Among the purposes of using interest inventories in career guidance are to broaden, stimulate, and provide a focus to career exploration, and to stimulate exploration of self in relation to career. This paper explores the research literature for evidence of the number and kinds of career options which boys and girls are considering and which careers they consider appropriate for their own sex and/or for anyone. The discussion emphasizes the role of socialization, which helps determine what is 'appropriate' and thus may limit what the student will consider. In addition, consideration is given to areas where further research is needed in order to clarify if, how, and in conjunction with what other techniques, interest inventories will lead students to consider a wider array of career options. (Author)
THE NIE CAREER EDUCATION STUDY
OF SEX BIAS IN INTEREST MEASUREMENT

WHAT CAN I BE WHEN I GROW UP?

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APGA
Annual Convention
New Orleans
April 10, 1974
WHAT CAN I BE WHEN I GROW UP?

Among the purposes of using interest inventories in career guidance are: to broaden, stimulate, and provide a focus to career exploration; and to stimulate exploration of self in relation to career. This paper will consider which careers boys and girls, young men and women consider appropriate for their own sex and/or for anyone and which career options they are considering for themselves. Attitudes towards women's role options will also be considered.

Studies Relating to Sex-appropriateness of Careers

Five studies (Meyer, 1970; MacPhersen, 1971; Iglitzin, 1972; Patrick, 1972; and Schlossberg & Goodman, 1972) which looked at sex-appropriateness of careers were located. Schlossberg and Goodman studied kindergarten and sixth grade boys and girls, Meyer studied third and seventh and eleventh grade boys and girls, Iglitzin studied fifth grade boys and girls, MacPherson studied high school senior women and Patrick studied both male and female high school seniors. The evidence indicates that both sexes of students ascribe some occupations to men, some to women, and some to either men or women.

Schlossberg and Goodman found that students felt that men could successfully work at more jobs than women could, while Iglitzen found that girls were more willing to see jobs open to either sex. Meyer's major finding was that overall boys and girls have strong stereotypic ways of behavior toward traditionally sex-linked occupations. Patrick found that both male and female high school seniors held similar perceptions of occupations appropriate to one or both sexes. MacPherson found that social class was an important factor influencing female high school seniors perceptions of sex-role stereotypes in occupations.
Occupational Choice and Aspirations

Siegel (1973) studied the occupational choices of 61 second graders in a middle class suburb of Boston, Massachusetts. She found that boys chose almost twice the number of occupations than girls chose. Of the 29 girls, 20 of them chose either "teacher" or "nurse." Of the 32 boys, seven of them chose "policeman," but not more than three boys chose any other one occupation. The author felt that it were as if by the second grade, children have absorbed societal expectations of "sex-appropriate" work and have selected the traditional cultural stereotype.

In a nationwide study of student career development, Prediger, Roth and Noeth (1973) studied a nationally representative sample of 32,000 students in 200 schools. In terms of first occupational preference, they found striking sex differences. Over half of the 11th grade girls chose occupations which fell in only three of the 25 job families used to classify the preference choices. The three job families were clerical and secretarial work, education and social services, and nursing and human care. Seven percent of the preferences of 11th grade boys fell into these three job families. Nearly half of the boys' choices were in the technologies and trades clusters of job families in contrast to only seven percent of the girls' choices. Two of the six job family clusters showed boys and girls represented in approximately equal proportions: the natural, social, and medical sciences cluster and the creative arts cluster. Results for the eighth graders were essentially the same as for the eleventh graders. The authors indicate that

Efforts to broaden the career options and choices of both males and females must overcome the pervasive influence of work role stereotypes related to sex (p. 12).

Harkness (1970) reported on the vocational aspirations of young women, ages 16-21 who entered the Omaha Women's Job Corps Center in 1967. Women from 35 of the 50 states were included; 45 percent black, 35 percent white,
15 percent Spanish-American and five percent American Indian. The first choice of vocation and the training program choices of these disadvantaged young women are indicated below, classified according to Holland's (1960) scheme.

<table>
<thead>
<tr>
<th>Vocational Choice</th>
<th>Training Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Realistic</td>
<td>1%</td>
</tr>
<tr>
<td>Intellectual (Investigative)</td>
<td>37%</td>
</tr>
<tr>
<td>Social</td>
<td>10%</td>
</tr>
<tr>
<td>Conventional</td>
<td>34%</td>
</tr>
<tr>
<td>Enterprising</td>
<td>10%</td>
</tr>
<tr>
<td>Artistic</td>
<td>9%</td>
</tr>
</tbody>
</table>

Harkness reported that there were significant differences in vocation choices by ethnic group and by highest grade of school completed, but not by geographic location, age or community size.

Flanagan (1973) reported on shifts in occupational choices from 1960 to 1970 as shown in the Project TALENT data. For 11th grade boys, there was a definite shift away from such occupations as accountant, engineer, physical scientist, armed forces officer, and farmer and toward such occupations as biological scientist, high school teacher, lawyer, political scientist, economist, social worker, sociologist, psychologist, artist, entertainer, policeman, fireman, writer, skilled worker, and structural worker. For 11th grade girls, the principal shifts were away from such occupations as nurse, secretary, office worker, typist, beautician, and housewife and toward such occupations as biological scientist, teacher, lawyer, mathematician, political scientist, economist, social worker, sociologist, psychologist, artist, entertainer, and writer. In terms of reading comprehension scores, the
small number of girls selecting scientific and professional careers in 1960 had patterns and levels of abilities that were more realistic than those for the boys selecting similar careers; but in 1970, with more girls selecting these career areas, reading comprehension scores showed that girls were less realistic than the boys in their choices of careers. Flanagan states:

It thus appears that the recent changes in the accepted cultural view of the role of women have resulted in many girls shifting their career plan to something which is currently more socially acceptable. Unfortunately, these shifts appear to have been made without the intensive study of occupational requirements and analysis of their own abilities which is essential for a realistic career choice. (pp. 9-10).

However, it seems to me to be an extremely sweeping statement to decide whether or not a career choice is realistic based on evidence from one reading comprehension score. If other variables went into this judgment, it was not evident in the publication cited (Flanagan, 1973).

Scott, Fenske, and Maxey (1973) reported on the vocational choices of 1498 students enrolled in 62 community and junior colleges in the fall of 1970. Sixty percent of the students were men. The choices classified by Holland's scheme, were as follows:

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Realistic</td>
<td>46%</td>
<td>2%</td>
</tr>
<tr>
<td>Investigative</td>
<td>31%</td>
<td>17%</td>
</tr>
<tr>
<td>Social</td>
<td>2%</td>
<td>43%</td>
</tr>
<tr>
<td>Conventional</td>
<td>3%</td>
<td>26%</td>
</tr>
<tr>
<td>Enterprising</td>
<td>12%</td>
<td>5%</td>
</tr>
<tr>
<td>Artistic</td>
<td>6%</td>
<td>7%</td>
</tr>
</tbody>
</table>

As reported by Prediger, Roth and Neth (1973) for 11th graders, there were striking sex differences among the junior college students in terms of occupational choices.
Harmon (1971) reported that, for 1188 college freshmen women studied in 1968, a restricted range of occupations was considered early in life. Typically feminine occupations were the most persistent preferences of the group.

Karman (1973) studied the career choices of 1646 upper class women from 38 institutions of higher education. She found that 109 (seven percent) of the students expressed career aspirations in fields which were not traditionally women's fields. The non-traditionals tended to be from families of higher socioeconomic status. Fifty-two percent of sample expressed aspirations for teaching. Apparently, the lessening demand for teachers has not yet been considered by many of the students who are only a year or two away from trying to find a job as a teacher. Nineteen percent of the women in the sample gave a "don't know" response to the question of their career aspirations.

**Minority Group Occupational Choice and Aspirations**

Although it can be assumed that minority group persons are represented in the national studies cited above in proportion to their enrollment at the level being studied, there is some specific evidence about the occupational aspirations and choices of minority group people.

A national profile of black youth in the class of 1971 (high school) was prepared by the National Scholarship Service and Fund for Negro Students (1972). Data were collected on over 54,000 students. Sixty percent of the students were male. Students indicated their probable careers. Over five percent of the male students' choices were in the following areas: artist (including performer), 8 percent; businessman, 14 percent; doctor (MD or DDS), 6 percent; educator (secondary), 9 percent; engineer, 13 percent; lawyer, 7 percent.
Choices which over five percent of the female students indicated were: artist, (including performer), 6 percent; businessman, 7 percent; educator (secondary), 11 percent; elementary teacher, 10 percent; health professional (non MD), 7 percent; nurse, 11 percent. Traditional sex differences were thus observable in this minority group as well as in the population as a whole.

Berman (1972) studied the graduating class of an all-girl public high school in New York City. Of the 545 students, 29 percent were black, 29 percent Puerto Rican, 21 percent Chinese, and 21 percent white. Berman found that over 50 percent of the graduates desired to enter the traditional female occupations of secretary, nursing and teaching. The Black group showed a preference for nursing, while the Puerto Rican and White groups preferred secretarial work. The Chinese group showed a preference for teaching and bookkeeping.

Littig (1971) studied 300 women, 100 enrolled in a white middle class college, 100 in a black middle class college, and 100 in a black working class college. He found that the white subjects were more undecided with respect to either real or ideal occupational goals than the black subjects and that the black women significantly more often than the white women aspired to occupations traditionally closed to women, both in terms of real and ideal occupational goals.

**Attitudes Towards Women's Role Options**

Entwisle and Greenberger (1970) studied the responses of 270 boys and 305 girls, ninth graders in seven schools of various socioeconomic and ethnic composition in Baltimore, to questions on women's roles. Girls expressed more liberal views than boys on whether women should work, hold the same jobs as men and derive satisfaction from problem solving. However, both groups responded negatively when questioned about women holding "men's" jobs.
The greatest disparity existed on the question of whether women should work at all, with girls responding positively and boys negatively. Among the boys, blacks were more liberal than whites and middle-class whites were more liberal than blue-collar whites. A greater discrepancy was found between middle-class girls and boys than between blue-collar girls and boys, with the middle-class sex difference especially marked among the high IQ group.

Greenberg (1972) studied the attitudes towards increased social, economic, and political participation by women of 1600 fourth, sixth, eighth, and tenth graders from four different social classes and found that social class was not a factor. Females and upper grade students were more likely to give egalitarian responses than males and lower grade students. Greenberg concluded that female students see women more positively and optimistically than do males and they are more favorable to the concept of social change which will grant women greater participation in the social, economic and political spheres.

Meier's (1972) study of college youth's attitudes toward social equality for women found female undergraduates ($N = 99$) scoring higher on feminine social equality than male undergraduates ($N = 120$). She also found that where the mother predominates in the attitudinal socialization of the child and when the mother exhibits involvement in occupational roles outside the home that the males were more positive about female social equality. If this finding is generalizable, then as more women enter the work world, the attitudes of their children will become more accepting of their right to be there.

**Where Do We Go From Here?**

The evidence seems to indicate that many occupations are considered "appropriate" for only one sex. The expressed choices of students reflect the "sex-appropriateness" of many occupations. Can (or should) interest inventories lead students to consider a wider array of career options? Interest inventories
are only one of the tools which are used in career guidance and career
guidance is often received by students from individuals other than guidance
counselors. Research in which interest inventories are used along with other
techniques in providing career guidance can give some answers to the question
of how both boys and girls, young men and women can be influenced to consider
a wider array of career options.
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Meier, H. C. Mother-centeredness and college youths' attitudes toward social equality for women: Some empirical findings. *Journal of Marriage and the Family*, 1972, 34, 115-121.

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