ninth and tenth graders.<sup>11</sup>

Who influenced secondary vocational education women students most in enrolling? The study discovered that the following responses paralleled postsecondary level responses.

- . Mothers were the single most influential person, but to a lesser degree for women in courses that are sex-integrated than for those in traditional, and less for those women in nontraditional courses than those in sex-integrated ones.
- . Parents' influence was emphasized more than twice as often as school personnel's (parents are the most influential group to nontraditional students).

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<sup>11</sup>Ibid., pp. 6-7, 27.

- Men educational personnel influence nontraditional enrollees more; women education personnel influence traditional women more; and students in sex-integrated programs viewed the influence of women and men about equal. (Again, note that more vocational education teachers are men than women. Still the men's influence can mean evidence of support.)

- Again, generally, junior high counselors and teachers were not considered very influential. (Note, however, that 40 percent of all influential teachers other than those in vocational education were junior high.)<sup>12</sup>

In addition, several responses varied with those of post-secondary women students, suggesting that some recruitment strategies at the two levels should vary also. A few of these findings are listed below.

- Next to mothers and fathers, female friends (not husbands) were most influential to all women surveyed.
- Counselors (not teachers) were more influential on all women in secondary vocational education and men; counselors were more influential than women counselors--especially to women who chose to enroll in nontraditional or sex-integrated classes.
- Both counselors and teachers influenced traditional enrollees more than nontraditional enrollees.
- For women in sex-integrated programs, counselors were as influential as they were to traditional women.
- Teachers--so important at the postsecondary level--were proportionately less influential to women in sex-integrated programs than traditional, and least influential to those in nontraditional programs. However, teachers did have influence on nontraditional students planning an academic program.
- Of influential teachers outside vocational education, women and men were equally mentioned.<sup>13</sup>

Comparing what influenced secondary level women students' enrollment decisions to the factors mentioned by postsecondary enrollees also reveals similarities and variations. Similar

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<sup>12</sup>Ibid., pp. 8-12.

<sup>13</sup>Ibid., pp. 8-12, 36.

responses at both levels to enrollment factors include the following.

- . Traditional women enrollees were more likely to be influenced than nontraditional enrollees in making enrollment choices.
- . Like postsecondary nontraditional enrollees, all women in secondary vocational education viewed career education, career orientation, and jobsite visitation as the best strategies in helping them choose a program.
- . Interest, again, was the single most powerful influence on enrollment choice (three-fourths of both traditional and nontraditional women students and two-thirds of women in sex-integrated classes) and earnings were least powerful.
- . Ability, again, was the next most powerful influence on enrollment choice (50 percent of all women in nontraditional and sex-integrated classes and 60 percent of traditional enrollees).
- . Earnings, again, did have influence, however, on black women, low income women, and those in sex-integrated classes (as well as possibly influencing nontraditional women students--once interested--to enter postsecondary training).
- . The strategy of group counseling was again criticized: however, nontraditional enrollees in groups for both sexes were positive if some of the men in the group were pursuing the same career and were influenced by them in their nontraditional choice.
- . Again, the number of women enrolled in nontraditional classes is critical (preferably at least four).
- . Again, the percentage of women in traditional or sex-integrated classes who considered nontraditional alternatives was small.
- . Students and educational staff again disagreed as to how effective influencers and counseling techniques were (e.g., educational staff thought earnings were crucial to nontraditional choices), but they did at least agree about the importance of jobsite visitations.<sup>14</sup>

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<sup>14</sup>Ibid., pp. 8-40.

There are some distinct variations between responses of postsecondary and secondary women vocational students as to what factors influenced their enrollment. These include the following:

- Unlike postsecondary students, few secondary students found individual counseling valuable. Nevertheless, it was more helpful to black women and low income women. Nontraditional women enrollees rejected vocational testing as well.
- High school black women did not find career education and career orientation as helpful as postsecondary black women--possibly because it was not available.
- At the high school level, nontraditional choices are more difficult because there is more conflict for women: (1) between sexual identity and the new image of a working woman and (2) between the status attributed generally to college-preparatory versus vocational study.
- There is also much flux and indecision among high school women vocational students, especially those in nontraditional and sex-integrated classes. This complexity within motivation can be linked to the difficulty high school women have getting adequate information/exposure early enough to test interest and develop ability in different areas (only slightly over 50 percent of all these women seriously considered one alternative to what they were studying).<sup>15</sup>

The study reveals factors of enrollment influence which provide special recruitment insights about high school women. These include the following:

- Generally women vocational students seem less likely to be influenced by ideas imposed on them by others because strategies like career education and jobsite visits provided the opportunity to make individual judgments.
- Parents with college education are more likely to influence daughters away from nontraditional than from traditional areas toward academic ones.

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<sup>15</sup>Ibid.

- . Vocational testing influenced traditional women enrollees more than nontraditional women enrollees, perhaps because of the incidence of sex bias:
- . Traditional women enrollees participated in jobsite visits more than nontraditional women enrollees.
- . Counseling groups for women were rarely available in vocational education, and those that were seemed to have limited usefulness.
- . A large percentage of traditional women enrollees who considered an alternative, considered sex-integrated occupations.
- . Fewer women in nontraditional classes were employed than those in traditional or sex-integrated classes.
- . A very small percentage of nontraditional students were employed in jobs related to their study, compared to students in traditional or sex-integrated classes.
- . More women high school vocational students with related employment planned to get a related job after high school.
- . Although all women students planning to enter post-secondary vocational education expected to continue in the same type of training, of those who plan to work after high school, plans for entering the same area decrease in percentage from traditional to non-traditional, to sex-integrated.
- . Relatively fewer women, planning to work after high school rather than take postsecondary courses, had considered alternative occupations; and they have been proportionately less influenced by educational personnel.
- . Of those undecided about what job to seek after graduation, nontraditionals placed more emphasis on earnings than ability; for traditionals, it was just the reverse.<sup>16</sup>

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<sup>16</sup>Ibid.



## Comparison by Sex of High School Enrollment Choices

The cited enrollment factors suggest that recruitment of women into the high school level may be a more complex process because of the limited information and experience, as well as greater susceptibility to stereotype patterns among women of this age. Regardless of how complex the process is, however, there has been evidence for some time that the decision-making variables for high school women and men students in vocational education are not completely parallel. A 1973 study of (data collected in May 1971) 366 high school seniors in Wichita vocational education programs yielded the following enrollment factors:

- . Decisiveness of occupational choice for both sexes was linked with their satisfaction with school in general and the value of school work in eventual employment.
- . Teachers (contrary to the study by Rj Associates) were consistently seen by both sexes as most influential to occupational preferences and choices.
- . Fathers' occupations were related to sons' occupational choices, but mothers' occupations did not seem related to daughters' choices (while data in Rj Associates' study show that mothers nevertheless influence daughters most).
- . More male decisions were made earlier and twice as many males had always wanted their current choice.
- . Male students were more independent of friends' influence regarding their occupational preferences and choices than were females.<sup>17</sup>

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<sup>17</sup>Ruth M. Lungstrum, Selected Factors Related to Occupational Preference of High School Students Enrolled in Vocational Education Programs in the Wichita Public Schools, ED 074 267, (Urbana: Illinois University, Department of Vocational and Technical Education, 1973), pp. 56, 174-181.

## Recruitment Strategies for Men

There has been less investigation of the strategy needs in recruiting adult men. But the shift in researchers' perceptions is striking when one compares studies conducted in 1970 and 1976. A 1970 study of men who enter nursing recommended strategies seemingly based on stereotypes rather than men's androgynous potential. Even the language seems limiting by referring to male nontraditional occupations as "sex discrepant." Based on a cross-sectional attitude survey of both beginning and advanced nursing school students (335 men and 508 women), the following recruitment strategies were recommended:

- . Recruiting male nurses would be most productive in lower socioeconomic strata, small towns, rural areas, and by male recruiters visiting high schools.
- . Mass media recruitment efforts should stress professionalism, leadership, administration, science, and technology to appeal to men.
- . Intense efforts are necessary to recruit discharged veterans.
- . Stipends may be necessary for men in their twenties who will do best in a permissive atmosphere of a college.<sup>18</sup>

Striking differences can be discerned if the male characteristics assumed in these recruitment strategies for adult men are compared with the attitudes tabulated in a study on recruiting men in community college to office occupations courses. This research sought to determine whether there is an appeal to men for these nontraditional courses if curriculum is affected to better attract and train them. Both business majors and non-business majors were sampled, and 75 percent showed interest though progressively fewer in each successive age group. The interest shown in office occupations was not exclusive to business majors, but did seem significantly linked with unemployment problems. Yet only one of all the respondents had been counseled to consider nontraditional enrollment.<sup>19</sup>

A common theme running throughout all these cited studies is the significant role of counselors in recruitment strategies

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<sup>18</sup>Donald Auster and Nancy R. Auster, Men Who Enter Nursing: A Sociological Analysis, ED 112 026 (Canton, New York: Saint Lawrence University, 1970) (information from Resources in Education abstract as the text is not in circulation).

<sup>19</sup>Marjorie C. Dixon, "Office Occupations' Curriculum for the Male Community College Student," ED 134 817 (Master's Thesis, University of San Francisco, December 1976), pp. 39-52, 108.

especially at the secondary school level. Whether the imbalanced enrollment patterns of women and men in nontraditional vocational education stems from (1) the inherently uneven progress of legislatively correcting a deeply imbedded social problem, (2) the "awareness raising" of the women's movement (in some instances, men too), (3) the traditional socialization of women and men to differing acceptable behavior patterns and/or the obvious monetary advantages of many traditionally male occupations over traditionally "women's work," as far as students themselves are concerned, counselors--with their guidance and counseling training and access to information--are in a unique position to make a difference regardless of what recruitment strategies are implemented.

## FACTORS RELATED TO SEX ROLE SOCIALIZATION

Perhaps the most important categorization that is made of human beings is to designate them male or female. From birth to death, that designation is the single most persistent and pervasive attribute of an individual. The first and primary attribute of the child which parents attend to is its sex--before they know its size, its personality, or whether it will be healthy.<sup>1</sup> Granted, a child's sex may be immediately more obvious than its size, personality, or health. But the point to be made here is that the delivery room cry of "It's a girl!" or "It's a boy!" apparently conveys to parents information about a host of other characteristics about their child--characteristics that they apparently consider to be sex-determined.

Horn<sup>2</sup> reports a study of the parents of newborns in which researchers asked the parents of babies less than twenty-four hours old to describe their infants as to size, firmness, features, attentiveness, whether they were relaxed or nervous, and so on. The parents of daughters described their infants as significantly smaller, finer-featured, softer, and less attentive than the parents of sons described their babies. However, neither hospital records nor the evaluations made by the delivering physicians showed any real differences between the male and female infants in regard to the characteristics listed by their parents. These parents described their newborns, about whom they had had time to learn little more than their sex, in ways consistent with commonly held stereotypes about males and females.

While it may be surprising that sex stereotyping begins as early in a child's life as this study would indicate, one should not be surprised that socialization consistent with sex stereotyping forms is a ubiquitous and persistent pattern for the child thereafter. After all, socialization is the process through which individuals are encouraged (in some cases, perhaps, forced) to adjust in ways that will enable them to become useful to, or at least compatible with, society. In a society with differentiated sex roles, that socialization must include "lessons" on masculinity and femininity. Only recently has the idea that differentiated sex roles may not be good for society itself (let alone the individual) gained much credence. This notion has prompted increased examination of sex role socialization, of which this section of this literature review is a part.

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<sup>1</sup>Michael Lewis, "Parents and Children: Sex Role Development," School Review Volume 80, No. 2 (February 1972), p. 231.

<sup>2</sup>Jack Horn, "Sex Role Stereotyping--It Starts Early and Dies Hard," Psychology Today Volume 8, No. 8 (January 1975), pp. 85-91.

## Theoretical Positions

Three theories have been advanced as explanations of how children acquire sex roles: the psychoanalytic theory, the social-learning theory, and the self-socialization or cognitive developmental theory. The psychoanalytic theory proposes that a child identifies with the same-sex parent and then imitates this parent to learn the details of the appropriate sex role.<sup>3</sup>

While the social-learning theory also emphasizes imitation, it proposes that children are not limited to their same-sex parents when selecting sex role models but can choose other same-sex models as well. Mischel,<sup>4</sup> a proponent of this theory, believes that learning by observation of live and symbolic (in films, books, television) models is the first step in the learning of sex-typed behavior. This observation, he says, can take place without direct reinforcement to the observer (although reinforcement is an important aspect of learning sex-typed behavior as proposed by this theory).

Mischel reports several factors that affect the extent to which the modeled behaviors are acquired: (a) the model's power and willingness to reward, (b) the observer's own motivational state, and (c) the frequency, rate, and clarity of presentation of the modeled behavior. He maintains that children of both sexes learn much of the behavior of both males and females through this kind of observational learning. However, the extent to which they actually perform those behaviors depends upon the consequences that occur when they do. Mischel explains, "boys and girls discover that the consequences for performing such behaviors are affected by their sex, and therefore soon perform them with different frequency."<sup>5</sup>

The consequences may be inferred by, as well as directly received by, the child so that his/her performance is often determined by inferred consequences instead of by "trial and error" learning of those consequences. Individuals are conditioned by these consequences into performing what Mischel calls a person's "conditioning history."

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<sup>3</sup>Eleanor E. Maccoby and Carol N. Jacklin, The Psychology of Sex Differences (Stanford, California: Stanford University Press, 1974), pp. 333-334.

<sup>4</sup>Walter Mischel, "A Social-Learning View of Sex Differences in Behavior," in The Development of Sex Differences, edited by Eleanor E. Maccoby (Stanford, California: Stanford University Press, 1966), pp. 58-81.

<sup>5</sup>Ibid., p. 60.



It is these "conditioning histories" that, in Mischel's view, result in the fact that "activities, goals, interests, and the like acquire differential value for the sexes by being differentially associated with positive or negative outcomes or labels."<sup>6</sup>

The self-socialization or cognitive developmental theory does not emphasize reinforcement or modeling as do the psychoanalytic and social-learning theories. As Kohlberg<sup>7</sup> explains it, the cognitive developmental theory of sex role acquisition maintains that children begin constructing crude rules about appropriate masculine and feminine behavior before they have determined, and identified within any stable manner, their own sex. The construction of crude rules concerning sex roles is part of, and at the same level as, their cognitive capability in general. Once they have determined and identified with their own gender label, they view positively those activities and objects that are associated with their sex simply because they tend to value all things associated with themselves. They begin to behave in ways consistent with the crude rules they have constructed for their sex.

Kohlberg illustrates this difference between the cognitive developmental theory and the social-learning theory discussed earlier:

"The social-learning syllogism is 'I want rewards, I am rewarded for boy things, therefore I want to be a boy.' In contrast, a cognitive theory assumes this sequence 'I am a boy, therefore I want to do boy things, therefore the opportunity to do boy things (and to gain approval for doing them) is rewarding.'"<sup>8</sup>

Kohlberg believes that while imitation and reinforcement may play a part in the acquisition of sex roles, sex-appropriate behavior stems from organized rules that have resulted from the child's observation and from what s/he has been told. Because of her/his level of cognitive development, those rules may be exaggerated, oversimplified, stereotyped, and a real distortion of reality-- as the child fails to note the variations in the sex role behavior of her/his real life models.<sup>9</sup>

A compelling example of this is seen in the case of a four-year-old girl who insisted that girls could become nurses but only

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<sup>6</sup>Ibid., p. 61.

<sup>7</sup>Lawrence Kohlberg, "A Cognitive-Developmental Analysis of Children's Sex Role Concepts and Attitudes," in The Development of Sex Differences, edited by Eleanor E. Maccoby (Stanford, California: Stanford University Press, 1966), pp. 82-173.

<sup>8</sup>Ibid., p. 89.

<sup>9</sup>Maccoby and Jacklin, Sex Differences, p. 364.

boys could become doctors. She held to this belief tenaciously even though her own mother was a doctor.<sup>10</sup> Proponents of this theory maintain that what Maccoby and Jacklin call the child's "cartoon-like" sex role perceptions change over time as the child develops cognitively, becoming increasingly sophisticated and incorporating fewer absolutes.

Maccoby and Jacklin have criticized the psychoanalytic and social-learning theories of sex role acquisition because they believe that: (a) children's behavior has not been shown to resemble that of their same-sex parent anymore than that of other adults of their world; (b) children (at least those younger than six or seven years old) do not characteristically select a model whose sex matches their own when offered an opportunity to imitate either a male or female model (their choices are fairly random); and (c) children's sex-typed behavior does not resemble adult models' behavior. "Boys select an all-male play group, but they do not observe their fathers avoiding the company of females. Boys choose to play with trucks and cars, even though they may have seen their mothers driving the family car more frequently than their fathers; girls play hopscotch and jacks (highly sex-typed games), although these games are totally absent from their mother's observable behavior."<sup>11</sup>

Maccoby and Jacklin's criticism of the self-socialization or cognitive developmental theories stems from the fact that children frequently display sex-typed behavior before they have come to understand that gender is a constant. Maccoby and Jacklin maintain that

"gender constancy is not necessary in order for self-socialization into sex roles to begin. Children as young as three, we suggest, have begun to develop a rudimentary understanding of their own sex identity, even though their ability to group others is imperfect and their notion about the permanence of their own sex identity incomplete."<sup>12</sup>

Despite their criticisms of all three theories, Maccoby and Jacklin do endorse parts of each. They believe that simple imitation, direct reinforcement, and the kind of psychological process proposed by cognitive-developmental theorists such as Kohlberg are clearly involved in the acquisition of sex-typed behavior.<sup>13</sup>

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<sup>10</sup>Ibid.

<sup>11</sup>Ibid., p. 363.

<sup>12</sup>Ibid., p. 365.

<sup>13</sup>Ibid.

## Roles of the Family

In what has generally been considered the most inclusive document of its kind, Maccoby and Jacklin reviewed research literature relevant to the psychology of sex differences. They report "a remarkable degree of uniformity"<sup>14</sup> in the parental socialization of the sexes, and report only two areas (the kinds of toys children are given to play with and the ways children are dressed by their parents) in which parental sex stereotypes obviously influence their behavior toward their children. However, even as they report that "existing evidence has not revealed any consistent process of 'shaping' boys and girls toward a number of behaviors that are normally part of our sex stereotypes," Maccoby and Jacklin caution their readers that the research evidence available to them was in some cases quite limited.<sup>15</sup> Particularly handicapping to their review and its subsequent conclusions was the lack of information about fathers. Almost all the information about parental behavior toward children concerns maternal behavior, and Maccoby and Jacklin raise the issue that perhaps it will later be found that fathers differentiate between the sexes much more than mothers do.<sup>16</sup>

Maccoby and Jacklin report one "unanticipated theme" related to their findings: that boys seem to have more intense socialization experiences than girls.

"They receive more pressure against engaging in sex-inappropriate behavior, whereas the activities that girls are not supposed to engage in are much less clearly defined and less firmly entrenched. Boys receive more punishment, but probably also more praise and encouragement. Adults respond as if they find boys more interesting, and more attention-provoking, than girls."<sup>17</sup>

The difference in pressure toward socialization that girls and boys receive must surely have consequences for the development of their personalities, Maccoby and Jacklin maintain.<sup>18</sup>

In a lengthy literature review on the sex role socialization of young children, Katz et al.<sup>19</sup> call Maccoby and Jacklin's finding

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<sup>14</sup>Ibid., p. 348.

<sup>15</sup>Ibid.

<sup>16</sup>Ibid.

<sup>17</sup>Ibid.

<sup>18</sup>Ibid.

<sup>19</sup>Lilian G. Katz et al., Sex Role Socialization in Early Childhood (Urbana, Illinois: ERIC Clearinghouse on Early Childhood Education, 1977).

of little parental sex role shaping "astounding" in light of their interpretation of the research conducted in the 1960s and 1970s, which they believe documents differentiated sex role socialization.<sup>20</sup>

Katz et al. believe that "the family exerts the primary influence on children's sex role socialization" principally because parents reward sex-appropriate behavior and punish or otherwise discourage sex-inappropriate behavior.<sup>21</sup>

In a summary<sup>22</sup> of their interpretation of sex role socialization research, Katz et al. offer the following conclusions:

- . They concur with Maccoby and Jacklin that boys experience more intense pressure in sex role socialization.
- . They agree with Maccoby and Jacklin that boys are physically punished more often than girls.
- . They believe that the results of research regarding parents' differential socialization practices of "independence-granting" or "dependence-fostering" are unclear.
- . They believe that fathers tend to emphasize achievement with their sons, while mothers tend not to emphasize achievement with their children of either sex.
- . They believe that parents begin exerting sex role pressure on their children by the age of three with the kinds of toys and activities they select for them, with toy choices maximizing trait differences between boys and girls.
- . Fathers, they maintain, are the primary promoters of sex-typed behavior in their children.
- . They believe that the degree of importance that can be attributed to modeling after the same-sex parent in sex role socialization appears to depend on the nurturance, dominance, and availability of the model. Cognitive development, they say, seems to influence the tendency to model after people other than parents. The adult model probably plays a greater role in the sex role development of girls than boys.
- . According to Katz et al. older siblings influence the sex role socialization of their younger brothers and sisters. Most studies have shown that the younger sibling tends to be influenced in the direction of the

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<sup>20</sup>Ibid., p. 1.

<sup>21</sup>Ibid.

<sup>22</sup>Ibid., pp. 79-81.



older sibling, although there are some discrepant findings and reason to believe that older brothers are more influential than older sisters.

- Since Katz et al. believe that first-born children are the most likely to be strongly sex-typed, they believe that there is reason to think that to the extent that population control aims at increasing the number of one-child families, there may be a trend against sex role equity.
- They believe that evidence suggests that sex typing may decrease when parents loosen their sex role differentiation in the context of nurturant and stable parenting.
- It appears, they say, that extreme home dominance by either parent is undesirable but that mother-dominance may be especially unhealthy for the sex role development of children of both sexes.
- Katz et al. report that socioeconomic status plays an important role in the effects of maternal employment on the sex role attitudes on children. However, it appears that maternal employment influences daughters toward less stereotyped sex role attitudes while having little effect on the attitudes of sons.
- While father-absence appears to have a negative influence on sex role development, mental health, and cognitive and academic functioning of children (particularly low socioeconomic status children), Katz et al. point out that it is undetermined to what extent that negative influence is due not to father-absence per se but to the lowering of economic status of the female-headed household as compared to the male-headed household.

### Other Influences

While the family's influence on sex role socialization may be the earliest and most pervasive in the child's life, the family is not thought to be the only influential institution. The mass media (particularly, television) and nearly all aspects of schooling have been studied to determine their influence in the sex role stereotyping of children.

### Television

Researcher's interest in television springs generally from what is believed to be its enormous potential to influence people's lives. It has been estimated that the average child at age eighteen has spent more time watching television than on any other single activity except sleeping. Television has been blamed by people in general as well as some researchers for nearly every societal ill in recent years, including rising crime rates, declining college board test scores, sex role stereotyping, and weakening family relationships.



The number of problems that television is commonly blamed for causing or aggravating is testimony to the power, pervasiveness, and persuasiveness that this medium is perceived to have. Unfortunately, almost all the research that examines television in regard to sex role socialization uses the methodology content analysis from which it is impossible to garner either the intention of a program's producers or the impact of the program on its viewers. These analyses have conventionally examined television programs for the

"Ratio of male to female/girl to boy characters, sex role categories, behavior categories, occupations of the two sexes, interactions between males and females, role in plot, and in general the image of males and females as represented in children's television programs, educational television, cartoons, and family programs."<sup>23</sup>

Katz et al. summarize the view of women on television as revealed by content analysis by concluding that women appear less frequently and are, therefore, relatively less important; that they are not as competent, autonomous, or independent as men; and that they exhibit very limited abilities and occupationally related behavior.<sup>24</sup>

#### School Positions

Nearly every element of schooling has been examined for its part in sex role socialization and, in many cases, has been indicted for socializing students toward stereotypes. The American Association of School Administrators, among others, has pointed out how sex-differentiated the positions within the school are--administrators and prestige team coaches are men, while nurses, librarians, and secretaries are women.<sup>25</sup>

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<sup>23</sup>Katz et al., Sex Role Socialization, pp. 51-52.

<sup>24</sup>Ibid., p. 53.

<sup>25</sup>American Association of School Administrators, Sex Equality in Educational Materials (Arlington, Virginia: American Association of School Administrators, 1974), p. 2.

## Counselors

Studies by Schlossberg and Pietrofessa<sup>26</sup> have found that guidance counselors tend to steer girl and boy students toward different careers. Teachers, too, have been criticized for treating their students differently on the basis of their sex.<sup>27</sup> One study<sup>28</sup> found that teachers may even use different criteria for evaluating students of either sex. Asked to describe a "good" girl student, the junior high school teachers involved in this study used the following adjectives: appreciative, calm, conscientious, considerate, cooperative, dependable, obliging, and thorough. "Good" boy students, they said, were: active, adventuresome, aggressive, curious, energetic, independent, and inventive.

## Courses

Many high school courses, particularly those in vocational education and physical education, have traditionally enrolled only one sex or the other. For instance, while females comprised about two-thirds of those enrolled in secondary vocational education programs in 1972, 30 percent of those women were clustered in the home economics program, and only about 2 percent of them were being prepared for employment.<sup>29</sup> Ulrich believes that "there are few places in education where there has been such blatant sexual discrimination as in departments of physical education," involving poorer facilities, least favorable hours for practice, and minimal budgets for female teams.<sup>30</sup>

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<sup>26</sup>Nancy K. Schlossberg and John J. Pietrofessa, "Perspectives on Counseling Bias: Implications for Counselor Education," The Counseling Psychologist Vol. 4, No. 1, 1973, pp. 44-53 and John J. Pietrofessa and Nancy K. Schlossberg, "Counseling Bias and the Feminine Occupational Role," Women in Society and Economy edited by N. Glazer-Malhin and H.Y. Walker (Chicago, Illinois: Rand-McNally, 1971), pp. 219-221.

<sup>27</sup>Robert L. Spaulding, Achievement, Creativity, and Self-Concept Correlates of Teacher-Pupil Transactions in Elementary Schools (Washington, D.C.: U.S. Department of Health, Education, and Welfare, 1963).

<sup>28</sup>Myra and David Sadker, "Sexism in Schools: An Issue for the 70's," The Education Digest Vol. 39 (April 1974), pp. 58-61.

<sup>29</sup>Marilyn Steele, Women in Vocational Education: Project Baseline. Supplementary Report (Flagstaff, Arizona: Northern Arizona University, 1974), p. 28.

<sup>30</sup>Celeste Ulrich, "She Can Play as Good as Any Boy," Phi Delta Kappan Vol. 55, No. 2 (October 1973), pp. 114.

## Materials

Probably no other element of schooling has been so thoroughly examined and vehemently criticized for being sex stereotyped as has educational materials. At least seventy-eight published studies have been made of basal readers, textbooks, and children's literature. The criteria against which these materials have been judged have varied but are generally similar to those used to examine television programs for sexism. The principal criteria have been examined in the following ways: (1) the ratio of male to female characters, names, pronouns, and illustrations has been calculated; (2) the characters' roles have been examined to see whether they conform to sex role stereotypes; (3) the ratio of male to female authors in anthologies has been determined; and (4) the use of the generic pronouns "he" and "his" and other generic words such as "mankind" has been examined.<sup>31</sup>

The classic study of curriculum materials is perhaps that conducted by Women on Words and Images in 1972<sup>32</sup> of 2,760 stories in 134 readers from fourteen major publishers. Among their findings were: (1) five stories about boys for every two stories about girls; (2) three stories about men for every one about women; (3) two male animal stories for every one female animal story; (4) four male folk or fantasy stories to one female folk story; (5) 119 biographical stories about eighty-eight men and twenty-seven stories about seventeen women; (6) sixty-five stories that demeaned girls, two that demeaned boys; (7) men shown in 147 jobs, women shown in 26 jobs; (8) only three working mothers; (9) mothers portrayed as grouchy, unable to operate simple machinery, emotional, and prone to panic; fathers portrayed as attractive working people, problem-solvers and builders, often shown outdoors.

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<sup>31</sup>Albert J. Kingston and Terry Lovelace, "Sexism and Reading: A Critical Review of the Literature," Reading Research Quarterly, Vol. 13, No. 1, (1977-1978), p. 133.

<sup>32</sup>Women on Words and Images, Dick and Jane as Victims (Princeton, New Jersey: Women on Words and Images, 1972).

Math books,<sup>33</sup> science tests,<sup>34</sup> history books,<sup>35</sup> and career education materials have also been indicted for perpetrating sex stereotypes. Vetter et al.<sup>36</sup> studied 9,500 pages of text and 1,850 illustrations in more than 200 career education documents intended for use in high school and published between 1970 and 1974. Their findings showed that: (1) men were more often illustrated; (2) male proper names appeared more often; (3) more male role models were shown; (4) men were more often pictured outdoors; (5) women were overrepresented in the professional occupational category, although men were, too; (6) men and women were illustrated and mentioned in significantly different proportions in the ten general census categories of occupations.

These studies of educational materials, like most of the research on stereotyping on television, are content analyses and, while they do point out what is being presented to students, they do not show what, if any, effects they have on students; however, three pieces of experimental research indicate that sex stereotyped materials may have an effect.

The first was conducted by Harrison and Passero<sup>37</sup> and was designed to "ascertain the extent to which children include females in their interpretations of masculine-oriented generic terms."<sup>38</sup> Harrison and Passero tested four classes of third grade students, using a total of eighty-five children. The test presented eight questions or situations which the children were to answer by circling the appropriate drawing-answer(s) among those that appeared below each question.

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<sup>33</sup>Josephene Mlinar, "Sex Stereotypes in Mathematics and Science Textbooks for Elementary and Junior High Schools," in Report on Sex Bias in the Public Schools by the Education Committee, National Organization for Women (New York: National Organization for Women, 1973).

<sup>34</sup>Ibid.

<sup>35</sup>Janice Law Trecker, "Women in U.S. History High School Textbooks," Social Education, March 1971, pp. 224-261.

<sup>36</sup>Louise Vetter, David W. Stockburger and Christine Brose, Career Guidance Materials: Implications on Women's Career Development (Columbus, Ohio: The Center for Vocational Education, The Ohio State University, 1974).

<sup>37</sup>Linda Harrison and Richard N. Passero, "Sexism in the Language of Elementary School Textbooks," Science and Children, Vol. 12, No. 4, (1975), pp. 22-25.

<sup>38</sup>Ibid., p. 24.

The form of the test that used masculine generic terms was administered to the experimental group; the other, which was identical except that it used neuter rather than generic masculine terms, was given to the control group. Harrison and Passero report that 3-31 percent of the students taking the control group form circled drawings of males only. However, 49-85 percent of the students in the experimental group form circled male-only answers. These values were significantly different for all questions at the 0.01 level. These results seem to indicate that children may not include females within their understanding of masculine-oriented generic terms as they do within the neutral terms.

A similar study involving the supposedly sex-neutral male pronouns was conducted by Moulton, Robinson, and Elias.<sup>39</sup> They randomly assigned 226 male and 264 female college students to one of six groups and asked them to make up a story creating a fictional character (not themselves) who fit a theme supplied by the researchers. For three of the groups the theme was: "In a large coeducational institution the average student will feel isolated in \_\_\_\_\_ introductory courses." The blank space was replaced by the pronoun his for one group, by the pronoun their for another group, and by the pronouns his or her for the other group. The remaining three groups were given the theme: "Most people are concerned with appearance. Each person knows when \_\_\_\_\_ appearance is attractive. Again, the blank space was replaced by either his, their, or his or her."

Moulton et al. reported that over all conditions, 35 percent of the fictional characters created were female when the pronoun his was used in the theme; 46 percent were female when their was used; and 56 percent were female when his or her was used. The relationship between the frequency of male and female story characters and the gender-specificity of the pronouns was significant at the .001 level. Moulton et al. conclude that their results indicate that "using male terms in their 'gender-neutral' sense induces people to think of males even in contexts that are explicitly gender-neutral."<sup>40</sup>

The researchers hypothesize that the failure of gender-neutrality can be accounted for by a broader linguistic phenomenon: "A term that refers to a high-status subset of a larger class is being used in place of a neutral generic term. Tissues are called Kleenex, petroleum jelly is called Vaseline, bleach, Clorox, etc."<sup>41</sup>

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<sup>39</sup>Janice Moulton, George M. Robinson, and Cherin Elias, "Sex Bias in Language Use: 'Neutral' Pronouns that Aren't," American Psychologist, November 1978, pp. 1032-1036.

<sup>40</sup>Ibid., p. 1034.

<sup>41</sup>Ibid., p. 1035.



The third relevant experimental research study is that reported by Plost and Rosen.<sup>42</sup> These researchers selected two occupations in the computer field which had similar educational requirements, rank, and salary and about which their sample of eighth graders had not formed sex stereotypes. They prepared two versions of the ten-minute slide/synchronized audiotape presentation. In one version, the slides showed a female performing the role of systems analyst and a male portraying a software designer; in the other version, the male and female switched occupational roles. The same audiotape was used for both versions and the slides were similar in content and background across both versions of the presentation. Twenty classes of eighth graders were randomly assigned to see one of the two versions, with ten classes seeing each version. A questionnaire completed by the students after the presentation asked them to state a personal career preference for either of the two occupations depicted and to rank both occupations as to the prestige they associated with each.

Plost and Rosen found that boys and girls both tended to prefer the occupations presented by like-sex models. Girls tended to select occupations depicted by like-sex models significantly more frequently than the boys did. The students also ranked the occupations they saw depicted by a male model significantly higher in the prestige categories of education requirements and salary potential. There was no significant difference in the way they ranked the male- or female-modeled jobs in regard to the prestige categories of importance or opportunities for advancement.

#### School Philosophical Setting

Berk and Lewis studied the impact of four philosophically different school settings on children's attitudes about sex roles as they were revealed in the children's classroom behavior. The kinds of schools participating in the study were: (1) a "traditional" school, which "emphasized direct instruction of culturally given knowledge, skills, and social rules of conduct. The child is evaluated on his ability to incorporate what he has been taught and to respond positively to the demands of the system;" (2) a "romantic" school, "one that holds that the impetus for the child's education comes spontaneously from within the child rather than from external representatives of his culture. The learning environment should provide the child with freedom to let his 'inner good' emerge.

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<sup>42</sup>Myrna Plost and Marvin J. Rosen, "Effect of Career Models on Occupational Preferences of Adolescents," AV Communication Review Vol. 22, No. 1 (Spring 1974), pp. 41-49.

Intellectual curiosity and social relations with peers and adults are presumed to arise naturally in this type of setting;" (3) a "progressive" school, one that "stimulates the child's development by providing him with opportunities to grapple actively with real-life cognitive and social problems, thus making his interaction with his environment personally and socially meaningful;" and (4) a "transitional" school, one that was changing from a "traditional" to a "progressive" educational philosophy. Twenty-two boys and twenty-two girls who ranged in age from five years to eight years were observed.

Berk and Lewis found that the philosophical stance of the school did impact on the students' sex role attitudes as expressed by their behavior. The frequency and percentage of social interchange between opposite-sex students was significantly higher in the progressive school, where interaction between students of the opposite sex was by far the most typical form of peer social exchange. The other schools, ranked from high to low by frequency of interchanges between opposite-sex children, were: the "romantic" school, the "transitional" school, and the "traditional" school (lowest in frequency).

According to Berk and Lewis, the analysis of their observations indicated that the "progressive" school setting provided girls with social alternatives that were almost exclusively the province of boys in the other settings. For instance, in the other three schools, the opposite-sex exchanges that did occur were usually initiated by boys. "In the 'progressive' setting, although opposite-sex exchanges were typical of all children, their frequency was especially enhanced for interchanges initiated by girls."

Berk and Lewis conclude that the high incidence of positive interaction among opposite-sex children in the "progressive" school "indicates that in this school peers of the opposite sex had positive attitudes toward one another and found joint activities with a child of the opposite sex congruent with their own sense of being a boy or girl. ...If cooperative roles for men and women are viewed as a desirable goal, these children were experiencing positive preparation."

### Implications

The literature on sex role socialization offers clues to several factors concerning increasing nontraditional enrollments, thereby widening the career options of more young people.

Age of Intervention. Many individuals interested in relaxing sex role limitations often express despair at the difficulty of helping preadolescent and adolescent children because they believe it is difficult for the children to "unlearn" sex stereotypes they have accrued over the years.

However, the cognitive developmental theory of sex role acquisition would indicate that, given a society where nontraditional sex role models are still few, intervention strategies may have a greater chance of success with older children than with younger ones whose cognitive capacities cannot yet incorporate nonabsolutes. While providing preschool and elementary school environments conducive to relaxed sex roles should be a goal of educators, it may be less possible to influence young children away from rigid stereotypes until sex roles in society in general become less rigid.

Family Influences. The literature reflects the influence the family is believed to have on a child's sex role development. The psychoanalytic and social learning theories both propose that parents do or can serve as sex models for their children and the cognitive developmental theory allows that the crude rules for sex-appropriate behavior constructed by the young child may in part reflect the parents' behavior. Therefore, the importance of educating parents to be aware of their impact on their children's sex role socialization cannot be overemphasized. Materials such as Sugar and Spice Is Not the Answer: A Parent Handbook on the Career Implications of Sex Stereotyping<sup>43</sup> may be helpful in addressing this issue.

Katz et al. suggest that older siblings also influence the sex role development of their younger brothers and sisters, usually in the direction of the older sibling and with older brothers being more influential than older sisters. For this reason, recruiting and meeting the needs of an older sibling in a nontraditional program may well create the happy spin-off of increasing the chances of that person's younger siblings also considering entering a nontraditional program.

Counselor/Teacher Behavior. The necessity of making teachers and counselors aware of sex equity issues is obvious and of paramount importance.

Educational Materials. The content analyses of educational materials indicate that "lessons" on sex-appropriate behavior and attitudes are being presented to school children as surely as they are receiving lessons in math, history, science, and the like. The little experimental research that has been done tends to indicate that sex stereotyped materials do indeed have an effect and also point out the need for more experimental research to be undertaken in the area.

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<sup>43</sup>Louise Vetter, Cheryl Meredith Lowry, and Carolyn Burkhardt, Sugar and Spice Is Not the Answer: A Parent Handbook on the Career Implications of Sex Stereotyping (Columbus, Ohio: The Center for Vocational Education, 1977).

Plost and Rosen's study indicates that same-sex models in educational materials may influence students' perceptions of a preference for illustrated occupations. Perhaps eventually the use of the same-sex models in illustrated educational materials may be viewed as part of providing individualized instruction.

School's Philosophical Setting. Although results are clearly preliminary, Berk and Lewis' study would indicate that closer examination of the impact a school's philosophy has on the development of sex roles is in order. In the meantime, one may have reason to contemplate that children in "traditional" schools may have more need for strategies to increase the flexibility of sex roles than do children in schools with different philosophical settings. On the other hand, such strategies may be more effective in "progressive" school settings since that environment may already be encouraging cooperative sex roles.

## "SIGNIFICANT OTHER" FACTORS

A number of studies have looked at the effects of "significant others" as these influences are reflected in the preferences of people for traditional or nontraditional occupations. Parents have been found to have the most influence over their children's choice of a traditional or nontraditional career, followed by peers, teachers, and counselors.

### Parents

Kane, Frazee, and Dee<sup>1</sup> reported that mothers had the most influence on women in nontraditional programs in postsecondary area vocational-technical schools, followed by husbands and fathers. In studying seventeen- to nineteen-year-old women, Penn and Gabriel<sup>2</sup> found that parents encouraged traditional roles with a variety of rewards and responded negatively to nontraditional decisions. The young women also reported parents as the primary influence on their career choices.

In a national study of high school senior women, McLaughlin, Hunt, and Montgomery<sup>3</sup> found that, in terms of overt assistance with career planning decisions, personal contacts with those in the occupations and parents were the two most important influences cited by the seniors. In studying differences between traditional and nontraditional college women, Trigg and Perlman<sup>4</sup> found that the women perceived their mothers and their fathers as being supportive of nontraditional careers. Traditionals consistently perceived their parents as having less favorable attitudes toward any type of career.

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<sup>1</sup>Roslyn D. Kane, Pamela Frazee, and Elizabeth Dee, A Study of the Factors Influencing the Participation of Women in Nontraditional Occupations in Postsecondary Areas of Vocational Training Schools, Volume I (Arlington, Virginia: Rj Associates, 1976).

<sup>2</sup>J.R. Penn and M.E. Gabriel, "Role Constraints Influences on the Lives of Women," School Counselor Vol. 23, No. 4 (March 1976), pp. 252-254.

<sup>3</sup>Gerald W. McLaughlin, W. Kevin Hunt, and James R. Montgomery, "Socio-economic Status and the Career Aspirations and Perceptions of Women in Senior High School," Vocational Guidance Quarterly Vol. 25, No. 2 (December 1976), pp. 155-162.

<sup>4</sup>Linda J. Trigg and Daniel Perlman, "Social Influences on Women's Pursuit of a Nontraditional Career," Psychology of Women Quarterly Vol. 1, No. 2 (Winter 1976), pp. 138-150.



Weeks, Thornburg, and Little<sup>5</sup> indicated that society in general and parents in particular still appear to be more willing to allow females to pursue traditional male vocations than to allow males to pursue traditionally female vocations. They point out that the questions seem to be, "Can she do it?" for the young women and, "Should he want to do it?" for the young men. Perrone<sup>6</sup> pointed out that it appears necessary to expend as much time and energy on the attitudes and values of girls' parents as on the attitudes and values of girls if the male-female educational and vocational attitudinal and behavioral differences are to be minimized.

### Spouses

For people who have separated themselves from their parents, through maturity, spouses often become the most significant persons in terms of influencing career decisions. For example, as cited earlier, in Kane, Frazee, and Dee's<sup>7</sup> study of women in nontraditional programs in postsecondary area vocational-technical schools, husbands' influence was the second most important, after that of the mothers. Hawley<sup>8</sup> found significant differences between what nontraditional college women thought their boyfriends or husbands expected of them and what traditional students thought their boyfriends or husbands expected of them.

Almquist,<sup>9</sup> in studying college students, found that 70 percent of the women want to work and 64 percent of the men want a wife to work. Only 15 percent of the men would not want their wives to work under any circumstances.

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<sup>5</sup>M. O'Neal Weeks, Kathy R. Thornburg, and Linda F. Little, "The Impact of Exposure to Nontraditional Vocational Role Models on the Vocational Role Preferences of Five-Year-Old Children," Journal of Vocational Behavior Vol. 10, No. 2 (April 1977), pp. 139-145.

<sup>6</sup>Philip A. Perrone, "A Longitudinal Study of Occupational Values in Adolescents," Vocational Guidance Quarterly Vol. 22, No. 2 (December 1973), pp. 116-123.

<sup>7</sup>Kane, Frazee, and Dee, Factors Influencing Participation of Women.

<sup>8</sup>Peggy Hawley, "Perceptions of Male Models of Femininity Related to Career Choice," Journal of Counseling Psychology Vol. 19, No. 4 (July 1972), pp. 308-313.

<sup>9</sup>Elizabeth M. Almquist, "Attitudes of College Men toward Working Wives," Vocational Guidance Quarterly Vol. 23, No. 2 (December 1974), pp. 115-121.

This study gives some indication of attitudes toward work in general, but does not provide information in terms of the traditional/nontraditional choice of work.

### Peers

In studies where the influence of peers on occupational choice has been examined, peers show up as less influential than parents, but more influential than school personnel. For example, Penn and Gabriell<sup>10</sup> found that peers were second most influential in the choice of seventeen-to-nineteen year old women, ranking just behind parents. Trigg and Perlman<sup>11</sup> found that women college students in nontraditional areas perceived their male friends as supportive of nontraditional careers. The traditional group felt men in general preferred women to enter traditional as opposed to nontraditional careers.

Schwartz and Baden,<sup>12</sup> found that both peers and adults make impacts on the self-concepts of adolescent females, just as other researchers they cite had found to be the case for adolescent males. They also found that peer influences were substantially more significant for whites than for blacks.

### Implications

The preceding information highlights the importance of "significant others" on the career decisions of people who are considering or who have entered nontraditional occupational areas. Vocational educators will need to take this factor into consideration in the process of recruiting and retaining nontraditional students. Parents, particularly, will need to be directly involved in the process. For postsecondary programs, spouses may be an important group to reach. Additionally, the area of peer influence needs to be taken into consideration. Strategies for increasing nontraditional enrollments will probably be more successful when "significant others" are involved in the strategies. (See Section III)

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<sup>10</sup>Penn and Gabriel, "Role Constraints," pp. 252-254.

<sup>11</sup>Trigg and Perlman, "Social Influences," pp. 128-150.

<sup>12</sup>Michael Schwartz and Mary Anna Baden, "Female Adolescent Self-Concept: An Examination of the Relative Influence of Peers and Adults," Youth and Society Vol. 5, No. 1 (September 1973), pp. 115-123.

## PERSONAL FACTORS

Often when people discuss concerns of traditional and non-traditional choices of occupations and educational programs, the question of sex differences comes up. Can girls (or boys) do this particular thing? Can boys (or girls) do this particular thing better? Are women (or men) better suited for this particular thing on the basis of their personalities?

In the most extensive summary of the research on sex differences to date, Maccoby and Jacklin<sup>1</sup> have found--

1. that girls are not more "social" than boys;
2. that girls are not more "suggestible" than boys;
3. that boys and girls are highly similar in self-esteem;
4. that boys and girls are equally proficient at rote learning and similar repetitive tasks and at higher-level cognitive processing and the inhibition of previously learned responses;
5. that boys are not more "analytic";
6. that girls do not lack achievement motivation; and
7. that both sexes respond similarly to auditory and visual stimulation.

Maccoby and Jacklin believe that the following sex differences are fairly well established:

1. Girls have greater verbal ability than boys.
2. Boys excel in visual-spatial ability.
3. Boys excel in mathematical ability.
4. Males are more aggressive.

However, the important thing to keep in mind about sex differences when one is thinking about choosing traditional or non-traditional educational programs or occupations is that these are differences that do or do not show up in groups of people. An individual may or may not have the same characteristics as the sex group to which she or he is being compared. Additionally, there is a wide variation in abilities and personality characteristics within each sex group. Here again, the important point to consider for the individual doing the choosing is what abilities and personality characteristics this specific individual has.

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<sup>1</sup>Eleanor E. Maccoby and Carol N. Jacklin, The Psychology of Sex Differences (Stanford, California: Stanford University Press, 1974), pp. 349-352.

## Abilities

Additional information in the areas of mathematical ability and visual-spatial ability is provided by the following studies. Christoplos and Borden<sup>2</sup> gave twenty math problems to first graders, ten of the problems dealing with stereotypically girls' concerns and ten dealing with stereotypically boys' concerns. The girls scored significantly higher on the female-oriented questions and the boys scored higher on male-oriented questions. However, as the questions were alternated in the test, the total scores were not significantly different.

In studying spatial visualization, Nash<sup>3</sup> found no sex differences at the sixth grade, but that, at the ninth grade boys scored higher than girls. However, girls who indicated a preference to be boys had scores as high as those of the boys. Nash pointed out that this indicates that, between the ages of eleven and fourteen, girls begin to change their opinion of mathematics and science as sex-appropriate areas of achievement.

Casserly<sup>4</sup> indicated that the reason that young women are not adequately prepared to go into educational programs that can lead to careers in mathematics and the physical sciences (for example, many of the technical education programs) is not "math anxiety," but a lack of adequate preparation. Girls are allowed to drop mathematics courses because the customary attitudes and behaviors of parents, teachers, and guidance counselors are that math is not necessary for the traditional career paths. Casserly did not find math anxiety at thirteen nationally distributed high schools where young women were exceptionally active in the science and mathematics programs. She found that the three major strategies used in these schools were: (1) older girls counseled and tutored the younger girls; (2) teachers had access to the students' families; and (3) the teachers thrived on teaching students that were brighter than they were themselves.

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<sup>2</sup>Florence Christoplos and JoAnn Borden, "Sexism in Elementary-School Mathematics," The Elementary School Journal Vol. 78, No. 4 (March 1978), pp. 275-277.

<sup>3</sup>Sharon Churnin Nash, "The Relationship Among Sex-Role Stereotyping, Sex-Role Preference, and the Sex Difference in Spatial Visualization," Sex Roles Vol. 1, No. 1 (March 1975), pp. 15-32.

<sup>4</sup>"Women and Math: Anxiety Discounted," Guidepost Vol. 21, No. 6 (October 19, 1978), pp. 7, 11.

Goldman and Hewitt<sup>5</sup> found that, for college students, math ability was an important determinant of major field choice (science vs. nonscience). They indicated that the male-female difference in major field choice is largely mediated by the sex difference in math achievement.

These studies simply serve to point up again the interrelationships among the abilities of students who may make traditional or nontraditional choices and many other variables in their environments. The materials used and the attitudes and practices of families and school personnel have a profound effect on the indicated capacity of the students to perform in various kinds of tasks.

### Motivation

Since Matina Horner's<sup>6</sup> original study in 1968, a great deal of research and speculation has appeared about the "motive to avoid success" or the "fear of success," particularly in terms of how it may relate to the success of women in careers. Tresemer<sup>7</sup> summarized the findings in the area through 1977 as, on the whole, inconclusive, balanced between promising and disappointing results. Murray and Mednick,<sup>8</sup> in reviewing the information available on black women, again noted the inconclusiveness of the findings on fear of success. Thus, it appears that this concept probably is not all that useful in developing strategies to encourage more people to consider nontraditional educational programs and careers.

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<sup>5</sup>Roy D. Goldman and Barbara Newlin Hewitt, "The Scholastic Aptitude Test 'Explains' Why College Men Major in Science More Often Than College Women," Journal of Counseling Psychology Vol. 23, No. 1 (January 1976), pp. 50-54.

<sup>6</sup>Matina S. Horner, "Sex Differences in Achievement Motivation and Performance in Competitive and Noncompetitive Situations" (Doctoral dissertation, University of Michigan, 1968).

<sup>7</sup>David Ward Tresemer, Fear of Success (New York: Plenum Press, 1977), p. 179.

<sup>8</sup>Saundra Rice Murray and Martha Tamara Shuch Mednick, "Black Women's Achievement Orientation: Motivational and Cognitive Factors," Psychology of Women Quarterly Vol. 1, No. 3 (Spring 1977), pp. 247-259.



In terms of being able to assert one's self in a variety of situations, Hollandsworth and Wall<sup>9</sup> found that men report themselves as more assertive than women on items dealing with bosses and supervisors and also as being more outspoken when stating opinions and as taking the initiative more readily in social contacts with members of the opposite sex. Women report themselves as more assertive in expressing love, affection, and compliments, as well as expressing anger to one's parents. The sample of over 700 persons was drawn from technical institutes, community colleges, and universities. If these findings hold up across other groups, it would be well to consider incorporating this information into recruitment and retention strategies.

### Interests and Aspirations

A number of studies have documented the differences between boys and girls, men and women, in terms of occupations they have considered, are interested in, or aspire to, from the time they are in kindergarten until they are adults.

In a study designed to discover sex stereotyping in kindergartners and sixth graders, Schlossberg and Goodman<sup>10</sup> found that boys and girls consider women's occupational opportunities to be more limited than men's. Brady and Brown<sup>11</sup> found that eight- to ten-year-old boys scored significantly higher on the number of varied occupational choices than girls the same age. Sixty-two percent of eight-year-old girls and 56 percent of ten-year-old girls chose teacher, nurse or housewife as an occupation. The authors concluded that girls have occupationally limited themselves by eight years of age.

Meyer<sup>12</sup> sampled 132 boys and girls in grades three, seven, and eleven. Results indicated that both boys and girls have strong stereotypic ways of behaving toward traditionally sex-linked occupations.

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<sup>9</sup>James G. Hollandsworth and Kathleen E. Wall, "Sex Differences in Assertive Behavior: An Empirical Investigation," Journal of Counseling Psychology Vol. 24, No. 3 (May 1977), pp. 217-222.

<sup>10</sup>Nancy K. Schlossberg and Jane Goodman, "A Woman's Place: Children's Sex Stereotyping of Occupations," Vocational Guidance Quarterly Vol. 20, No. 3 (March 1972), pp. 266-270.

<sup>11</sup>R.R. Brady and D.B. Brown, "Women's Lib and the Elementary School Counselor," Elementary School Guidance and Counseling Vol. 7, No. 2 (October 1973), pp. 305-308.

<sup>12</sup>Marilyn M. Meyer, Patterns of Perceptions and Attitudes Toward Traditionally Masculine and Feminine Occupations through Childhood and Adolescence (Ann Arbor, Michigan: University Microfilms, 1970).

Two studies by Iglitzin<sup>13</sup> looked at sex stereotyping with fifth grade girls. The girls in the studies had career aspirations, although stereotypic, but when asked to describe a typical day in their lives as adults, emphasized details of family life rather than career experiences.

Prediger, Roth, and Noeth<sup>14</sup> studied the career plans of approximately 32,000 eighth, ninth, and eleventh grade students in a national study including 200 schools. They indicate that the most striking feature of the data was the evidence of sex differences. Over half of the eleventh grade girls chose occupations falling in only three of the twenty-five job families (clerical and secretarial work, education and social services, nursing and human care). Seven percent of the boys preferred occupations in those areas. Nearly half of the boys' choices fell in the technologies and trades cluster of job families in contrast to only seven percent of the girls' choices. Boys and girls were represented in approximately equal proportions in only two of the six clusters: the natural, social, and medical sciences cluster and the creative and applied arts cluster. Results for the eighth graders were essentially the same as for the eleventh graders. The authors point out that efforts to broaden the career options and choices of both males and females must be made to overcome the pervasive influence of work role stereotypes related to sex.

In studying the career choices of 139 high school junior girls, Burlin<sup>15</sup> found that innovative (or nontraditional) choices were made significantly more often as an ideal aspiration than as a real aspiration. Reciprocally, traditional occupations were chosen less often as an ideal than as a real occupational choice.

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<sup>13</sup>Lynn B. Iglitzin, "A Child's View of Sex Roles," Today's Education Vol. 61, No. 1 (September 1972), pp. 23-25.

<sup>14</sup>Dale J. Prediger, John D. Roth, and Richard J. Noeth, Nationwide Study of Student Career Development: Summary of Results ACT Research Report No. 61 (Iowa City: American College Testing Program, 1973), p. 12.

<sup>15</sup>Frances-Dee Burlin, "The Relationship of Parental Education and Maternal Work and Occupational Status to Occupational Aspiration in Adolescent Females," Journal of Vocational Behavior Vol. 9, No. 1 (August 1976), pp. 99-104.

Hurd and Allred<sup>16</sup> studied the interests in and attitudes toward secretarial positions for males of 360 eleventh grade students, both male and female, in Rhode Island. They found that the students were either undecided about their feelings towards males as secretaries or were slightly in favor of males as secretaries. Urban school students stereotyped the secretarial position to a greater degree than did their suburban and regional school peers. However, the urban group had the largest percentage of males who indicated an interest in becoming secretaries. The researchers felt that even though the majority of male students was not interested, male students who have interests in secretarial positions should be encouraged to pursue a career in the area.

Goldman, Kaplan, and Platt<sup>17</sup> found that the relationship of mechanical curiosity to choice of major field was consistent for both men and women when they studied 256 first-year college students. The responses on the "mechanical curiosity scale" were so different for men and women that the scores by sex did not overlap. However, the women science majors were as successful as men (when measured by grade point average) even though their scores on mechanical curiosity were lower. The authors suggest that, if students choose major fields partly as a result of their mechanical curiosity, then women "need" less of this attitude than do men. These findings indicate that measures of interest must be used very carefully when students are considering possible career choices.

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<sup>16</sup>Hope T. Hurd and Hilda F. Allred, "Interest in and Stereotyping of the Secretarial Position for Males," Vocational Guidance Quarterly Vol. 26, No. 3 (March 1978), pp. 255-259.

<sup>17</sup>Roy D. Goldman, Robert M. Kaplan, and Bruce B. Platt, "Sex Differences in the Relationship of Attitudes Toward Technology to Choice of Field of Study," Journal of Counseling Psychology Vol. 20, No. 5 (September 1973), pp. 412-418.

## Implications

In summarizing the implications of the findings of the relationships of personal factors to nontraditional choices of educational programs, the following statements can be made:

- . While there are some sex differences in abilities between the sexes, the important thing to keep in mind is the abilities of the specific individual, girl or boy, man or woman who is choosing an educational program.
- . Interests in occupations tend to be sex stereotyped, perhaps more for "real" choices than for "ideal" choices.
- . Measured interests and abilities almost certainly are affected by the attitudes and practices of families, school personnel, and material used by the students.
- . Ability tests and interest inventories must be used very carefully so that past stereotypes are not perpetuated.

### SECTION III: STRATEGIES FOR INCREASING NONTRADITIONAL ENROLLMENTS

#### Introduction

Review of Recruitment Strategies. So far, in addition to several enrollment factors, the need to facilitate nontraditional vocational education opportunities has been reviewed. The purpose of this section is to identify strategies that have either been used, or been suggested by research, to increase the number of enrollments--both female and male--in nontraditional vocational education programs.

These strategies fall into two major categories. The larger category, which will be considered first, pertains to recruiting nontraditional students. Recruitment of students for nontraditional vocational education programs should not be inferred to mean using pressure tactics to gain numbers or to mean enticing students into decisions contrary to their interests, values, and abilities. Rather, the emphasis behind recruitment is organized, concerned involvement in communicating to girls and boys/men and women a better understanding of themselves and existing nontraditional career options. The objective is then to encourage those individuals so inclined to follow through on their own decisions to enroll. A complementary category of strategies will also be addressed which pertains to preparing educational staff to have an effective role in planning, implementing, and supporting the recruitment effort.

Historical Perspective. Well before the passage of the 1976 Vocational Education Amendments, it was recognized that the provisions of Title IX in 1972 which banned sex discrimination were insufficient to increase nontraditional enrollments of women and men. Steele's previously cited Project Baseline supplementary report showed, for example, that for Fiscal Year 1972 the national vocational education enrollment for women in plumbing and pipefitting was only 34, or 0.1 percent, and for men in dental hygiene, only 170, or 3.6 percent.<sup>1</sup>

Armed with data from this report, Verheyden-Hilliard advocated along with Steele that recruitment be implemented. To the argument that girls wouldn't enroll in nontraditional programs because of societal and parental pressures, she countered:

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<sup>1</sup>Marilyn Steele, Women in Vocational Education: Project Baseline, pp. 33, 40.



To simply wait for girls to appear at vocational or technical schools asking for nontraditional enrollment is like the situation a few years back when educators in all-white schools "waited" for black children to seek admission--unasked and unencouraged.<sup>2</sup>

Verheyden-Hilliard proposed four general recruitment approaches based on three basic sex equity needs: to inform, to develop student programs, and to provide in-service for teachers and counselors. These approaches, or needs--although directly stated to encourage girls to consider nontraditional courses--resemble, when specifically addressed by practitioners and researchers, numerous applied and suggested strategies in this literature review to recruit either or both sexes:

1. Inform parents, students, and community members of the reasons for students to consider new career alternatives.
2. Inform counselors at junior high schools and other schools that feed into vocational schools of non-traditional training options for students.
3. Present programs at feeder schools to help students to feel welcome in nontraditional programs and to understand their possible long-term advantages.
4. Hold workshops to help vocational education teachers learn how to encourage students with nontraditional career interests.<sup>3</sup>

#### Early Research Achievements

Many of the recruitment strategies specific to vocational education to be discussed in this section have been developed as a result of earlier research and development efforts sponsored by a variety of agencies at state and federal levels. Prior to 1976, for example, the Office of Education's Bureau of Occupational and Adult Education funded a study of the reasons why women of certain racial and ethnic groups enter nontraditional occupations and stay in the programs. BOAE also funded a study of ten urban schools and communities to identify factors influencing the acceptance of women in nontraditional courses. The National Institute of Education, meanwhile, funded national efforts with implications for recruitment, such as the previously cited career exploration project to

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<sup>2</sup>Mary Ellen Verheyden-Hilliard, "Cinderella Doesn't Live Here Anymore," Womanpower (a special issue of Manpower), November 1975, p. 36.

<sup>3</sup>Ibid., pp. 34-36.

develop simulation/gaming materials that offer uncontrived alternatives to occupational sex stereotypes and the previously cited career guidance project to design a comprehensive planning and support system that featured a parent handbook on the career implications of sex stereotyping.

During this beginning stage, several recruitment strategies aimed at both academic and vocational education were developed and tested through diverse state-level projects across the nation. A sampling of these projects (cited earlier) includes the following:

1. In Wisconsin, the Department of Labor funded a project to recruit women apprentices.
2. In Texas, the Division of Occupational Research and Development funded a model program to recruit women to nontraditional vocational education courses.
3. In North Carolina, the Occupational Research Unit used Part C funds to fund an in-service training program for educators concerning sex stereotyping in vocational education.
4. In Illinois, the State Board of Education/Office of Education funded the development of a program of curriculum materials to increase prevocational students' awareness of nontraditional fields and the consequences of career choice.
5. In Kansas, the National Science Foundation partially funded a career exploration project to inform high school senior women about traditionally male opportunities in math and science.
6. In California, USOE funded a project to develop a series of handbooks and films combating sex stereotypes.
7. In Washington, the Superintendent of Public Instruction used Title V, ESEA funds for Feminists Northwest to develop a multi-state leadership awareness project addressing sex discrimination issues in education.
8. In Massachusetts, NIE funded the design of a sex fair career guidance kit for counselor/teacher/student use.

These examples of research and development efforts suggest an early awareness by a range of supporters that the problem of achieving sex equity in vocational education is complex and requires a comprehensive array of flexible and sensitive recruitment strategies to address the general and specific needs of all affected by this legislated reform.

To date, the literature has focused primarily upon how to recruit young and mature women to nontraditional vocational education courses. Perhaps the main reason for this is that it is apparent--from overall percentages of increased nontraditional enrollment--that it is more difficult to break down sex segregation barriers (whether institutional, socially-imposed or self-sustained) affecting females than those affecting males in vocational education. This problem is particularly true for young women students, but applies to women teachers and administrators as well. More recently, however, there has been growing awareness among educators, researchers, and the general public that sex equity is a dual problem and the solution lies in addressing the occupational and sex role stereotyping that has held both women and men back from developing and expressing their fullest potential.

A Dual Problem Case Study. A noteworthy exception to focusing solely on increasing women's nontraditional enrollments is North Carolina's New Pioneers Project (1974-1976), directed by Amanda J. Smith. As the staff of this model program for a state-wide sex equity effort in vocational education began to implement strategies both in terms of students' needs and in-service training, they discovered that a balanced program including men was vital to avoid widespread rejection of the project. Increasing nontraditional enrollments entailed eliminating stereotypes, and "it seemed impossible to eliminate stereotypes about women without also understanding and eliminating stereotypes about men."<sup>4</sup>

A balanced program addressing both females and males became one of eight touchstones--or basic needs--recognized in the New Pioneers' substantive and philosophical approach. The staff of this North Carolina project discovered that recognizing these basic needs far outweighed the importance of their organization, strategies, and activities. Their major conclusion was to "suspect that any well-thought-out system will work, with a few dedicated people to work it, if the right approach is used."<sup>5</sup> Other touchstones, or needs, recognized in the recommended approach of the New Pioneers Project include:

- . Distinguish between sex discrimination and sex bias,
- . Start at the beginning--put issues before answers,
- . Suit the presentation to the audience.
- . Be open and direct with students about bias.
- . Stay away from quotas
- . Never laugh at anyone,
- . Laugh as much as possible with others, at yourself.<sup>6</sup>

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<sup>4</sup>Amanda J. Smith, New Pioneers: A Project to Eliminate Sex Bias in Occupational Education Reflections and Recommendations (Raleigh, North Carolina: North Carolina Department of Public Instruction, 1977), p. 1.

<sup>5</sup>Ibid., p. 5.

<sup>6</sup>Ibid., p. 5.

## Strategies to Benefit Both Sexes

The New Pioneers Project's concern for a balanced program has been outlined here to put in perspective the inclusion of strategies that follow. Although the majority of cited strategies in this section of this literature review has resulted from concern to recruit women vocational education students to nontraditional courses, one should not assume that encouraging boys to consider nontraditional vocational education courses is of little importance. For one thing, traditional inequity aside, sex-integrating low-paying service occupations will probably stimulate more equitable salaries for a significant percentage of women in the work force. Moreover, as women and men learn to appreciate and understand each other's work contribution independent of stereotypic value judgments, career decisions will be made less stressful, more independent, and non-traditional career choices will be more readily embraced--for positively fulfilling reasons. One should not assume, either, that adaptation of this review's strategies in order to recruit both sexes is precluded. Indeed, the absence in the literature of equivalent emphasis on recruitment of males as well as females to nontraditional occupations suggests that adaptation of strategies is essential to avoid a "collision" (to use Amanda Smith's term<sup>7</sup>) that would damage relationships for singles and families in our society--if not jeopardize the human race.

The concept of recruitment to nontraditional courses is intended to benefit both sexes by hastening full implementation of the Vocational Education Amendments of 1976. The strategies that follow pertain essentially to methods of informing students about options and facilitating their enrollment into nontraditional careers. Returning to the experience reported by the New Pioneers Project staff, once people got past any negative connotations of the word recruitment, strategies used to recruit girls and boys supplied:

"a happy spinoff for the whole vocational program. In effect, local directors were saying that when they informed girls about carpentry, they did a better job of informing boys about carpentry. And the same for boys being informed about the girls' programs . . . Even those who did not sign up for any vocational courses began to respect the program more when they knew more about it."<sup>8</sup>

It is with positive, enabling options like these in mind that the following recruitment strategies to increase nontraditional

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<sup>7</sup>Smith used this term in a review comment of a draft of this paper.

<sup>8</sup>Ibid., p. 25.



enrollments have been developed, researched, and--in many cases-- implemented.

### Research-Generated Recruitment Suggestions

Introduction. A growing number of suggested recruitment strategies for encouraging students to enroll in nontraditional vocational education courses are being generated by research. Perhaps it is an indication that occupational sex equity is slowly beginning to take hold across the country in that at least three major studies have been able to involve an adequate number of nontraditional students for a sample. Thus far, however, both enrollment percentages and several research studies show that acceptance of and enrollment response to nontraditional vocational education options for women and men are uneven and inconsistent, both by sex and across program areas.

To demonstrate that recruitment strategies must address several variables, this section will review some nontraditional enrollment findings in several studies of recruitment needs. Subheadings give topics of specific studies to suggest the degree of relevance to a reader's particular interests and concerns.

Typically, these studies have involved the use of questionnaires and interviews with students, but sometimes teachers, parents, and recent graduates have also been surveyed. More concrete data have been collected at the vocational and postsecondary levels than at the prevocational level. (That void will be addressed by the forthcoming national prevocational survey for the research project which this literature review in part serves.)

A summary chart of suggested strategies from these studies, as well as the two studies by Rj Associates, follows. The chart organizes the strategies by need area and potential implementer. Researchers frequently have perceived these strategies in the context of a comprehensive effort to reach more than one age group and both sexes. Readers should find this chart enlightening as to the complexity of the problem of nontraditional enrollment. At the same time, the number and variety of suggested strategies should be a source of (1) encouragement that many routes to a solution are possible, and (2) perspective for analyzing the tested/applied strategies in the next section of the review.

### Research Studies

Landmark Nontraditional Enrollment Study. As was pointed out in the section on vocational education, while numbers of nontraditional students have been growing, their overall paucity has until recently impeded major studies of recruitment needs. The 1974-75 study by Lewis and Kaltreider was in part remarkable in that the eleven schools involved each had at least five women students in nontraditional courses, especially when one considers the fact that these schools had no specific recruitment programs. The characteristics of the schools, communities, and students themselves were



Suggested Strategies to Increase Nontraditional Enrollments  
(Based on Research Findings)

Need Area	Strategy	Implementer**							
		SB	I	A	T	C	L	S	U
INFORMATION	Advertise existing programs and institutional interest in enrolling nontraditional students of both sexes. (N)*		X						
	Establish visibility of services to students. (N)					X			
	Be more aggressive re development and presentation of planned informational-orientation programs for pre-adolescent girls and their parents (e.g., increased use of public media). (M)								X
	Be realistic about workers' income, college ability vs employability payoff. (M)					X			
	Communicate programs and career options to broaden the appeal of vocational education to girls. (M)								X

\*Research studies - see bibliography for full citation

- D - Dixon (Postsecondary males)
- I - Indiana New Educational Directions (High school males and females)
- K<sub>h</sub> - Kane and Frazee (high school females)
- K<sub>p</sub> - Kane, Frazee and Dee (Postsecondary females)
- L - Lewis and Kaltreider (high school and high school graduates females and males)
- M - Mitchell (High school females)
- N - Nero (mid-career females)

\*\*SB - State Vocational Education Board

- I - Institution
- A - Administrator
- T - Teacher
- C - Counselor
- L - Librarian
- S - Student
- U - Unclassified

Need Area	Strategy	Implementer**							
		SB	I	A	T	C	L	S	U
INFORMATION	Inform parents through newsletters about sex stereotypes and possible consequences for girls and boys. (L)								X
	Use career related materials that are sex fair whether in the library, counseling office, sex-fair handbooks, program descriptions, course syllabi, and classroom handouts. (L)								X
	Give a nonstereotyped view of courses and activities in displays on courses. (I)								X
	Be accessible to prevocational students on tours of vocational program areas. (L)							X	
	Revise printed materials (even if time consuming, this strategy may be easier than changing curriculum). (L)								X
	Change sex stereotyped course titles (e.g., Cooking to Food Production and Management of Vocational Agriculture to Earth Environment) to attract nontraditional students and enhance traditional students' occupational awareness and sense of worth. (L)								X
	Make course titles sex fair. (I)			X	X	X	X		
	Convey information and heighten awareness through bulletin boards, new book shelves, and/or display cases. (L)							X	

Need Area	Strategy	Implementer**							
		SB	I	A	T	C	L	S	U
INFORMATION	Get on mailing lists for current career information. (L)						X		
	Encourage all women, especially for nontraditional and sex-integrated fields, to take math and science courses. (K <sub>h</sub> )								X
	Supply high school women with adequate information so that (1) mature decisions can be made without internal or external pressure and (2) follow-through by enrolling is facilitated. (K <sub>h</sub> )								X
	Attract women to nontraditional occupations by something besides earnings since some women, equally attracted by earnings, chose traditional occupations. (K <sub>h</sub> )								X
	Inform women about opportunities in sex-integrated programs (which may have greater effect) rather than recruit them only from traditional to nontraditional occupations. (K <sub>p</sub> )								X
	Provide parents specific information to put their influence on daughters to best use as early as possible. (K <sub>p</sub> )								X
POLICY PLANNING IMPLEMENTATION	Review/revise all school policies and require a course on sexism in education for certification. (L)			X					
	Actively encourage junior high and high school compliance with legislator. (I)	X							

Need Area	Strategy	Implementer**							
		SB	I	A	T	C	L	S	U
POLICY PLANNING IMPLEMENTATION	Legislate funded support of programs to attract women to enroll in vocational education. (M)								X
	Be vigorous in implementing plans to bring about sex equality since legislative change isn't automatic. (M)								X
	Avoid delays in implementation--be proactive. (L)								X
	Monitor progress as well as initiation of programs to enforce legislation. (L)								X
	Involve in some way all those who may be affected (directly or indirectly) so they are familiar with local plans. (L)								X
	Encourage prevocational nontraditional enrollment since course experience influences enrollment. (I)			X	X	X	X		
	Actively encourage girls in their vocational education enrollment. (M)								X
	Be sensitive to sex bias in tests. (L)					X			
	Be unbiased toward students' age, sex, and economic status. (N)					X			
	Use materials unbiased regarding sex and age. (N)		X						
Provide employment services to assist the mid-career changer. (N)		X							

Need Area	Strategy	Implementer**							
		SB	I	A	T	C	L	S	U
POLICY PLANNING IMPLEMENTATION	Expand vocational options for all students to choose programs for interest and employment prospects. (L)		X						
	Involve all school personnel in awareness raising and addressing sex stereotyping. (L)		X						
	Avoid overemphasizing the assumed difficulty of nontraditional students in finding related employment. (L)		X						
	Compile nontraditional student applications to have an accurate enrollment picture. (L)		X						
	Increase the number of women counselors in vocational schools to change the all-male image of vocational programs. (M)								X
	Increase the number of women nontraditional vocational education teachers. (M)								X
	Institute an affirmative action program to actively recruit both nontraditional teachers and students. (L)			X					
	Promote hiring nontraditional teachers for role models. (I)	X							
	Influence each other's career choice constructively (males, according to research, were the greatest critics of nontraditional men and women). (L)							X	



Need Area	Strategy	Implementer**							
		SB	I	A	T	C	L	S	U
POLICY PLANNING IMPLEMENTATION	Planfully commit time and resources necessary to have a nonsexist environment. (L)			X					
	Assure students of sex-fair enrollment opportunity through an adequate supply of non-traditional promotional materials and career materials generally that relate occupational requirements to job titles rather than gender. (I)	X							
	Assure students of adult support for non-traditional students by enlisting teacher/counselor backing and by insisting on recruitment/selection procedures that don't discriminate or discourage students from nontraditional choices. (I)	X							
	Use earnings as a motivation selectively considering the characteristics of students rather than indiscriminately or just for encouraging nontraditional enrollments. (K <sub>h</sub> )								X
	Distinguish between encouraging, assisting, decision-making, and providing support. (K <sub>p</sub> )								X
	Schedule nontraditional women to enhance peer support for the same time the course is offered. (K <sub>p</sub> )								X
	Expand the guidance function at the postsecondary level until there's expanded and useful exploration at lower school levels. (K <sub>p</sub> )								X
	Obtain more educational personnel equipped to assist decision making. (K <sub>p</sub> )								X

Need Area	Strategy	Implementer**							
		SB	I	A	T	C	L	S	U
POLICY PLANNING IMPLEMENTATION	Address the indication that women education personnel are sustaining occupational stereotypes more than other educational personnel. (K <sub>p</sub> )								X
	Evaluate systematically all career choice strategies to insure maximal effective use. (K <sub>p</sub> )								X
OCCUPATIONAL AWARENESS	Purchase and display nonsexist occupational materials (e.g., contrast sexist and nonsexist ideas). (L)						X		
	Explain expectations and job opportunities of nontraditional training and encourage enrollment of women showing appropriate aptitude and interest. (N)					X			
	Increase efforts to introduce pre-adolescent girls to successful women in <u>all</u> types of work, including vocational training. (M)								X
	Recruit more nontraditional teachers for role models. (L)				X				
	Be informed to expand students' vocational options. (L)					X			
	Hold career fairs with nontraditional and traditional role models. (L)					X			
	Be aware of work world problems. (L)				X				

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Need Area	Strategy	Implementer**							
		SB	I	A	T	C	L	S	U
OCCUPATIONAL AWARENESS	Include articles in school newspapers on non-traditional work, interviews, and statistics on median salaries. (L)								X
	Recognize and communicate to students that unusual fears are groundless based on research of nontraditional job satisfaction, wages, rate of unemployment; and reflections about vocational training. (L)					X			
	Provide exhibits of both nontraditional and traditional role models for both sexes and the same jobs. (L)						X		
	Provide prevocational high school students (especially effective with women) with introductory elective vocational courses and familiarize them with career options. (L)								X
	Supply more information in vocational program handbooks about potential salaries and job opportunities. (L)								X
	Build flexible exploration programs which treat a cluster of related occupations as students may be more likely to perceive nontraditional opportunities and in a favorable light than in narrow vocational programs. (L)								X
	Provide an informational program to encourage student awareness of nontraditional opportunities for men in office occupations and provide avenues for their enrollment. (D)								X

Need Area	Strategy	Implementer**							
		SB	I	A	T	C	L	S	U'
OCCUPATIONAL AWARENESS	Stimulate interest in careers earlier in students as this seems to be the easiest way to change attitudes about stereotypes. (Kh)								X
	Expand involvement of women students in playful job site visitation programs, insuring a cross-section of all occupations, which outside agencies may not do. (Kh)								X
	As an alternative strategy, consider stressing sex-integrated occupations with traditional students. (Kh)								X
	Provide more and earlier opportunity to explore nontraditional options at the junior and senior high levels. (Kp)								X
	Encourage women to enter nontraditional occupations that are less stereotyped (where difficulty and resistance from others is less likely). (Kp)								X
	Attract most women to nontraditional training on the basis of interest, ability, and working conditions through earlier and broadening hands-on experiences; stress earnings with those interested in sex-integrated programs, poor, and minority students. (Kp)								X

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Need Area	Strategy	Implementer**							
		SB	I	A	T	C	L	S	U
SELF-AWARENESS	Encourage student awareness while advising student organizations. (L)				X				
	Provide support during the first critical weeks back in school. (N)					X			
	Provide an example and a resource if currently or formerly enrolled in nontraditional courses (e.g., woman and man from the same field for guest speakers). (L)							X	
	Support each other's interest and courage to enroll nontraditionally. (L)							X	
	Give nontraditional enrollees, especially Black women, lots of reinforcement because their rating of interest higher than ability as enrollment factors may mean a lack of confidence in their ability. (K <sub>h</sub> )								X
	Build self-assurance regarding nontraditional occupations so that students can put job information in perspective. (K <sub>p</sub> )								X
SEX FAIR COUNSELING/CURRICULUM DEVELOPMENT	Offer preparatory socialization programs as nontraditional students are about to enroll. (L)								X
	Offer a school reorientation class for mid-career/returning housewife students. (N)		X						
	Provide low-cost programs with short, flexible, on-the-job training experiences and individualized instruction. (N)		X						



Need Area	Strategy	Implementer**							
		SB	I	A	T	C	L	S	U
SEX FAIR COUNSELING/ CURRICULUM DEVELOPMENT	Provide innovative leadership to foster and support sex equity efforts. (L)			X					
	Involve all persons responsible for implementing strategy in participating throughout the planning process. (L)								X
	Especially employ competent women for nontraditional positions (suggesting perhaps a more urgent role model need?). (L)			X					
	Examine exploratory experiences, career modeling, and faculty/administration expectations for sex biases. (I)			X	X	X	X		
	Seek sex fair materials and deal with ones they have (e.g., stamp on directions on how to read pronouns). (L)					X			
	Get new non-stereotyped career materials. (I)			X	X	X	X		
	Change sex biased materials or address their bias constructively. (I)			X	X	X	X		
	Review and revise existing materials or develop new ones with nontraditional information on requirements. (I)	X							
	Integrate home economics and industrial arts at the junior high level, providing "survival skills" to all students while breaking down stereotypes about appropriate courses, occupations, and sex roles. (L)								X

Need Area	Strategy	Implementer**							
		SB	I	A	T	C	L	S	U
SEX FAIR COUNSELING/ CURRICULUM DEVELOPMENT	Integrate work world and family living courses for a "Work and Living Options" course to help girls and boys prepare for interaction within their future work and personal life. (L)								X
	Build an unbiased guidance program beginning in elementary school to insure exposure to girls and boys of a range of vocational opportunities long before they must decide. (L)								X
	Offer counseling situations whereby a woman can cope with influences in her life and come to terms with mid-career change. (N)					X			
	Offer special counseling (group, individual, career, and single parent).					X			
	Offer complete, sex-fair aptitude testing. (N)					X			
	Solicit and utilize feedback from mid-career change graduates to better prepare those currently enrolling. (N)					X			
	Examine innovative departures from traditional office education programs to make curriculum responsive to changing times. (D)								X
	Build student support for enrollment based on interest and aptitude. (L)							X	
	Consider discontinuing vocational testing unless or until unbiased tests are available. (K <sub>h</sub> )								X

Need Area	Strategy	Implementer**							
		SB	I	A	T	C	L	S	U
SEX FAIR COUNSELING/ CURRICULUM DEVELOPMENT	Provide counseling support programs. (Kh)								X
	Examine techniques used in group counseling to maximize the potential of this support network and consider shifting the emphasis from individual counseling and vocational testing to more useful models. (Kh)								X
IN-SERVICE	Identify and analyze effective career education components. (Kh)								X
	Provide in-service/training programs for teachers. (I)	X							
	Encourage in-service training (workshops, seminars) to sensitize staff and help develop strategies to achieve sex equity. (L)			X					
	Encourage or subsidize workshop participation. (L)					X			
	Provide staff members in-service training regarding women mid-career changers. (N)		X						
	Increase teacher awareness and training to develop strategies. (I)			X	X	X	X		
	Increase teacher/counselor awareness of their impact on enrollment. (I)			X	X	X	X		
	Attend workshops. (L)				X				
Understand how greatly sex typed behavior and expectations can influence achievement. (L)				X					

Need Area	Strategy	Implementer**							
		SB	I	A	T	C	L	S	U
IN-SERVICE	Examine classroom attitudes and actions. (L)				X				
	Review/revise course material or address existing bias constructively. (L)				X				
	Learn how to discuss nontraditional careers in class without making nontraditional students (especially, if they excel) feel self-conscious. (L)				X				
	Provide workshops and pre-service training of counselors related to their attitudes toward vocational education for girls. (M)								X
	Increase counselor training in job requirements and interpreting abilities and aptitudes. (I)			X	X	X	X		
	Have a working knowledge of sex equity legislation. (L)					X			
	Listen to oneself to insure sex fairness. (L)					X			
	Develop awareness of sex stereotyping necessary to provide unbiased guidance to students. (L)					X			
	Initiate a program to orient faculty generally and counselors specifically to nontraditional training for men. (D)								X
	Provide support and training on assisting expanded career choice to all educational personnel (both academic and vocational, both counselor and teacher, both junior high and high school) since they all are potentially influential. (Kh)								X

Need Area	Strategy	Implementer**							
		SB	I	A	T	C	L	S	U
IN-SERVICE	Train men teachers especially to pave the way for better adjustment to nontraditional students in class--perhaps by a buddy system requiring women and men to work together and by correcting teachers' perceptions--as well as those of both women and men students--regarding expectations and images of nontraditional women. (K <sub>h</sub> )								X
	In-service male vocational teachers because, despite their marked responsiveness to the survey, they do not see themselves as influential or prepared to be so. (K <sub>h</sub> )								X
	Provide preservice and in-service for teachers and counselors to encourage use of sex fair materials and programs. (K <sub>p</sub> )								X
	Make teachers aware of their impact on students' career choice (especially by training men vocational teachers and by addressing career decision making in teacher education). (K <sub>p</sub> )								X
COLLABORATION	Discuss and develop strategies with other teachers. (L)				X				
	Cooperate with public schools of all levels to widen career aspirations and break down stereotypes in both sexes. (N)		X						
	Enlist collaboration of parents, students, and community with personnel. (I.)		X						



Need Area	Strategy	Implementer**							
		SB	I	A	T	C	L	S	U
COLLABORATION	<p>Establish contacts with instructors working with mid-career changers. (N)</p> <p>Work with subject-area advisory committees to keep informed about current working conditions. (L)</p> <p>Maintain linkage with counselors of feeder schools to insure that information gets to all prevocational students. (L)</p> <p>Sponsor a program to bring nontraditional workers and students into classes to work directly with students (cf. National Science Foundation Program for Women Scientists). (I)</p> <p>Go to feeder schools to recruit prevocational students. (L)</p> <p>Promote linkage between the whole school and vocational education to insure overall positive climate for sex equity. (L)</p> <p>Establish closer relations between interdisciplinary areas of community colleges to open avenues for entry by other majors to broaden interest and preparation of office education majors. (D)</p>					X			
		X				X			
								X	
				X					
									X

Need Area	Strategy	Implementer**							
		SB	I	A	T	C	L	S	U
COLLABORATION	Reach academic teachers so that they can assist expansion of career choices (especially since junior high students are unlikely to have many vocational education teachers). (K <sub>h</sub> )								X
	Reach out beyond school early to parents so they can give informed support and involvement. (K <sub>h</sub> )								X
	Include parents and peers in group discussions within assistance programs. (K <sub>p</sub> )								X
	Apply counselor training to assisting parents and teachers in guidance process. (K <sub>p</sub> )								X
	Use outside resources (e.g., trade unions, women's groups, former students, parents, and employers) to provide both traditional and non-traditional occupational information. (L)				X				
	Cooperate with business and industry to break down stereotypes. (N)		X						
	Maintain linkage with employers to encourage their sex fair behavior. (L)					X			
	Meet with equal rights groups to publicize school concern and benefit from their expertise. (L)			X					

Need Area	Strategy	Implementer**							
		SB	I	A	T	C	L	S	U
COMMUNITY INVOLVEMENT	Hold open forums on sex stereotyping for parents, community leaders, employers and school personnel. (L)			X					
	Foster a community awareness program through business and industry to provide a market for cooperative training and employment. (D)								X
	Develop closer relations with members of business and labor to encourage their participation as advisors. (D)								X

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113

111

found to be responsible for nontraditional enrollments.<sup>9</sup> This study examined traditional and nontraditional graduates and traditional and nontraditional students.

An enlightening enrollment profile bearing on nontraditional student recruitment emerged from data collected in this study. There was, for example, no evidence that nontraditional students reflected socioeconomic backgrounds different from traditional students. In contrast to the national enrollment figures showing more dramatic percentage gains by men in nontraditional program areas, women nontraditional students in this study outnumbered men nontraditional students. Female nontraditional students were more likely than their male counterparts to attend separate vocational schools than comprehensive schools.<sup>10</sup> Generally, nontraditional students reported a favorable school experience, but problems encountered included (1) a lack of background, (2) difficulty in understanding courses, and (3) the neutral rather than encouraging attitude of teachers.<sup>11</sup>

An interesting impact discovery by Lewis and Kaltreider is that more nontraditional women vocational education graduates were housewives than those from traditional programs. Among those graduates looking for work, there was no significant difference between traditional and nontraditional graduates in terms of unemployment/employment.

This study was basically very optimistic in that the researchers concluded that it seemed relatively easy to overcome sex stereotyping in vocational education programs--in schools that were receptive. Nevertheless, significant immediate impact on sex role socialization in the family and on allocation of sexes in the labor market was not expected, though schools can do much to stimulate changes in both problem areas. Lewis and Kaltreider offer innumerable strategies for educators to use in this regard as well as increase nontraditional enrollment.<sup>12</sup>

Recent Vocational Choice Studies. More recently, two Indiana studies in 1977 attest to the need to identify and implement strategies to help students follow through on their occupational interests and abilities by enrolling in nontraditional courses. Mitchell studied 1,108 girls in grades 9-12 in 35 geographically representative high schools (including significant minority representation). Findings showed that although girls have been enlightened (by considerable school effort) to believe that nontraditional opportunities

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<sup>9</sup>Lewis and Kaltreider, Attempts to Overcome Sex Stereotyping, p. 1.

<sup>10</sup>Ibid., pp. 4-5.

<sup>11</sup>Ibid., p. 6.

<sup>12</sup>Ibid., pp. 2-3, 7-17.

in vocational education are broadening for girls, in practice they tend to adhere to stereotyped choices.<sup>13</sup>

The New Educational Directions study involved 128 high school girls and boys in grades 11 and 12. Of the 13 percent interviewed who planned to have a nontraditional occupation, only one of these students was male. The majority of girls' choices involved at least four years of education after high school. Of 111 students who had chosen traditional occupations, one-third had considered nontraditional options and four-fifths, or thirty-five, of those were female. Many students said (contrary to what one would expect from national enrollment statistics) that nontraditional occupations are more acceptable for women than men, whose reluctance relates to masculinity and economic concerns. Many had considered nontraditional options earlier in junior high or high school, but feared being the only nontraditional student in class, lacked time in their schedule, or were discouraged by parents and/or school personnel.<sup>14</sup>

Mid-Career Change Study. Research on needed recruitment strategies for mature women and men yields additional insights. In a 1975 study of sixty-six women aged 30-49, the motives behind decisions to assume a nontraditional work role in addition to housewife/mother were primarily to improve finances and self-image. Unlike many high school students in the Indiana studies, almost all these women had definite career goals in mind. Through the nontraditional role the majority of women surveyed realized achievement and increased self-confidence. They felt that their greatest problem was not encountering sex prejudice in vocational schools, but involved adjusting to the student role and coping with dual responsibilities. In reflecting upon their situation, these women especially saw the need to reach elementary, as well as secondary, students. This strategy seems important to foster open minds toward nontraditional enrollments of women.<sup>15</sup>

Earlier Vocational Choice Study of Both Sexes. Enrollment factors suggest that recruitment of women at the high school level to nontraditional courses may be a more complex process than at the mid-career stage. Causes for high school women's ambivalence could be their limited information and experience, as well as a

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<sup>13</sup>Marianne H. Mitchell, Attitudes of Adolescent Girls Toward Vocational Education, Final Report (Bloomington, Indiana: Indiana University, June 1977), pp. 10-13.

<sup>14</sup>New Educational Directions, Sex As a Determinant in Vocational Choice, Final Report (Indianapolis, Indiana: Indiana State Board of Vocational Education, June 1977) ED 145 135, pp. 5-11.

<sup>15</sup>Sharon A Nero, An Exploratory Study of the Sociological and Psychological Impacts of Mid-Career Changes for Women, Final Report (Menomonie, Wisconsin: University of Wisconsin, Stout, Center for Vocational, Technical, and Adult Education, 1975), pp. 25-33.



greater susceptibility to stereotype patterns. In addition, there has been evidence for some time that vocational decision making for high school women and men students in vocational education, while similar in some aspects, is not completely parallel either. A 1973 study by Lungstrum detailed data collected in May 1971 from 366 high school seniors in Wichita vocational education programs. This study yielded the following enrollment factors bearing on recruitment:

#### SIMILARITIES Among Males and Females

- . Decisiveness of occupational choice for both sexes was linked with their satisfaction with school in general and the value of school work in eventual employment.
- . Teachers (contrary to the study by Rj Associates) were consistently seen by both sexes as most influential to occupational preferences and choices.

#### DIFFERENCES Among Males and Females

- . Fathers' occupations affected sons' occupational choices, but mothers' occupations did not seem related to daughters' choices. (Note that Rj Associates found that mothers, nevertheless, influence daughters most.)
- . More male decisions were made earlier and twice as many males had always wanted their current choice.
- . Male students were more independent of friends' influence regarding their occupational preferences and choices than were females.<sup>16</sup>

Nontraditional Vocational Choice Study of Men. There has been less investigation of the strategy needs in recruiting adult men for nontraditional courses. But it is provocative and enlightening to compare the shift in researchers' perceptions in two studies concerning male recruitment into traditionally female areas, one conducted in 1970 and the other in 1976. The 1970 study of men who enter nursing recommended strategies which may seem, today at least, to be based on stereotypes rather than men's androgynous potential. Even the language seems limiting, since it refers to male nontraditional occupations as "sex discrepant." Based on a cross-sectional attitude survey of both beginning and advanced nursing school students (335 men and 508 women), the following recruitment strategies for men were recommended:

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<sup>16</sup>Ruth M. Lungstrum, Selected Factors Related to Occupational Preference of High School Students Enrolled in Vocational Education Programs in the Wichita Public Schools (Urbana, Illinois: Illinois University, Department of Vocational and Technical Education, January 1973), pp. 56, 174-181.

- . Recruiting male nurses would be most productive in lower socioeconomic strata, small towns, rural areas, and by male recruiters visiting high schools.
- . To appeal to men, mass media recruitment efforts should stress professionalism, leadership, administration, science, and technology.
- . Intense efforts are necessary to recruit discharged veterans.
- . Recruitment strategies should consider that interested men pose problems for nursing faculties because, while viewing themselves as superior to women, they place less value on hard work and were poorer students in high school.
- . Stipends may be necessary for men in their twenties.
- . Men in nontraditional areas will do best in the permissive atmosphere of a college.<sup>17</sup>

The male attitudes assumed--or at least implied--by these recruitment strategies for adult men vary drastically from male attitudes tabulated in a community college recruitment study concerning office occupations. This research by Dixon sought to determine whether office occupations courses can appeal to men if curriculum is changed to better attract and train them. Both business majors and non-business majors were surveyed. Of 143 respondents (3 business majors for every 3 non-business majors), 75 percent showed interest, though progressively fewer in each successive age group. The interest shown in office occupations was not exclusive to business majors, but did seem significantly linked with unemployment problems. Yet only one of all the respondents had been counseled to consider nontraditional enrollment.<sup>18</sup>

A common theme running throughout all these cited studies, unlike the Rj Associates studies, is the pivotal role of counselors in recruitment strategies, especially at the secondary school level. The imbalanced and inconsistent enrollment patterns of women and men in nontraditional vocational education may stem from (1) the inherently uneven progress of legislatively correcting a deeply

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<sup>17</sup>Donald Auster and Nancy R. Auster, Men Who Enter Nursing: A Sociological Analysis (Canton, New York: Saint Lawrence University, 1970). (Information here is from Resources in Education abstract, as the text is not in circulation.)

<sup>18</sup>Marjorie C. Dixon, "Office Occupations' Curriculum for the Male Community College Student," Master's thesis, University of San Francisco, December 1976, pp. 39-52, 108.

imbedded social problem, (2) the awareness-raising of the women's movement (for men, too, in some instances), (3) the traditional socialization of women and men to differing acceptable behavior patterns and/or (4) the obvious monetary advantages of many traditionally male occupations over traditional "women's work." But as far as students themselves are concerned, in the studies just discussed, counselors--with their guidance and counseling training and access to information--are in a unique position to make a difference, regardless of who recruits nontraditional students and what strategies they use.

## Tested/Applied Strategies to Recruit Students

It is encouraging that so many suggested strategies from research data exist to recruit students into nontraditional vocational education courses. But even more exciting is the growing knowledge available about tested and applied recruitment strategies. The purpose of this section is to provide a perspective on recruitment from significant findings in documented cases at the prevocational, vocational, and postsecondary levels. From the successes and lessons learned from recruitment efforts, readers can gain a better understanding of recruitment strategies useful in planning and carrying out an effective recruitment program at both state and local levels.

### Recruitment Strategies at the Prevocational Level

Initial Perspective. Recruitment at the prevocational or junior high school level concentrates on developing a readiness in students to consider nontraditional vocational programs and careers. Nevertheless, the concept itself of prevocational recruitment is understandably a sensitive matter to people who want to insure that students opting for nontraditional vocational education courses make informed and personally relevant choices. Consequently, there is relatively little evidence in the literature of tested/applied strategies to overtly recruit junior high girls or boys to make this decision.

A general "kid gloves" treatment of prevocational education through the years is perhaps responsible. Winn has pointed out that early career exploration efforts in the late 1940s and during the 1950s were not extremely successful because of

- . administration frequently being by subject-matter specialists who tried to measure student progress in terms of skills
- . lack of sufficiently articulated career development theory and instruments to measure career maturity
- . tendency to focus on too few major career clusters
- . lack of methods, materials, or instruments to address self-awareness, value development, and decision making
- . lack of mutual understanding and collaboration between teachers and guidance counselors

administration usually by vocational educators, which created the impression that the effort was aimed at prospective dropouts.<sup>19</sup>

Even when the 1963 Vocational Education Act was the first legislation to identify "prevocational education" and fund related efforts, most educators and state/federal funding authorities--says Winn--had a hard time responding for lack of a "firm operational idea of what constituted prevocational education."<sup>20</sup>

Winn states that Congress, by recognizing learner needs and motives, gave clout to prevocational education in the 1968 Amendments, at a time when guidance counselors were increasingly concerned with career-choice education. And the career education movement officially begun in 1971 has enjoyed wide acceptance and visibility. But key questions, especially significant at the prevocational level, are: "Who should address career choice with the students?" and "How should it be done?"<sup>21</sup>

Mandatory Recruitment. The School Board in New Milford, Connecticut, has wrestled with these questions in providing middle school students impetus to consider nontraditional options. In 1974 they yielded to pressure groups (and to the mandates of Title IX) by voting to make home economics and industrial arts mandatory for all sixth graders at Schaghticoke Middle School. While students accepted the change well (girls less fearfully than boys), a year of tension ensued between members of the National Organization for Women and a coalition of local fundamentalist ministers and John Birchers. Opponents of the board's decision thought these coed classes should be electives and feared the possible inducement, from "home economics", of latent homosexuality in boys. (If the course had been entitled "Survival," in one parent's view, it would not be so bad.) During the year of friction, two critics tried to get elected to the school board while others criticized non-sexist textbooks and fought the increased budget for girls' sports.

The report does not provide information about additional strategies to help prevocational students contemplate nontraditional enrollment in industrial arts and home economics. The New Milford experience suggests, however, that the strategy of mandatory recruitment--especially at the prevocational level without sufficient proactive measures to deal with parents and community interest groups--appears likely to put in motion Murphy's Law that whatever can go wrong, will!<sup>22</sup>

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<sup>19</sup>Charles S. Winn, "Education for Career Choice: Exploring Today's Occupational Alternatives," Business Education World, 56, 4, (March/April 1976), pp. 6-7.

<sup>20</sup>Ibid., p. 7. <sup>21</sup>Ibid., p. 7.

<sup>22</sup>Jeannie Cross, "Murphy's Law in New Milford," American Vocational Journal, 51, 4, April 1976, p. 34.



Proactive Change Strategy. In Syosset, New York, where a proactive strategy with planned change stages enhanced prevocational nontraditional enrollments, mandatory recruitment in the Discovery Program has been more successful. In 1970 an eighth grade girl expressed interest in taking a communications course in the Industrial Technology Department. After recognizing and respecting her right, school faculty and administration pursued this enrollment issue through discussion and debate. In 1971, an experimental eighth grade course was offered to girls and boys that combined home economics and industrial technology (each curriculum was condensed from twenty to ten weeks). A limit to the number of classes (two per school) was established in order that a balance of girls and boys could be achieved. The success of this pilot program paved the way for expanding the program in 1972 to both seventh and eighth grade and making it mandatory for all students. In addition, the Discovery Program offered ninth grade nontraditional electives such as "Junior Chef." While ninth grade elective courses have been slower to attract nontraditional enrollments, by 1977 students with previous nontraditional course experience felt increasingly comfortable making this curriculum choice.

Noteworthy recruitment strategies of the Discovery Program are the openness of staff development efforts and the involvement of students in the change process. Other features which facilitated the implementation of this prevocational recruitment strategy were:

- . favorable climate created by the women's movement encouraging faculty and administration to openly reevaluate traditional sex role stereotypes
- . knowledge among staff that state and federal bans of sex discrimination were imminent
- . proactive and sensitive administration which protected teacher job security by regulating the change and preserving the scheduling of other courses
- . strong support from top level administration
- . balanced ratio of both sexes in classes with projects respecting individual interests and indirect strategy of changing sex-stereotyped attitudes
- . hands-on experience combating the mystery of nontraditional work activities
- . continual refining and adapting of the program to changing needs.<sup>23</sup>

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<sup>23</sup>L.P.S., "'Discovery' at Syosset: Two Schools on the Way to Equal Education," TABS, (Fall 1977), pp. 3-5.

Counterproductive Procedures. Whereas the recruitment strategy of regulating nontraditional registration seems to have benefited the Discovery Program, with other prevocational students, the tactic has been counterproductive. In a study of student access to non-traditional vocational education in six southern states, more than one instance was found at the junior high level of vocational courses, such as industrial arts and home economics, offered to nontraditional students in sex-segregated classes. Restricting registration, unlike the Discovery Program's strategy of balancing enrollment, is now illegal. It also tends to accompany other inequities for the prospective nontraditional student: requiring prerequisites, relying on results from biased career interest tests, discriminatory screening procedures such as interviews and written statement of serious career intent, favoring admission of the sex anticipated to be hired more easily, and avoidance or indifference to proactive nontraditional career counseling.

Nor is providing career exploration to prevocational students necessarily a positive recruitment strategy for encouraging non-traditional enrollments. In the same study of schools in six southern states, some career education/guidance efforts involved the following practices: introduced only traditional jobs, listed occupations in sex-biased language, supplied students of only one sex with information about nontraditional careers, advised students to explore only their likes regarding occupations and based field trips solely on individual interest.

In the schools monitored by this study, enlightened teachers and counselors were found as well as frequent expressions of advocacy for nontraditional enrollment. And, indeed, nontraditional students were found in several schools. But interviews with students and adults indicated that many prospective nontraditional students are discouraged by the procedures mentioned.<sup>24</sup>

This counterproductive ambivalence in the implementation of recruitment strategies at the prevocational level may stem (as suggested by interviews with professional staff in Almost As Fairly) from the fear or cultural conviction that exposing impressionable youth to the notion of nontraditional occupational roles is either an imposition or exchanging one bias for another. Also, it may perhaps be viewed as a potentially damaging influence at a developmental stage noted for girls' and boys' personal struggle with sexual identity.

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<sup>24</sup>American Friends Service Committee, Almost As Fairly: The First Year of Title IX Implementation in Six Southern States. A Report. Southeastern Public Education Program: Jackson, Mississippi (April 1977), pp. 21-37.

Yet several research projects testing strategies clearly show that prevocational youth want to explore, in a sufficiently protected environment, a range of ideas and values. This exploration serves early adolescents almost as a buffer to help discern pros and cons of all that tradition, socialization and peer/familial pressure, for good or ill, do indeed impose on them. To address the charge that exposure of early adolescents to the notion of nontraditional occupational roles is potentially detrimental, perhaps without sensitive regard to individual uniqueness, Almost As Fairly found that it is--to students of any age or either sex. As for a person's struggle with sexual identity, the following projects stressing unstereotyped career exploration suggest that helping youth distinguish between sexual identity and occupational role at an early age can make the developmental process much easier.

Exploration Strategy. Project EVE, for example, was ostensibly a pilot project conducted during 1975-1976 to develop a high school recruitment model for Texan sophomore women to increase their enrollment in nontraditional vocational education.<sup>25</sup> Major components of this experimental recruitment strategy will be discussed in the next section on vocational level strategies. One component, however, was tested with mixed classes at the seventh, eighth, and ninth grades. This recruitment process, which consisted of an 80-minute classroom presentation, made use of a slide-tape, All About Eve, and a student handbook, What's In Your Future...Will You Plan It Or Just Let It Happen? In the handbook were a game, three case studies, women's occupational information/labor force data, and a recruitment brochure. The project final report states that all the junior high presentations were very successful and that prevocational students seemed to enjoy the presentations even more than high school women did. (Enrollment data supporting strategy effectiveness was reported only for the high school level.) Only the introductory game, "Does the Glass Slipper Fit?", was not used as it dramatizes only a women's perspective for sex equity.<sup>26</sup> The report describes the ready acceptance of and active participation in this non-threatening recruitment experience as follows:

"With each activity, it was easy to include the boys, and there was much very lively discussion between the boys and the girls in the classes. Much of the discussion, of course, revolved around which careers are suitable for

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<sup>25</sup>Jane Lerner, Fredell Bergstrom, and Joseph E. Champagne, Equal Vocational Education. Final Report (Houston, Texas: University of Houston, Center for Human Resources, 1976), pp. 51-52.

<sup>26</sup>See New York State Education Department, Office of Occupational and Continuing Education, Expanding Adolescent Role Expectations: Information, Activities, Resources for Vocational Educators, 1977, ED 147 544, pp. 100-103, Ithaca, New York: Cornell University, for an adaptation of this game for both girls and boys.

women and which are not. All the students seemed to benefit from the information about vocational education; most did not seem to be aware of the opportunities available to them in high school."<sup>27</sup>

Studying Career Clusters. The New Pioneers Project in North Carolina found prevocational students were already very receptively learning information in mixed classes about vocational education as part of a fifteen-cluster, hands-on experience. New Pioneers enhanced this recruitment strategy (which provided girls and boys with information like statistics on working women and lifetime planning) by developing a sound-filmstrip dealing with the need for sex equity shared by both sexes entitled I'm Glad I'm a She! I'm Glad I'm a He! Staff development and classroom use of the sound-filmstrip generated a variety of low-cost, highly unsteretyped materials. It should be noted that no significant enrollment changes occurred because most programs were already mixed. Project Director, Amanda Smith, in describing the eclectic approach to recruitment (which encouraged each vocational program area to identify its own sex-stereotyping issues and develop its own solutions) observed that the "prevocational programs are the most important in influencing students' career choices."<sup>28</sup>

Vocational Guidance Strategy. By 1972, The Center for Vocational Education had already recognized the need to develop a systematic approach to aid school personnel in developing vocational guidance programs for students. Center Director, Robert E. Taylor, observed that many young girls and boys

... "experience extended periods of vocational floundering as they attempt to work out their career decisions and find satisfying ways to cope with the work world. Yet, many people could avoid or reduce such difficulties by timely development of identifiable knowledge, skills, attitudes, and plans."<sup>29</sup>

One project in the Center's response to this need was to develop and formally test a strategy with potential for recruiting prevocational girls to nontraditional courses. Nonjudgmental recruitment was implicit in the intent to "help female students to make career plans consistent with their interests and capabilities, to choose appropriate educational routes to these career goals, and to develop

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<sup>27</sup>Lerner, Bergstrom, and Champagne, Equal Vocational Education, p. 52.

<sup>28</sup>Smith, New Pioneers, p. 15.

<sup>29</sup>Louise Vetter, and Barbara J. Sethney, Women in the Work Force: Development and Field Testing of Curriculum Materials. Final Report (Research and Development Series 81), Columbus, Ohio: The Center for Vocational Education, The Ohio State University, 1972, ED 072 175, p. iii.



attitudes consistent with the realities of the working world."<sup>30</sup> Considering earlier studies about the knowledge, attitudes, and planning capabilities of young women with respect to the work world, Vetter and Sethney proposed that an effective, relatively short, instructional unit might prove useful in addressing these students' needs. An eight-to-ten-hour instructional unit on women in the work force, accompanied by student materials, a teacher's manual, reference materials, and pertinent transparencies were designed and tested with 100 girls representing seventh, ninth and eleventh grades. The sections of the unit included:

- "Looking Ahead to Your Occupation" (self-analysis, labor force information)
- "After School, What?" (sociodrama, discussion)
- "Working Women--Who Are They?" (case studies portraying options for adult female roles)
- "Modern Women: The Uneasy Life" (NET film presenting options of adult female goals)
- "What's In My Future?" (review of individual participants' personal status)<sup>31</sup>

Test results of this strategy provide empirical data comparing the effectiveness of discrete recruitment content with prevocational women enrolled in home economics at different grade levels. For that reason, data will be mentioned in some detail. But before discussing the evaluation results, it may help to understand the conceptual framework of this recruitment strategy. It was recognized that vocational planning poses problems especially for young women with limited vocational awareness. These problems stem from growing labor needs and expanding female life roles. Young women's needs were addressed in the following objectives:

- . students will have more knowledge about women in the work force as exhibited by more correct answers to objective information items on a posttest than on a pretest.
- . Students will show, by responses to attitude items, more acceptance of the working role in their lives.
- . Students will list different alternatives for choices of their occupations.
- . More students will indicate plans for the future which show work force participation at some time in their lives.
- . More students will indicate that they have considered work life expectancy projections for the total life span.<sup>32</sup>

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<sup>30</sup>Ibid., p. 4.

<sup>31</sup>Ibid., p. 4-5.

<sup>32</sup>Ibid., pp. 4-5.



Both formal and informal evaluation of this prevocational strategy may be valuable in analyzing and developing both comprehensive and individualized recruitment strategies. The formal student evaluation had three phases--work knowledge, attitudes, and future plans. Post-test results showed significant knowledge change at all three grade levels, compared to control groups. Significant attitude change occurred in seventh grade girls with regard to more acceptance of employment after marriage and more acceptance of the challenges of employment on all five scales, but similar changes did not appear in the older students. The report suggests that in this particular instance the seventh grade change can be attributed to the size of the group (62 compared to 22 ninth graders and 16 eleventh graders) and the teacher involved, this result is perhaps noteworthy. While there was a significant difference by grade level in the post-test regarding preference for first job, overall no significant change away from traditional occupational options appeared. Perhaps one intervention cannot guarantee change. Also, no significant pretest or post-test difference was found between experimental and control groups regarding the expectation to participate sometime in the work force. Virtually all expected to work for pay sometime and expected to continue working for a time after marriage. But they did not expect to return to work immediately after the birth of children. There was a significant change in the number who planned to work after children started school or were grown. Interestingly enough, the unit did succeed in changing general life plans, but in distinctly different ways. Occupational plans were affected in 43 percent of the seventh graders; new education plans and/or role changes were contemplated by 48 percent of eleventh graders; but a noticeably lower 30 percent of the ninth graders were considering different education or role options while frequently holding firm to the same occupational field. (Control groups were not tested for change in general life plans.)<sup>33</sup>

Informal data showed that at all grade levels, students thought the information presented was the best feature of the unit. Favorite activities with seventh graders were the sociodrama, occupational information (except for percentages), and case studies; while charts, tables, transparencies and the amount of reading proved difficult to handle. Information about women's roles and life span expectancies did not seem relevant, but information on job opportunities and how to get a job seemed the most worthwhile. Ninth graders, on the other hand, favored the opportunity to think about the future, marriage and family plans. They did not like the workbook concept yet showed a high level of involvement leading to stimulation to explore job requirements and, quite possibly contributed to their showing the highest knowledge gain. Eleventh graders found the focus on marriage and family most worthwhile, but balked at the amount of statistics and felt too old for the sociodrama. While they showed interest in information about adult

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<sup>33</sup>Ibid., pp. 8-21.

roles, most seemed rather fixed in their ideas about women's role. Many seemed surprised and dismayed to learn the discrepancy between men's and women's earnings; they thought the unit was useful, but felt they needed this kind of experience earlier.

Vetter and Sethney concluded that this package could optimally be used at the ninth grade level, although they recognized the need for a strategy to address self in the seventh grade by (1) stressing parental involvement so that daughters would become more knowledgeable about parents' lives, and (2) integrating role information with occupational information to facilitate visualization of oneself as an adult.<sup>34</sup>

In addition to grade level applications, Vetter and Sethney made the following strategy recommendations:

- . Awareness of the world of work and personal involvement in it should continue after this unit is taught (e.g., bulletin boards, newspaper clippings, and outside resource persons).
- . Training sessions with teachers may help them develop ways to handle statistics in meaningful ways to students.
- . Greater involvement of school counselors in providing materials, updating resources, even teaching should be considered.
- . Involve parents with sensitivity so that parental standards about women's roles are respected yet realistic information is shared.
- . Consider adapting these materials for mixed classes since boys may hold as many misconceptions about the world of work.<sup>35</sup>

Summary-Prevocational Recruitment. Upon investigation, then, one finds that effective applied/tested strategies exist to increase nontraditional vocational education enrollments at the prevocational level. As important as the strategies themselves, however, is the indication that recruitment strategies at the prevocational level must be used carefully since early adolescents are so impressionably vulnerable. Successful implementation of recruitment strategies is more likely perhaps when proactive planning occurs that enlists a broad base of support. Students, teachers, counselors, administrators and certainly parents need to be involved to avoid misconceptions, alleviate fears, and acquire collaborative insights.

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<sup>34</sup>Ibid., pp. 21-27.

<sup>35</sup>Ibid., pp. 30-31.

Three additional themes in this sampling of prevocational recruitment emerge. Several cases underscore the need to view prevocational recruitment as an exploration process over time to insure students the time necessary to gain self and career awareness. Furthermore, certain recruitment strategies may vary in effectiveness when used with students at different grade levels. It also appears from the experience of the Discovery Program, New Pioneers, and the Center for Vocational Education study by Vetter and Sethney that there is a need to address nontraditional enrollment with both boys and girls. Otherwise, one risks the development of aspirations that conflict with mutual expectations of both sexes.

### Recruitment Strategies at the Vocational Level

Initial Perspective. Even though federal legislation removed admission barriers to the enrollment of nontraditional students in vocational education, enrollment figures since 1972 indicate the need to recruit students at the high school level. Recent projects like Project EVE and the New Pioneers Project have been conducted which focus on developing recruitment strategies for an enrollment model. Consequently, a variety of recruitment strategies now exists to use in countering some of the socialization patterns which prevent women and men from acquiring the job training most consonant with their interests and abilities.

To a large extent, the variety of strategies stems from the attempt to address individual needs. Implementing a variety of recruitment strategies has proven advisable for another reason as well. At the high school level the pressure from socialization to conform is apparently so great, a combination of strategies applied and adapted over time is necessary to effect any appreciable change in enrollment.

Recruitment Focus on Women. Project EVE, cited previously, focused on recruiting high school women into nontraditional vocational education courses. The Final Report describes several recruitment principles based on research and project experience. Major components of the EVE recruitment model included:

1. needs assessment and project evaluation
2. analysis of nontraditional job opportunities
3. advisory committee
4. initial recruitment and monitoring of nontraditional enrollees
5. development of recruitment materials and procedures
6. community-wide publicity campaign

7. enlistment of support from school personnel, parents, and community

8. fostering linkage with industry and unions.<sup>36</sup>

Several specific recruitment strategies were developed and applied with varying degrees of success. One seemingly minor but helpful strategy was to adopt a student-designed logo of an apple-shaped design of the word EVE to enhance student interest as well as convey the objective of the project. Initial introduction of vocational education opportunities was made to all tenth grade girls and boys. Then presentations and tours of vocational programs were arranged through tenth grade English classes. Questionnaires, pamphlets, and follow-up discussions were incorporated in this strategy. Individual interviews with girls interested in nontraditional programs followed. Both during enrollment registration and during the term, project staff were in close touch with the nontraditional students and their teachers to offer encouragement and deal with problems.<sup>37</sup>

Recruitment Materials. Because schools, in applying the model, would not likely have the personnel to supply the degree of one-to-one support provided by EVE staff, recruitment materials were developed. For the second recruitment effort a slide/tape showing local nontraditional vocational education models was developed for students, professional staff, parents, employers, and community members. It proved to be the single most important information and recruitment strategy for several reasons:

- . relevance to the high school girl
- . animation
- . historical pictures
- . actual photographs of local women in nontraditional jobs, in nontraditional training programs, and in the home
- . emphasis on good pay, working conditions, fringe benefits
- . explanation of free job training available to high school girls.

Publicity materials and recruitment events repeatedly increased nontraditional enrollments. Fliers sent during the summer reminded ninth grade girls of nontraditional vocational opportunities soon awaiting them. Enlisting teacher support furthered recruitment

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<sup>36</sup>Lerner, Bergstrom, and Champagne, Equal Vocational Education, pp. 17-85.

<sup>37</sup>Ibid., pp. 20-26.



also. Subsequent publicity strategies to enlist community support for nontraditional enrollment included a school press conference, newspaper articles, radio interviews, television appearances by staff and students, and public service announcements. A recruitment event with long-term potential was a well-attended career fair, held in conjunction with National Vocational Education Week. Advance publicity, library display, door prizes made in each vocational program area, and photographs all contributed to the fair's positive feedback from faculty, administrators and students.

A third recruitment effort used additional recruitment materials. This major EVE recruitment strategy involved an 80-minute presentation (built around a student handbook previously mentioned in this review) that included a game, the slide/tape, three case studies, vocational information and labor force data, and program description brochures. Students found the personal information more relevant and interesting than the labor force data.

EVE Project Impact. It is interesting to compare nontraditional enrollment figures for the three EVE recruitment efforts. Consistently, there was some natural attrition from initial expression of interest in nontraditional programs to actual enrollment. By the second year, fifteen women were enrolled in nontraditional classes in one school. Though still a small number, the increased number over the first year indicates success. At least one girl was enrolled in every nontraditional program area and over twice the number of original recruits was realized.<sup>38</sup>

In subsequent presentations to other area schools, auditorium programs were not always as effective as classroom sessions. The auditorium programs used a variety of speakers: nontraditional women students, union apprenticeship recruiters, project staff, and vocational counselors. Students could ask questions, obtain brochures, and sign up for more information. Female nontraditional enrollments in nine high schools where EVE presentations were made increased from 33 in 1975-76 to 72 the next year.<sup>39</sup>

Involvement with industry and unions enhanced recruitment impact as well as employer commitment to hire women in nontraditional jobs. Linkage efforts with industry and unions also yielded photographs of nontraditional workers for the slide/tape. In addition, individuals from industry and unions served on the advisory committee, gave suggestions for publicity and involving companies, and offered technical assistance. And students preferred to listen to employers or employees talk about careers and work experiences rather than to teachers.

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<sup>38</sup>Ibid., pp. 26-47, 53-56.

<sup>39</sup>Ibid., pp. 47-51, 83.



Perhaps the one limitation to the impact of the EVE project seems to be that its materials deal directly only with women and were so flexibly designed for broad use that much adaptation for specific use is required. It is hard to say whether the number of nontraditional enrollments realized is low or high in terms of what is reasonable to expect. Project EVE staff feel their materials have significantly influenced girls' knowledge and attitudes about nontraditional vocational opportunities and increased their personal career awareness. A complete assessment of the recruitment's impact is unknown because long term data are not available.<sup>40</sup>

A Statewide Recruitment Effort. Unlike the locally initiated Houston effort of Project EVE, North Carolina's New Pioneers Project began at the state level and spread with the help of that leverage as a statewide systematic effort. New Pioneers addressed recruitment subtly and comprehensively through a strategic model for changing the educational system and a ripple effect of training in-service program trainers to implement the model. A variety of print and media products were developed to assist in-service programs, local implementation, and classroom teachers including:

- . a 25-minute sound/filmstrip on addressing sex bias
- . a 15-minute slide presentation on needs of disadvantaged girls
- . state lists of recommended instructional materials for non-sexist materials mailed to all school librarians
- . variety of handouts, most adapted from other sources (one handout deals with how sex bias hurts men)
- . several articles published locally or nationally on various aspects of sex bias in the working world
- . seven program area plans for reducing sex bias
- . 126 local plans for reducing sex bias prepared by Local Directors of Occupational Education
- . a ten-lesson training course.<sup>41</sup>

Extensive recommendations for strategies at all levels of implementation, ultimately bearing on recruitment of nontraditional students, are contained in a reflective document by the project director. These strategies address the following aspects of the model:

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<sup>40</sup>Ibid., pp. 70-85.

<sup>41</sup>Smith, New Pioneers, pp. 1-5.

project staff  
state staff  
local directors  
information and awareness services  
local courses for teacher credit  
public information  
working directly with students  
state program area plans  
local plans  
local in-service courses<sup>42</sup>

One might say that the overall theme throughout this model's comprehensive ripple effect design is "Get your own house in order!" Or, as Smith described it, using the system to open, or change, the system.<sup>43</sup>

Local Recruitment Strategies. Only local level strategies of the New Pioneers Project which deal most directly with recruiting students are quoted here. (The underlining shown appeared in the report.) Admittedly, many are phrased as intending to correct sex bias, but implicit in this sequential process of increasing awareness seems to be the goal of increasing nontraditional enrollments in a nurturing way that is supportive of students' natural growth in awareness.

Involve youth clubs and regular classes:

- a) assure that youth clubs do not discriminate in membership or activities
- b) give students opportunities to recognize and understand sex bias in general, and its effect on both sexes.
- c) recognize that students of all ages need time to discuss sex stereotypes openly:
  - (i) because the world is sending very conflicting messages
  - (ii) because their needs and interests vary with physical and social development
- d) teach students to recognize bias in their textbooks
- e) find pioneering pictures for students to paste on the flyleaf as a reminder that the world is changing
- f) encourage discussion of changing work and family roles for both sexes, with emphasis on the occupation being studied
- g) let students brainstorm for activities they can undertake to increase understanding of bias and reduce stereotyping in the whole school (examples: analyze present school

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<sup>42</sup>Ibid., pp. 61-81.

<sup>43</sup>Amanda J. Smith, "Stamping Out Sex Stereotypes in North Carolina," American Vocational Journal, April 1976, p. 31.

practices, hold assembly programs, hold a Pioneer talent search, sponsor a poster contest, organize Pioneer Student of the Week programs, or any of the preregistration activities suggested below).

Establish as a goal Occupational Exploration classes that move as many students as possible, academic as well as vocational, through all occupational clusters, with specific sessions on lifetime planning, options for everyone and changing work and family roles.

Establish organized program to inform all prevocational students of the nature of all vocational offerings, emphasizing advantages of each offering for both sexes.

- a) make public announcements and post notices that both males and females are not only allowed but welcomed in every course
- b) examine class assignment procedures for any formal or informal tendencies to steer students into any class by sex
- c) identify and use guidance materials, films, etc., that treat women and men nonstereotypically, or (temporarily) that focus on careers for women.
- d) design and print (especially if school has graphics program) flyers or brochures for each subject area, showing girls and boys working together
- e) invite pioneering speakers from community to visit classes or assemblies
- f) hold career days that emphasize pioneering speakers and exhibits
- g) give students opportunity to discuss changing work and family roles, and ask questions about requirements and advantages of each area.<sup>44</sup>

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<sup>44</sup>Ibid., pp. 74-76.

Amanda Smith has observed that three themes permeated New Pioneers: lifetime planning for everyone, options for everyone, and needs of disadvantaged girls. In advising how to implement strategies, she refers to pivotal issues which should be kept in mind for recruitment strategies to be effective:

- . Many students of both sexes are planning only half their lives.
- . Girls and boys need adequate information about vocational programs to feel free to make nontraditional choices. They need (1) the opportunity to get familiar with each area, (2) a sincere demonstration that they are welcome, and (3) specific reasons to consider nontraditional courses that will reveal their potential interest and emphasize that androgynous behavior is healthy and advantageous.
- . Too many disadvantaged programs involving vocational training concentrate on improving girls' cultural skills rather than encouraging them into high-paying skilled crafts which would enable them to become "cultured" on their own time.
- . Student attitudes are likely to be more traditional than teachers'.
- . One of the best strategies is exposing girls and boys to nontraditional workers so that girls and boys see that sexual identity radiates from within, not from external factors like workclothes or tools.
- . Staff should expect some apprehension on the part of students.
- . Peer pressure can be conservative.
- . Sex-integrating classes can benefit traditional and nontraditional students alike.<sup>45</sup>

Teachers in Counseling Role. Teachers sometimes feel uneasy in a quasi-guidance counselor role. Yet there are two reports in which this recruitment approach is recommended along with specific strategies for industrial arts teachers. The first report argues this point strongly--perhaps because the author, Deborah Patterson, is a nontraditional teacher herself and can provide a role model in the process of recruiting. She does not mention the alternatives of sensitizing counselors about the course work and collaborative recruitment by counselors and teachers.

<sup>45</sup>Ibid., pp. 30-33.

Patterson expresses the view that counselors may fail to see the important learning experiences that can take place in the industrial arts lab because they may not fully understand the subject matter. Thus recruitment of both sexes is better left, she believes, to the industrial arts teachers. She has developed a slide show script for industrial arts teachers to adapt with slides showing local role models for use in recruitment. Patterson feels this is one of the most effective methods for attracting attention and educating a school population that industrial arts is appropriate for both sexes.<sup>46</sup>

Another effective recruitment strategy for high school teacher use is suggested by research done recently in New Jersey. Margaret Snell reports a study involving eighty girls who enrolled in traditional male shop classes where they recorded their thoughts and experiences in a daily log. Although the girls were assimilated slowly into shop activities, after a short orientation period they were expected to perform various activities themselves.

Results of this study indicate a major way to improve recruitment efforts. It is very helpful to provide students the opportunity to try out a nontraditional course to dispel their fears of rejection by students of the other sex and to gain familiarity with the course setting and content. Keeping a daily log of this experience helps the nontraditional student and teacher analyze the experience. Schools that participated in the study indicated that stereotypes are breaking down and girls have started to enroll nontraditionally. It might be noted that while nontraditional teachers are undoubtedly a recruitment asset, encouragement of traditional teachers offers a role model to hasten peer acceptance.<sup>47</sup>

Counselors in Recruiter Role. The Michigan State Department of Education has encouraged, statewide, the development of career resource centers in local schools. This innovation can aid counselors in recruiting nontraditional students by publicizing career options. Similar to a library, these centers contain a range of self-instructional counseling resources such as filmstrips, interest inventories, vertical files, reference materials and games. Career resource centers also provide a convenient place for guest speakers and rap sessions. Career

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<sup>46</sup>Deborah Patterson, "A Facelift for Industrial Arts," Man/Society/Technology Vol. 34, No. 3 (December 1974), pp. 85-86.

<sup>47</sup>Margaret Snell, "Trying Out Male Roles for Size," American Vocational Journal Vol. 52, No. 5 (May 1977), pp. 59-60.



Resource Centers, a handbook developed by The Center for Vocational Education, drew upon site visits to several Michigan career resource centers for strategies, information, and photographs included as a guide for educational planners.<sup>48</sup>

Another strategy which counselors use to publicize career options is awareness-raising workshops for students. The Career Exploration Project for High School Senior Women tested materials and activities to encourage outstanding senior women to pursue nontraditional science-related careers. This project provides a unique model for this approach by involving students and parents in life-planning workshop activities. The workshop design included follow-up in the form of a home study course which students could take for credit and a supportive career seminar for those who enrolled. Planned to accommodate anywhere from 9 to 30 participants, the workshop was based on small discussion groups without leaders in which participants shared their responses to exercises.

The follow-up strategy focused upon information-seeking. Students were asked to make a file of cards and articles about both outstanding women in the news and nontraditional career opportunities for women via newspapers, news magazines, TV, radio, other media, or friends. Other assignments involved reading inspirational biographies about outstanding women, conducting research on a career of interest, and interviewing a woman in a nontraditional career. Early versions of materials and activities were revised to pay more attention to self awareness and positive role models than on barriers to nontraditional careers.

Of 256 students invited to the 6 one-day workshops, 99 responded and 73 attended. Parents of 36 also attended. Approximately one quarter of the women chose nontraditional science careers when they went to college. At the end of their first year of college, women who had chosen nonscience careers were less certain about their choice than women who had chosen nontraditional science careers. However, changing from nontraditional science careers in college was more apparent than changing into them.<sup>49</sup>

Prediger, McClure and Noeth of the American College Testing Program have also conducted a study with funding from the National Science Foundation that has implications for counselor recruitment of women to nontraditional careers in science and technology. The general project goal was "to determine the

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<sup>48</sup>Valija Axelrod, Harry Drier, Karen Kimmel, and Judith Sechler, Career Resource Centers (Columbus, Ohio: The Center for Vocational Education, 1977).

<sup>49</sup>Walter S. Smith, Kala M. Stroup, and Barbara M. Coffman, Career Exploration Project for High School Senior Women. Final Report (Lawrence, Kansas: Emily Taylor Resource and Career Center for Women, July 1975).

impact of low-cost, replicable procedures to increase high school women's exploration of and preference for science and technology careers." The study involved 390 ninth grade and 1,017 twelfth grade women.

The ninth grade study used a non-sex-restrictive interest inventory supplemented with group discussions about career planning and science/technology careers. Data showed that a brief report of vocational interest results can stimulate career exploration among a general group of ninth grade women, but the interventions were not effective in influencing girls with science-related abilities and interests. The twelfth grade study used two low-cost, direct mailings of personally relevant materials about science/technology careers. Here too, data failed to show the interventions were effective in influencing commitment to science/technology careers among women with compatible interests. Student perceptions of factors that would facilitate consideration of nontraditional science/technology careers include:

- . encouragement from family
- . access to role models
- . extra help and encouragement from science teachers
- . information about science careers, including preparation steps.<sup>50</sup>

State Level Recruitment Facilitators. In the state of Ohio, as in other states, both the state Sex Equity Coordinator and the state Vocational Association provide yet another recruitment strategy by way of creating a sex equity umbrella to keep recruitment efforts from getting "dampened" or bogged down by insensitivity or tacit rather than public commitment. In the first case Nancy Evans, Ohio State Sex Equity Coordinator, has widely distributed sex equity brochures with a reconciliatory symbol of a female and a male arm on each other's shoulder side by side. One effect perhaps of this logo is that the statistics on family and labor force status of women are less likely to put traditional thinkers of either sex on the defensive. A problem and solution are presented through the information--as well as an endorsement of support by the State Director of Vocational Education--, but no one person or group is indicted. If the ramifications of the problem affect everyone, perhaps the thinking is that the solution must involve both women and men too.

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<sup>50</sup>Dale J. Prediger, Gail T. McClure, and Richard J. Noeth, Promoting the Exploration of Personally Relevant Career Options in Science and Technology. Final Report (Iowa City, Iowa: American College Testing Program, October 1976), pp. iii-v.

Similarly, Robert Zimpfer, Executive Director of the Ohio Vocational Association, has fostered awareness of the role Ohio youth organizations in vocational education (which are increasingly sex-integrated in both membership and leadership) can play complementing classroom training experiences. Vehicles for this support are through lobbying the state legislature and writing articles for the association's quarterly newsletter. In addition, he has made resources available to the state sex equity coordinator.<sup>51</sup> This kind of collaboration at all levels and involving both sexes can, it would seem, only serve to enhance local recruitment efforts at the high school level.

Summary-Vocational Level Recruitment. Whereas effective applied/tested recruitment strategies to increase nontraditional enrollments at the prevocational level seem to emphasize parental involvement and self-awareness exploration through the integration of role and occupational information, vocational level recruitment seems to require a greater variety and sequence of strategies to address both individual needs and the force of peer pressure/cultural socialization to conform. Similar strategy needs at the two levels include the importance of student involvement, in-service programs, and effecting supportive change in the educational system.

A number of factors emerge as important considerations especially in vocational level recruitment of nontraditional students: (1) community publicity, (2) linkages with business/industry/labor, (3) information with community and personal relevance to students, (4) one-to-one experiences with role models, and (5) hands-on opportunities to dispel fears of rejection and of nontraditional course content.

The question of effectiveness in vocational level recruitment arises because a limited number of nontraditional enrollments occurred in each case. Amanda Smith has addressed the issue of what the numbers mean. First year data from the New Pioneers Project showed nearly 1000 more girls in agriculture, nearly 700 more girls in trade and industrial programs, and 1300 more boys in home economics. The second year yielded a total increase of 1739 nontraditional enrollments in agriculture, 2123 in home economics and gains in specific trade and industrial programs showing serious student commitment.

Yet Smith points out that divided among 143 LEAs, these recruits are a dozen or fewer in each LEA. The fact that students are committed enough to pioneer in small numbers is, in

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<sup>51</sup>Robert W. Zimpfer, "Vocational Youth Organizations: Showcase of the American Spirit," Ohio Reporter, Spring 1978, pp. 6-7. (Additional information from a personal interview, November 21, 1978).

Smith's opinion, the true accomplishment of the New Pioneers Program.<sup>52</sup> She has commented, in reviewing this literature review, that the similar recruitment rate of Project EVE and New Pioneers is interesting. Her conclusion is that probably that is how many youth are ready to take the step. A general program like New Pioneers can reach "ready" students as well as an intensive one like EVE. The next level of readiness will only be reached over time, Smith believes, and through the involvement of the whole school system.<sup>53</sup>

### Recruitment Strategies at the Postsecondary Level

Initial Perspective. As the two studies by Rj Associates showed, several responses of women at the secondary level varied with those at the postsecondary level regarding nontraditional enrollment factors. One may assume that different recruitment strategies to address these different factors may be required-- or at least the strategies used need to take into account special needs of mature adult students.

Support services, for example, take on special importance at the postsecondary level. Provisions such as financial aid opportunities, evening classes, career counseling, and child care suggest a few of the needs which postsecondary recruitment as well as retention, must consider. The focus of the following discussion of postsecondary nontraditional enrollment strategies is to call attention to how some of these special needs have been met.

Assessment of Recruitment Needs. Perhaps it goes without saying that successful implementation of nontraditional recruitment strategies at the postsecondary level requires an assessment of recruitment needs since the target audience is so varied. That point comes across vividly in the account by David Goetsch of a recruitment plan at Okaloosa-Walton Junior College in Florida. When a needs assessment was conducted to identify prospective women enrollees for a drafting course, five target audiences were found to exist: high school students, recent high school graduates, traditionally employed women, single mothers wanting to change careers, and displaced homemakers. This range of clients meant that a strategy to reach these women needed to extend to many different places in the community from local schools and military installations to hospitals, shopping malls, beauty parlors, and day-care centers--as well as a host of women's organizations.

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<sup>52</sup>Smith, New Pioneers, p. 53.

<sup>53</sup>Comments are from Amanda Smith's critique of this document, December, 1978.



In the sequential recruitment process used in this Florida postsecondary institution, the next strategy was to develop the following recruitment materials: brochures, promotional posters with inquiry cards, slidetape presentations on vocational programs, and slidetape interviews with successful graduates and current nontraditional women students. The process of implementing these materials as well as school visits resulted in an enrollment increase of women in the drafting program from 18 to 65.

So far one may observe that the recruitment strategies used are basically the same as those used in recruitment generally. Goetsch observes, however, that the extensive campaign to make women aware of nontraditional vocational opportunities, coupled with effective promotional material and role models, helped women significantly to overcome their hesitancy to enroll in nontraditional courses. The junior college used role models in two ways when recruiting:

- . Peer role models discussed admission and gave a tour of the drafting facility.
- . Slidetape interviews communicated successful students and graduates as role models.

Recruiting in general may also benefit from providing role models. The difference is that adults may already be familiar with traditional occupational role models. Goetsch ventures three basic principles to follow in opening career choices for women:

- . Commitment at the grass roots level of vocational education institutions is required.
- . Institutions must take the initiative in reaching out to women.
- . A recruitment plan is needed which is designed specifically to attract women to traditional male careers.<sup>54</sup>

Communication/Support--A Dual Strategy. Regarding the recruitment of mature women into nontraditional programs, Florence S. Mintz discovered in her project at Rutgers University that the power of the press and the written word in the diffusion of an idea--as well as enlisting approval and support of community opinion leaders--is overwhelming. Furthermore, reaction to media exposures makes the telephone indispensable to this method of recruitment. Mintz selected a multimedia approach because of research suggesting that different communication channels play

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<sup>54</sup>David Goetsch, "Drafting Women into a Nontraditional Career," Florida Vocational Journal, April 1978, pp. 14-16.



different roles at various stages in the diffusion and acceptance of ideas. In addition to using a multimedia recruitment design, this project--like so many others--recognized the need to treat recruitment as a process requiring a sequential use of strategies. Two main phases were involved in Mintz's sequential design--(1) awareness and (2) implementation. During both phases, mass media and interpersonal communication channels were used in combination to maximize effectiveness. Mass media disseminated information rapidly to a large audience and interpersonal channels served a persuasion function by providing feedback and reinforcement. During the implementation phase, knowledge was still a focus, but persuasion became increasingly the concern to facilitate individual enrollment decisions.

Persuasion efforts led Mintz to recommend that special counseling services be provided to assist women in making the transition to school and integration of multiple roles. Also, community colleges need to explore other avenues of financial assistance such as endowments from business and industry. A career information network and inservice training for all staff related to adult women and sex role stereotyping were also mentioned.

Mintz found several advantages to this dual strategy. Impersonal mass media reached a large audience rapidly, spread information over a wide base, and led to change in some attitudes. The interpersonal channels were effective in challenging and changing strongly held attitudes because of the opportunity to (1) provide instant feedback and (2) address a human tendency to accept only those messages which are consistent with one's existing attitudes and beliefs.

Mintz also used peer counseling informally at coffee hours held during the recruitment phase. (Postsecondary institutions may use this strategy more than secondary vocational institutions; however, it can be equally effective with younger students. In fact, the Resource Center on Sex Roles in Education developed A Student Guide to Title IX, which can be a helpful document for high school peer counselors.) At whatever level peer counseling is used, this recruitment strategy will be most effective at a subsequent stage of the effort when enrolled nontraditional students are available to share their successful experiences and tips on overcoming problems.<sup>55</sup>

Recruiting With Counseling Workshops. The Center for Advanced Study in Education, City University of New York, has conducted a series of workshops to recruit mature adult women. Known

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<sup>55</sup>Florence S. Mintz, Development of a Model for the Recruitment of Mature Women in Traditionally Male-Oriented Occupational Education Programs (Graduate School of Education of Rutgers, New Jersey, May 1976), pp. 43-64, 139-156.

as the New Occupational Student: The Mature Adult Woman Project (NOSMAW), this preadmission counseling effort operated seemingly from the position that for all mature adult women encouraged to attend the workshops, enrollment itself in community college career programs represented a nontraditional choice. Enrollment was the primary objective, but equality of career access was also stressed by expanding awareness of career possibilities and modifying existing attitudes about "appropriate" careers for women. The NOSMAW Project may be of interest in terms especially of the large number of women participants it involved (300 the first year and 600 the next year). Two yearly reports describe recruitment strategies implemented during 1974-1976 at first two and then four New York community colleges. On the basis of its success with recruitment, this study draws conclusions about strategies that would not work effectively with mature women as well as ones that will. The "one-shot" Woman's Day on Campus, for example, cannot overcome several years of hesitancy or lack of awareness of educational and career possibilities. Nor do college publications listing course offerings help these women determine what sort of training or career they want and can reasonably hope for. Rather, it appears that recruitment of mature women may require a sustained effort involving extensive counseling prior to enrollment.

The first year's recruitment strategy consisted of an Introductory Conference followed by a series of six workshops concerned with helping mature women of various socioeconomic and ethnic groups develop more positive self-concepts and expand awareness of school and career options.<sup>56</sup>

By the second year, the program doubled in scope and was tested in a range of circumstances with diverse populations. During the second year, of 261 women who completed the workshop series, 189 applied to college. Of those recruited, 116 chose occupational programs. While 17 chose nursing and 14, secretarial science, 26 chose business administration. The other choices were less traditional.

An important realization from the two years' effort is that removing economic, political and legal barriers to certain careers is not enough to increase nontraditional enrollments. Internal and external barriers which impede women's reaching their potential must simultaneously be removed as well. What are some of these obstacles holding women back from postsecondary enrollment? Factors like the following have been identified through the project:

- Concern about age and appropriate goals make women limit expression of interest or reject further training

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<sup>56</sup>Deanna Chitayat and Sarah Carr, The New Occupational Student: The Mature Adult Woman (Graduate School and University, CUNY, 1975), pp. ii-iii.

- . Need for special assistance in seeking admission, financial aid and guidance
- . Ambivalence from fear toward intellectual stimulation and independence
- . Length of time away from school
- . Practical concerns related to job opportunities, salaries, job discrimination, and managing multiple roles
- . Poor self-esteem

The primary initial recruitment strategy in this project was to maximize publicity effectiveness through a network of key sources to reach large numbers of women in a short time. The three phases of this strategy were as follows:

- . Contact of college community relations persons (by phone and/or appointment and followup mail) who ran press releases in local newspapers
- . Contact community relations staff of school boards and parent association presidents (by phone and followup mail) to reach mothers of school children
- . Phone calls and mailing promotional literature to institutions and groups like public libraries, National Organization for Women, YWCA and radio/TV stations

Newspaper press releases were most effective. Unlike the first year, the second year's radio announcements did not work as well because of brevity and "non-prime-time" airing.

Six workshops were held on alternate weeks at a time permitting women to be home when children came from school. Each workshop had a morning and afternoon session. To help women handle mounting anxiety as enrollment decisions neared, the workshop content alternated between a focus on information and on self-awareness/group support. Self-awareness workshops relied upon a structured program conducted by a motivational consultant firm and group discussions with trained leaders. Information workshops involved communicating basic understandings about the job market, career, and school. One session was devoted to a guided tour of tutorial services, library, student personnel offices, and various departments. Additional sessions provided exposure to role models, testing, and decision-making activities.

Women's greatest handicap in making enrollment decisions, according to the project report, was their lack of information.<sup>57</sup>

Summary-Postsecondary Recruitment. The literature did not yield similar projects, funded or otherwise, dealing with recruitment of men to nontraditional vocational training at the postsecondary level. Limited data, however, do exist of an exploratory nature to determine factors that influence men to enroll in nursing and office occupations courses. These are discussed in the section of the literature review on suggested strategies based on research.

Consistent with recruitment at the two lower age levels, the importance of role models to successful recruitment of nontraditional students is apparent at the postsecondary level too. Sequential and simultaneous use of strategies is another parallel observed among all levels of recruitment. Self-awareness and information are again major problem areas for recruits.

Uniqueness of postsecondary recruitment exists as well. Special counseling is useful to help women make the transition from homemaking to school and integration of multiple roles. Special support services are also needed. Finally, communication strategies need to be more extensive to reach the variety of target audiences located in the community rather than already in school.

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<sup>57</sup>Deanna Chitayat and Sharon Hymer, The New Occupational Student: The Mature Adult Woman: A Preadmission Counseling Program in Four CUNY Community Colleges. New York, New York: Institute for Research and Development in Occupational Education, Center for Advanced Study in Education of the Graduate School and University Center, CUNY, August 1976, pp. i, 6-17, 48-49.



## Strategies to Help Educational Staff Facilitate Nontraditional Enrollment

Initial Perspective. At all three age levels covered in the recruitment strategy section, in-service of professional staff has been stressed as vital to increasing nontraditional enrollments. The purpose of this section is to provide information from a variety of local, state and national efforts to better equip and train professional staff to plan and implement recruitment strategies.

Since 1972 when Title IX was enacted, in-service strategies seem to have evolved somewhat. Contributing factors may be that women and men better understand the complexity of sexual identity, occupational/sex role stereotyping, and the change process. The following projects and resources are intended to demonstrate the growing sophistication in educational sex equity and in-service strategies.

Adapting Curriculum for Both Sexes. With the exception of home economics, not much overt attention was given in early attempts to help educational staff relate sex bias in curriculum to male needs. But gradually, from experiences with sex-integrated classes (and perhaps a gradually growing cultural awareness through books like The Liberated Man and the Hazards of Being Male), curriculum development has resulted to aid teachers in (1) adapting traditional sex-segregated courses to the needs and interests of both sexes as well as (2) fostering consideration of nontraditional occupations for boys as well as girls. This in-service strategy was needed especially at the prevocational level since prior to 1972 some teachers were accustomed to dealing with students of only one sex in class.

Kohlmann realized this situation as a potential problem for home economics teachers expected to recruit boys to take their courses. Based on a three-year study she advocated curriculum development as the best ultimate recruitment strategy because she thought nontraditional enrollments would happen if home economics courses were designed to help boys achieve their goals. The principle behind her recruitment strategy to help the teacher of traditionally women's classes as well as prospective nontraditional male students also applies to prospective nontraditional female students and their teachers. The strategy called for a transitional experience so that teachers could work with boys alone in class before dealing with a coed situation. This strategy could afford teachers three opportunities:

- . observing boys' responses and reactions
- . learning ways of working comfortably with boys
- . learning how girls and boys can be alike and different.



Kohlmann herself voiced the disputed view that there may well be instructionally relevant differences between girls and boys which teachers need to deal with through a variety of classroom strategies. Anticipating differences, she suggested that home economics content be expanded to include:

- concepts of human development and family world of work
- personal and family economics
- housing
- clothing selection, grooming and purchasing
- nutrition as related to long-range health
- food preparation skills (perhaps specific ones)

Ironically, whether one agrees or disagrees with Kohlmann's view of sex differences, her content suggestions make the curriculum for girls as well as boys more androgynous.<sup>58</sup>

Farquhar and Mohlman, echoing the prevocational in-service concern with curriculum development, designed a year long, seventh grade life competence course with six interchangeable modular units. Their curriculum strategy for teachers was to combine home economics and industrial arts in order to address causes, not just symptoms, of sex-segregated education. They viewed the seventh grade, when students encounter puberty, as a crucial time to avoid sex-role assigning through curriculum. They also raise the question of whether such sex-role assigning of courses would have as significant an effect if students did not encounter them until the latter part of high school.

To help teachers accept and plan for nontraditional students, these educators recommend the following: (1) try to discover unexpected aptitudes, (2) engage students' imagination, and (3) elicit student input for the course. Arguing for the course's value in removing stereotypes, they state that a year of integrated life competence skill study would end students' image of a girls' or boys' course. Seeing each other do tasks interchangeably helps girls and boys accept the principle of occupational sex equity. Six units comprised their recommended curriculum: Foods, Fabric Shop, Basic Repairs Around Home, Money Management, Personal Relations, and Care of Living Things.<sup>59</sup>

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<sup>58</sup>Eleanor L. Kohlmann, "Helping Young Men Prepare for Changing Roles," Illinois Teacher of Home Economics, May/June 1975, pp. 273-275.

<sup>59</sup>Norma Farquhar and Carol Mohlman, "Life Competence: A Non-Sexist Introduction to Practical Arts," Social Education, October 1973, pp. 516-519.

## In-service Benefits from Positive Approach

In the introduction to the strategy section, an observation was noted from the New Pioneers experience that the general approach taken towards implementing sex equity can outweigh in significance whatever specific strategies are used. The role of positive approaches is evidenced in strategies aimed at in-servicing educational staff.

One of the earliest in-service efforts was sponsored by Minnesota's Emma Willard Task Force on Education. They sponsored human relations workshops and classes for educators to increase awareness of male/female stereotyping. A 1973 article in American Education described their in-service model for sensitizing teachers as having sex strategic components:

- . deal with sexism as well as racism
- . offer a 12-week course for two professional growth credits as a professional growth/monetary incentive
- . foster a recognition of the seriousness of the problem
- . make individual in-service projects subject-related
- . encourage working with parents
- . encourage working more directly with students in the development of curriculum and materials

A number of workshop strategies were used to develop and affirm positive attitudes. Some of these include:

ranking textbooks  
small discussion groups  
role playing  
values voting  
games  
filmstrip  
analysis of feminist publication news clippings  
speakers with nontraditional life styles  
communications network among participants

The article reported that the Task Force was much in demand to conduct workshops and the 12-week course was repeated and expanded to three credits. One anecdote suggests the importance of sensitivity to both sexes in correcting sexist attitudes and behavior. A junior high physical education teacher sponsored a male beauty contest to give girls a chance to reflect on this sexist custom and enlighten the boys to be put on display. Given their awkward age, students of both sexes might respond in this situation with increased tension rather than mutual acceptance.

In-service strategies dealing with sex equity need to enlighten staff so they do not induce a heavy-handed or one-sided perception of sex equity in adolescents who, to a great extent, cannot in all fairness be held--or judge others--accountable for culturally instilled values and attitudes.<sup>60</sup>

Workshop strategies using presentation delivery to heighten awareness may antagonize if framed in negative terms. In conjunction with the assessment of sex role stereotyping at a Pennsylvania Community College, four workshops were sponsored for professional staff invited from a number of secondary schools. The purpose of these sessions was to heighten awareness by sharing information about the problems of sex bias and resources to use in dealing with sex stereotyping. Workshop evaluations revealed some dissatisfaction. Several participants felt they were already generally familiar with the information presented and the workshops served to remind them of the problem. Others defended their school's existing sex equity. The workshop outline reveals that these reactions may have resulted from negative session headings like these: Problems of Expanding Awareness of Career Options, and Current Lack of Compensatory Awareness Programs Undertaken by Schools.<sup>61</sup> Terminology assumed a sex equity problem in schools but did not emphasize the potential or existence of solution.

In-service Benefits from Active Involvement. The Arizona State Department of Education has reported the positive effects from providing active involvement in in-service activities to help educational staff implement sex equity. One was a "charrette" (working conference with intense effort to complete a project) held for administrator/faculty teams. The purpose of the three-day session was to help community colleges initiate and implement programs and services to solve problems of women students. Each team had the goal to prepare a short-term program and a long-term (three-year) program. Teams were grouped in units of 10-12 with two group leaders per unit. The format was as follows:

First Day - morning--hear speech by national leader to  
challenge and spark ideas, slide/  
tape, student panel  
afternoon--work on preliminary plan

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<sup>60</sup>Nancy Pirsig, "Minneapolis: Training the Teachers," American Education, June 1973, pp. 24-26.

<sup>61</sup>Anna D. Weitz, Eradicating Sexism in Vocational Education. Final Report (Williamsport, Pennsylvania: Williamsport Area Community College, 1977), ED 147564, pp. 83-88.

- Second Day - morning--work on plan, hear luncheon speech by recognized leader  
afternoon--turn in material for typing and consultant review

- Third Day - morning--summarize and share accomplishments

In workshop evaluations, participants based satisfaction on five things:

- program
- valuable personal contacts
- provision of working aids
- opportunity for involvement
- concrete accomplishments to take home<sup>62</sup>

The Arizona State Department of Education also sponsored a two-day in-service clinic designed for educators and administrators. Students, parents, and professionals comprised the 370 participants. The clinic was timed so that planners could address problems of women and minorities in writing next year's projects. Evaluation revealed that the objectives had been met. By the end of the clinic, 65 percent of the participants possessed legal information, 75 percent were able to identify major problem areas, and over 70 percent submitted a local plan of action. Several strategies employed during the clinic contributed to active involvement:

- state and nationally known speakers
- student and professional panel discussions
- representatives from business, industry, and politics
- the formation of task force groups to further identify problems of women and minorities and suggest possible solutions.

In addition to recommending a needs assessment for such a program, the final report suggests a follow-up local clinic is desirable to encourage and support follow-through on plans.<sup>63</sup>

Proactive Attitudes in In-service Materials. Sourcebooks for educational staff developed by state departments in North

<sup>62</sup>Maggie Eitzen, Multiple Roles in Contemporary Society: What Are the Choices? A Charrette (Phoenix, Arizona: Arizona State Department of Education, Division of Vocational Education, 1975), ED 108 090, pp. 1-21.

<sup>63</sup>Margaret V. Barkley, et al., Clinics for Administrators of Women in Occupational Education. Final Report (Phoenix, Arizona: Arizona State Department of Education, Division of Career and Vocational Education, 1975), ED 122 130, pp. 1-81.

Carolina and New York convey a proactive attitude towards the sex equity problem and its solution. The North Carolina in-service aid uses proactive headings (as well as content) that are not accusatory, such as "Changing Language to Reflect Social Change" and "Possible Reasons for Few Women in Administrative Positions." Only near the end of the booklet does a teacher self-test "How Sexist Are You" appear, couched with directions that do not chastize:

"This test for teachers may be useful as one approach toward the elimination of sexism in the public schools...  
"If your score is below 90, meet with your colleagues to plan your own consciousness-raising group."<sup>64</sup>

The New York source book can be used either as the basis for in-service workshops or as a non-threatening self-study guide for vocational educators. It provides "information on sex fair education" and sells the concept of implementing sex equity as an "opportunity" to:

- . Increase the employment opportunities available to both sexes.
- . Train increasing numbers of women for meaningful well-paying jobs.
- . Prepare both males and females for sharing homemaking and wage-earning which can increase family stability and harmony.
- . Train women so that, when left with the major responsibilities of supporting a family, they are able to earn an adequate income.
- . Provide men with homemaking and parenting skills so that, when necessary, they can assume responsibilities for a family and home.<sup>65</sup>

Specific guidelines for teaching about sex stereotyping listed below provide teachers specific steps to facilitate nontraditional enrollments through fostering sex equity:

1. Examine the model you provide for students.
2. Identify your students' awareness of sex stereotyping and their role expectations.

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<sup>64</sup>Research and Information Center, Eliminating Sex Discrimination in Schools: A Source Book (Raleigh, North Carolina: North Carolina State Department of Public Instruction, 1975), pp. 137-138.

<sup>65</sup>Department of Community Service Education, Expanding Adolescent Role Expectations, Information, Activities, Resources for Vocational Educators (Ithaca, New York: Cornell University, 1978), ED 147544, p. 17.



3. Teach for attitudes as well as knowledge and skills.
4. Integrate the concepts of sex stereotyping and role expectations with regular course content.
5. Develop an understanding of stereotyping as the basis for increasing expanded role expectations.
6. Create a classroom climate that encourages students to examine sex-stereotyped assumptions, attitudes and expectations.
7. Focus on human liberation rather than liberation of one sex.
8. Determine students' reactions to the topic during and at the end of the course.<sup>66</sup>

Proactive attitudes are communicated in the New York source-book in several ways. Headings are nonjudgmental and positive:

- "How Stereotyping Affects Teachers and Students"
- "Why Expanded Roles Are Needed"
- "How Vocational Education Materials Can Influence Role Expectations"
- "Teaching for Expanded Roles"
- "A Unique Opportunity to Affect Role Expectations"

In addition, the format intersperses provocative quotations and gentle humor that show approval of androgynous behavior, the subtle way that sex differences are instilled, and concern for both sexes. Creative student activities are provided as well. In one activity, students write Dear Abby responses to females and males suffering from sex stereotyping. In another, they sort stereotypical and non-stereotypical pictures into boxes twice to demonstrate the pitfalls of peer pressure.<sup>67</sup> All these proactive features combine to give a role model in print, so to speak, for the sex fairness being fostered in the behavior of educational staff.

State and National Efforts. A number of state and national projects to equip educational staff with the background to expand nontraditional opportunities in vocational education have been conducted. The following information outlines the strategies employed and/or recommended by a sampling of these efforts.

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<sup>66</sup>Ibid., pp. 90-91.

<sup>67</sup>Ibid., pp. 116, 121.

## State-based In-service Studies

North Carolina--New Pioneers Project developed statewide ripple effect in-service featuring a summer institute to train trainers, local courses, a follow-up conference, program promotion, and support from local administration.<sup>68</sup>

North Dakota--This study of a state sampling of vocational educators was predicated on the belief that awareness of a problem is the first step to a solution. To measure male and female sex role perceptions, 396 vocational teachers, administrators and counselors took the Bem Sex Role Inventory. Through the concept of androgyny, the study focused on similarities between women and men rather than differences.<sup>69</sup>

Minnesota--BORN FREE training and development grant aims to broaden the range of career options for both women and men. Women's Educational Equity Act Program funds enabled design and testing of career development training packets, workshops, nine videotapes, and viewers' guides. These modules are for parents, teachers, counselors, and administrators at all educational levels. Components of the project included locally-conducted needs assessment, materials development/field testing, a two-week summer institute, revision of materials, and implementation of activities.<sup>70</sup>

New York--Project MOVE provides an in-service program to eliminate sex-stereotyped attitudes, behaviors, and expectations of secondary school personnel and adolescents. To expand occupational and life expectations of adolescents, the in-service model features learning packets, training of local change agents, extended course work (from teaching teams consisting of a female and a male), support system, repeated evaluation and refinement cycle, and a comprehensive report.<sup>71</sup>

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<sup>68</sup>Amanda Smith, New Pioneers, pp. 39-48.

<sup>69</sup>Jennette K. Dittman, Sex-Role Perceptions of North Dakota Vocational Educators. Final Report (Fargo, North Dakota: North Dakota State University, College of Home Economics, 1976), ED 131 336, pp. 1-54.

<sup>70</sup>Gary N. McLean, "Build Options, Reassess Norms, Free Roles Through Educational Equity (BORN FREE)," A presentation at the American Vocational Association Convention, Dallas, Texas, December, 1978.

<sup>71</sup>Charlotte J. Farris, Statewide Vocational In-service for Reducing Sex Stereotyping and Bias. 1977-1978 Report (Ithaca, New York: Community Service Education, Cornell University, 1978), pp. 6-14.

## National-based In-service Studies

Rj Associates--BOAE funded this project to develop a model for increasing nontraditional enrollments by retraining teachers and skilled women for nontraditional vocational teaching roles. The model deals with feasibility of retraining programs, alternative approaches to meeting teacher qualifications, constraints faced by teacher educators and administrators, and resources needed for planning realistic implementation.<sup>72</sup>

System Sciences--USOE funded a national survey of vocational equity programs, development of a strategy manual for administrators, and student curricular materials to eliminate sex stereotyping and sex bias. The administrator's manual contains strategies for both state and local vocational education administrators. State strategies pertain to flexible technical assistance, compliance, background research, multiple alternative local strategies and an evaluation system. Local administrative strategies include: advisory committees, teacher evaluation, administrator workshops, "open door policy" providing a role model for teachers, utilizing local equity resource persons, community resources, recruiting nontraditional teachers, yearly enrollment data, redesigning/adapting facilities, and enlisting media assistance.<sup>73</sup>

Ellis Associates, Inc.--USOE funded a grant to prepare three training packages for in-service/preservice training of vocational teachers, counselors and administrators. The design provides an outline for training leaders along with the text for participants. Following textual material is a list of suggested questions, activities, and transparency masters. To build nontraditional opportunities for secondary and postsecondary women the training packages focus on recruitment approaches, barriers, and equal opportunity legislation.<sup>74</sup>

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<sup>72</sup>Roslyn D. Kane, Laura Chen Fernandez, and Jill Miller Godoff, A Model to Retrain Women Teachers and Skilled Women as Teachers in Nontraditional Vocational Programs (Arlington, Virginia: Rj Associates, 1977), pp. 1-69.

<sup>73</sup>Eric Rice and Florence Etheridge. Strategies to Eliminate Sex Stereotyping and Sex Bias: An Administrator's Manual (Chapel Hill, North Carolina: System Sciences, Inc., 1977), pp. 4-18.

<sup>74</sup>Ellis Associates, Inc., Expanding Nontraditional Opportunities in Vocational Education (College Park, Maryland: Ellis Associates, Inc., June 1977), pp. 1-205.

Resource Center on Sex Roles in Education--USOE funded development of session outlines and participant materials for two training models to aid vocational education personnel and interested citizens in overcoming sex discrimination and attaining sex equity. Workshop contents in one packet cover influences on educational/vocational choice, sex bias in policies, programs, and practices, and action planning.<sup>75</sup> Another packet provides information about women and men in training/paid work force, sex segregation, implications of 1976 Education Amendments for local programs, and assessing sex equity in vocational education.<sup>76</sup>

Women's Educational Equity Communications Network--USOE funds this ongoing national communication service which provides resources by mail and telephone. This network service is located at Far West Laboratory for Educational Research and Development in San Francisco. In addition, a volume of resources for women's educational equity is available through the U.S. Government Printing Office.<sup>77</sup>

The National Center for Research in Vocational Education--NIE funded development of two workshop training packages to in-service state sex equity personnel in their legislated responsibilities<sup>78</sup> and in strategies for increasing nontraditional enrollments.<sup>79</sup> The strategy package subsequently is to be available for national dissemination

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<sup>75</sup>Resource Center on Sex Roles in Education, Overcoming Sex Discrimination and Attaining Sex Equity in Vocational Education: Recognizing and Combatting Sex Bias and Planning for Action (Washington, D.C.: National Foundation for the Improvement of Education, April 1978).

<sup>76</sup>Resource Center on Sex Roles in Education, Overcoming Sex Discrimination and Attaining Sex Equity in Vocational Education: The Social/Educational and Legal Contexts (Washington, D.C.: National Foundation for the Improvement of Education, April 1978).

<sup>77</sup>Women's Educational Equity Communications Network, Resources in Women's Educational Equity. Volume 1 (Washington, D.C.: U.S. Office of Education, 1977).

<sup>78</sup>Louise Vetter, Carolyn Burkhardt, and Judith Sechler, A Guide for Vocational Education Sex Equity Personnel (Columbus, Ohio: The National Center for Research in Vocational Education, The Ohio State University, 1978), 94 pp.

<sup>79</sup>Louise Vetter, Carolyn Burkhardt, and Judith Sechler, Vocational Education Sex Equity Strategies (Columbus, Ohio: The National Center for Research in Vocational Education, The Ohio State University, 1978), 258 pp.



via the state vocational education sex equity coordinators for local use. In-service strategies and resources deal with creating awareness of sex fairness, dealing with sex bias, nontraditional recruitment, nontraditional retention, community interaction, assessing and adapting materials and "getting it all together."

Summary-In-service Strategies. This section has described a number of in-service strategies intended to enhance nontraditional enrollment of students of one or both sexes. In-service strategies have evolved somewhat in several ways: (1) increasing the focus on both sexes in dealing with sex equity problems and solutions, (2) accenting positive attitudes in workshops, (3) stimulating active involvement in sex equity activities, and (4) providing proactive in-service materials. State and national based studies have supported in-service efforts.

### Conclusion

The strategy section began by raising the issue that the approach or pervasive attitude, which is taken to achieve increased nontraditional enrollments is more important than the particular choice of strategy. Now perhaps it is easier to see how Amanda Smith reached that conclusion. As this literature review reveals, an array of recruitment strategies has been developed, suggested, applied, and evaluated. At times, the evaluations of the same strategy in different applications yields conflicting results. But a common theme seems to run throughout the successful implementations. It is helpful to analyze enrollment patterns of students in nontraditional, traditional and sex-integrated courses--especially in an effort to break down assumed stereotypes and unconscious biases. But research and practice show that one must also remember to keep sight of the uniqueness of each individual student, especially in regard to the very personal decision about career choice.

Our changing society has legislated and inherent androgyny has validated the right of persons of both sexes to pursue nontraditional training. Evidence shows that schools have begun to make females and males equally aware of new options. Where recruitment has happened without pressuring the viewpoint that "nontraditional" is more beautiful/handsome or more rewarding/worthwhile than "traditional," students have more readily embraced the change at least for others--even if still comfortable holding to different values regarding their own self-actualization.

As the sex equity movement in vocational education has evolved, concomitant development of recruitment strategies for nontraditional enrollment has occurred in career education, career guidance, and in industry, business and labor union's apprenticeship programs. Many of these strategies, such as peer counseling, hands-on career exploration, and offering enrollment incentives, have indirectly



been alluded to in discussing the comprehensive approach to recruitment advocated frequently for vocational education. In addition, research studies, inservice packages, journal articles and student materials are accumulating to support recruitment efforts. Perhaps the real problem for educational staff and schools is how to discern which strategies are preferable to use and when.

The Born Free Project, directed by L. Sunny Hansen provides seven in-service guidelines which may be useful in making these judgments:

1. Remember that change is a process.
2. Pay attention to and build readiness for change.
3. Pay attention to communication linkages and problem-solving and decision making processes.
4. Limit the number of strategies intended to produce cognitive change in participants: leave yourself energy to do other things.
5. Find ways to modify existing reward structures or to create new ones.
6. Create a few, small and highly visible structures and get them moving right away.
7. Provide for frequent meetings and staff development once implementation begins.<sup>80</sup>

A Review of Case Studies of Technological Innovations in State and Local Services by Robert K. Yin, et al., provides a few broad principles to aid innovative efforts. These principles may or may not apply totally to recruitment strategies (which are hardly technological innovations). Nevertheless, they provoke reflection after analyzing the many case studies and strategies presented in this literature review. Successful innovation is said to be more feasible--

1. the greater the extent to which major actors in the implementation process are drawn from within, rather than from outside the accountable agency;
2. the greater the say they have about how the program will be implemented;
3. the greater the degree to which the major actors in the innovative process are perceived as being competent;
4. with administrative support for the new program.<sup>81</sup>

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<sup>80</sup>McLean, Build Options, (unnumbered page).

<sup>81</sup>Lewis and Kaltreider, Attempts to Overcome Sex Stereotyping, p. 16.

High school girls and boys in the New Educational Directions study have also ventured a few suggestions for recruitment:

1. Make students more aware of both nontraditional and traditional occupational opportunities by way of: films, career information, nontraditional models, and through counselor contacts;
2. Change the attitude of teachers, counselors, and others through awareness and training activities;
3. Open all classes to both sexes; for example, allow girls to enroll in auto mechanics;
4. Encourage and support those students who enroll in nontraditional courses and/or are considering nontraditional occupations;
5. Revise course materials that promote sex stereotyping; and
6. Assess classroom climate and course names to assure that these do not encourage sex stereotyping. For example, a course entitled agriculture could be changed to horticulture, or animal science, and courses entitled home economics could be changed to more descriptive titles based on the actual course content.<sup>82</sup>

Two of the researchers in the forefront of sex equity in vocational education are Roslyn Kane and Morgan Lewis. It is encouraging in itself to know that both sexes are represented in this effort. Their reflections upon research on nontraditional enrollments offer two distinctive but complementary recommendations for successful use of recruitment strategies. Kane observes:

As more women enroll, other women will be encouraged to follow their example; the number of women in nontraditional training is bound to expand. But for the majority of women, this will still be too great a step, and major changes in sex socialization and sex stereotype patterns will have to occur before segregation of training is likely to be eliminated.<sup>83</sup>

Kane's concern for achieving major changes is echoed by Lewis who urges the comprehensive commitment by everyone:

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<sup>82</sup>New Educational Directions, Sex as a Determinant, p. 12.

<sup>83</sup>Kane and Frazee, Women in Nontraditional Vocational Education, p. 40.

The effort to achieve career selection on the basis of students' interest and aptitudes rather than their sex must have the support of the school administration and ideally should include all personnel as well as parents, students, and other members of the community. A single committed counselor or a single committed vocational teacher can make a difference, but the difference will probably affect only those students with whom that person comes into contact. For a lasting change in the educational program, commitment of all parties is required.<sup>84</sup>

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<sup>84</sup>Lewis and Kaltreider, Attempts to Overcome Sex Stereotyping, p. 17.

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