

From the Editor

This first issue of the *Journal of Vocational Home Economics Education* represents the hopes and aspirations of the membership of the National Association of Vocational Home Economics Teacher Educators as well as members of the Home Economics Division's Research Committee. The Division Policy and Planning Committee has endorsed the endeavor.

The process of creating a journal is interesting and challenging. As we respond to the needs of our readership, it is to be expected that the *Journal* will evolve. Nevertheless the essential elements are here. We believe we can respond appropriately to the professional community we intend to serve.

This first issue of the *Journal* includes the first papers to be accepted in final edited form. They represent a good cross-section of interests. As we begin to have a backlog of manuscripts and can find that themes are developing, we may capitalize on that occurrence. We will accept critical analyses of papers that appear in the *Journal*, and will consider commentary, book reviews, and other related contributions for inclusion in future issues.

The review panel will be expanding with each new issue. If you wish to be considered for this role, please send your vita to me and indicate your area of interest. Members of the National Association of Vocational Home Economics Teacher Educators who hold tenured positions in their institutions and have a record of publication will be eligible for election to the panel by the editorial board. NAVHETE members with equivalent credentials also will be given consideration.

Betty Ray

SEX EQUITY ATTITUDES OF SECONDARY SCHOOL HOME ECONOMICS TEACHERS

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The central problem of this study was a determination of the structure of secondary home economics teachers' sex equity attitudes. The Sex Equity Attitude Questionnaire was completed by 215 Utah teachers (69% of teachers in the state). As predicted, factor analysis indicated that the overall sex equity attitude is composed of a number of distinct and substantially independent contributing attitudes. The independent variables of age, experience, and level of teaching assignment were analyzed by analysis of variance and were found to affect teachers' attitudes toward "Family Life," "Woman's Role in Family," and "Employment" items. Age and experience acted in opposition to produce a complicated pattern. Implications for teacher preservice and inservice education are discussed.

Sex-role standards exist as a part of the complex structure of the human socialization process. In the

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past, most psychologists have accepted sex roles as essential to proper personality development and function. However, as social change has challenged traditional sex-role patterns, psychologists have investigated and determined limiting or otherwise detrimental effects of socially imposed sex-role standards (Broverman, Vogel, Clarkson, and Rosenkrantz, 1972; Tavris, 1977; English, 1977).

Recognition of problems of sex discrimination and sex stereotyping resulted in federal legislation requiring sex fairness in federally funded programs. Title IX of the Education Amendments of 1972 prohibits sex discrimination in educational programs. Title II of the Education Amendments of 1976 requires active measures to eliminate sex bias, stereotyping, and discrimination from vocational education programs. However, Schenck (1977) reported enrollment figures of males and females in vocational programs which suggest that progress in compliance with the regulations has been slow. The elimination of sex bias and sex stereotyping may be a difficult mandate to accomplish, since it requires not simply a change in programs, but a change in human attitude and behavior (Stevenson, 1977).

Vocational educators are a key influence on students (Rieder, 1977). Teachers maintain a major role in developing and supporting students' sex-role values and standards. Research studies indicate that teacher expectations, behaviors, and teaching activities produce changes in attitudes and achievement of students (Brophy and Good, 1974; Guttentag and Bray, 1977; National Education Association, 1973). The teacher can be a vital agent in breaking the cycle of sex stereotyping in education and society. He or she can also increase students' stereotyped attitudes and expectations. A recent review by Farris (1977) of eight different studies on this topic indicated that both teachers and counselors tend to support traditional sex roles. Although teachers have been made aware of the need for sex equity in education, many writers contend that they are generally not willing to

make specific, personal commitments to change (Griffin and Kelly, 1978; Ricks and Pyke, 1973; Silver, Podernski, and Engin, 1977). This suggests that current teacher attitudes are not in agreement with the proposed changes in behavior. The production of curriculum materials and programs will not serve to diminish sex bias unless educators desire to participate in training and incorporate the materials and resources in their teaching. The attitudes of teachers must be supportive if the desired behavioral changes are to be achieved (Masters and Laverty, 1977; Stern and Keislar, 1977).

Changes in teacher attitude are needed in order to promote more commitment to specific action to eliminate sex bias and sex stereotyping. Sex-role attitudes are based on a lifetime of experience and may be resistant to modification especially with short-term change efforts, such as inservice education. Oskamp (1977) reports that attitudes are learned and that a number of different factors can operate in the acquisition process. In order to design effective educational programs for attitude change, it is necessary to study attitude formation and to identify important factors in the development of attitudes.

Cunningham (1980) reported significant differences in the attitudes of vocational educators according to type of position held. Strategies for the elimination of sex bias and sex stereotyping in educational programs would be most effective if developed utilizing data on the current attitudes of the specific groups to be involved in the change process. More research about the nature of sex equity attitudes is needed before programs can be successfully developed for initiating change (Stevenson, 1977). For example, current literature does not indicate whether sex equity attitudes of teachers are simple or have complex components. Knowledge of the structure of sex equity attitudes could assist in the design and evaluation of training for teachers. Also, it is not clear what effect various life experiences or situations contribute to sex equity attitudes. Little is known about the effects of teaching experience and age on

sex equity attitudes. Literature has addressed the issue of gender with consistent results. Studies report that male vocational educators hold more traditional sex equity attitudes than do their female counterparts (Cunningham, 1980; Farris, 1977).

The main purpose of this study was to determine the factor structure of home economics teachers' attitudes concerning sex equity topics. To this end a confirmatory factor analysis, using predicted categories of distinct and substantially independent contributing attitudes, was made, followed by an exploratory factor analysis of the same data. The predicted structure of sex equity attitudes was derived from a pilot study. A second purpose of the study was to estimate the magnitude of the influence of the independent variables of age, teaching experience, and level of teaching assignment on teachers' sex equity attitudes.

Method

Problem

The central problem of this study was a determination of the structure of secondary home economics teachers' sex equity attitudes. A prediction was made that the overall attitude is composed of five significantly distinct attitude categories: Family Life, Interpersonal Relationships, Education, Employment, and Legislation. A collateral study question pertained to the effects of teachers' gender, age, experience, and assignment level on sex equity attitudes.

Research Design

The research design for the study included confirmatory and exploratory factor analyses. It also included a causal-comparative analysis of subscale and factor scores as dependent variables, and age, teaching experience, and level of teaching assignment as independent variables (Borg and Gall, 1979).

Instrument

The instrument for the study was a 29-item, Likert-type

questionnaire with a seven-point response scale. The anchor points for the responses were extremes of "strongly agree" and "strongly disagree." The items were constructed from literature and a pilot study to represent pertinent sex equity topics. These items were predicted to factor into five categories, representing subscales of the total instrument. The categories and the items predicted for each category are presented in Table 1. The total instrument had a scale score reliability of .79 (Cronbach's alpha reliability estimate). This reliability is relatively low for a 29-item objective instrument; thus an important factor structure is suggested. Demographic data solicited by the instrument were: gender, age, years of teaching experience, and level of teaching assignment (junior high, senior high, or both).

Sample

The entire population of secondary home economics teachers in Utah, a group of 313 teachers in 155 schools, was contacted by mail for the study. The questionnaire was returned by 215 subjects (69%). All respondents were female, thus eliminating gender as an independent variable.

Data Analysis

Data analyzed in the study included scaled item scores (value of response changed to reflect positive or negative sex equity attitudes), category or subscale scores, and demographic data. The factor analysis was of principal components with iterations (limit 25) with varimax orthogonal rotation and a scree test for reduction of factors. The causal-comparative analysis was an analysis of variance (ANOVA) which yielded values of F, p, and explained variance (β and multiple R^2). Total scale scores were not analyzed because of the strong factor influence of the instrument.

Findings

Factor analysis of the questionnaire scale scores identified 10 factors, as presented in Table 2. Use of

Table 1
Predicted Categories of Items for Factor Analysis

Family Life	
1.	Even though it is not always possible, the ideal type of marriage is one in which the father works and the mother stays home with the children.
6.	Husbands and wives should have equal responsibility for wage earning.
11.	Husbands and wives should have equal responsibility for household maintenance.
16.	Husbands and wives should have equal responsibility for child care.
21.	The husband should be regarded as the legal representative of the family group in all matters of law.
26.	Women should worry less about their rights and more about becoming good wives and mothers.
29.	A woman should be willing to leave her job and follow her husband's job.
Interpersonal Relationships	
3.	Obscenity and swearing are more repulsive in the speech of a woman than a man.
8.	A woman should be as free as a man to propose marriage.
13.	I would encourage my daughter to take the initiative in dating.
18.	Men should continue to extend courtesies to women such as holding the door open, or helping them with their coats.
23.	I am more comfortable in an interpersonal relationship in which the man has attained an equivalent or higher educational level than the woman.

Table 1 (Continued)

Education	
2.	Education should help students fit into society's expectations of how men and women should behave in order for them to live a happy life.
7.	It is easier to develop coursework and teach all-girls or all-boys classes rather than coed classes.
12.	Home economics classes with a majority of males enrolled need to be structured differently with regards to curriculum and activities.
17.	I don't consider it masculine for males to enroll in child development and interior design courses in high school.
22.	It is important that sex stereotyping and sex discrimination be eliminated from education.
27.	Elimination of sex stereotyping and sex discrimination in vocational programs will not provide the student with a realistic preparation for the working world.
Employment	
4.	An employer is justified in being reluctant to give a job to a woman who has small children at home.
9.	All jobs should be open to both women and men.
14.	I feel men are more acceptable than are women in supervisory positions.
19.	There are many jobs in which men should be given preference over women in being hired or promoted.
24.	Women are too emotional for some jobs.

Table 1 (Continued)

Legislation	
10.	Women should be willing to be drafted in the armed services as well as men.
15.	Legislation is an effective way to decrease sex-role stereotyping in the schools.
20.	The same results that Title IX has achieved in eliminating sex discrimination in educational programs could have been achieved without it.
25.	Bothering about the word usage, such as chairperson instead of chairman, is nitpicking and a waste of time.
28.	My attitude toward sex roles and sex stereotyping has changed due to the passage of sex equity legislation.

the scree test reduced this number to six factors, which together accounted for 82% of the explained variance.

Table 2
Factors Identified in Factor Analysis

Factor	Eigenvalue	Percent Variance	Cumulative Percent
1	4.38	33.0	33.0
2	1.91	14.4	47.4
3	1.45	10.9	58.4
4	1.22	9.2	67.6
5	1.06	8.0	75.6
6*	.86	6.5	82.0
7	.68	5.2	87.2
8	.62	4.7	91.9
9	.59	4.5	96.4
10	.48	3.6	100.0

*Scree test cut-off.

The six factors, the three highest loading items on each factor, and the predicted category for each of these items are presented in Table 3. Factors 1, 2, 3, and 6 had high loadings from items which were predicted to load distinctly into topical categories similar to the factor labels; e.g., Legislation category items loaded on Factor 4, "Sex Equity Legislation." Interpersonal Relationships and Employment categories were less clearly predicted, but also were distinct. Factor 5 had high item loadings from employment and interpersonal relationship items. Items from the Family Life category loaded on two factors (1 and 2), which suggests that this topic represents a more complicated category than do the others.

Predicted category scale scores and factor scores were subjected to ANOVA in order to test significance of differences in scores and to determine explained variance according to the independent variables of age, experience, and teaching level. Factor 1, "Woman's Role in Family," and the Family Life and Employment categories showed statistically significant ($n < .05$) main effect differences

Table 3

Questionnaire Scale Factor Analysis: Factors, Item Loadings, and Item Predicted Categories

Item	Factor Loading	Predicted Category
Factor 1: "Woman's Role in Family"		
1. Even though it is not always possible, the ideal type of marriage is one in which the father works and the mother stays home with the children.	.72	Family Life
26. Women should worry less about their rights and more about becoming good wives and mothers.	.58	Family Life
29. A woman should be willing to leave her job to follow her husband's job.	.49	Family Life
Factor 2: "Aggressiveness of Women"		
13. I would encourage my daughter to take the initiative in dancing.	.69	Interpersonal Relationships
8. A woman should be as free as a man to propose marriage.	.61	Interpersonal Relationships
10. Women should be willing to be drafted in the armed services as well as men.	.57	Legislation
Factor 3: "Husband-Wife Responsibility in Family"		
11. Husbands and wives should have equal responsibility for household maintenance.	.80	Family Life
16. Husbands and wives should have equal responsibility for children.	.55	Family Life
6. Husbands and wives should have equal responsibility for child care.	.43	Family Life

Table 3 (Continued)

Item	Factor Loading	Predicted Category
Factor 4: "Sex Equity Legislation"		
28. My attitude toward sex roles and sex stereotyping has changed due to the passage of sex equity legislation.	.69	Legislation
20. The same results that Title IX has achieved in eliminating sex discrimination in educational programs could have been achieved without it.	.56	Legislation
15. Legislation is an effective way to decrease sex-role stereotyping in the schools.	.53	Legislation
Factor 5: "Emotional Stability in Employment"		
24. Women are too emotional for some jobs.	.74	Employment
23. I am more comfortable in an interpersonal relationship in which the man has attained an equivalent or higher educational level than the woman.	.57	Interpersonal Relationships
19. There are many jobs in which men should be given preference over women in being hired or promoted.	.36	Employment
Factor 6: "Sex Stereotyping in Education"		
12. Home economics classes with a majority of males enrolled need to be structured differently with regards to curriculum and activities.	.63	Education
7. It is easier to develop coursework and teach all-girls or all-boys classes rather than coed classes.	.50	Education
2. Education should help students fit into society's expectations of how men and women should behave in order for them to live a happy life.	.41	Education

for these variables. Means and standard deviations for these two categories and factor scores for Factor 1 are presented in Table 4. Other categories and factor scores were not statistically significant. Explained variance for the significant scores ranged from 10.7 to 15.3%. Table 5 presents F, p, and explained variance values for these scores.

Table 4
Means and Standard Deviations of Family Life and Employment Categories and Factor 1 Scores by Age and Experience

Family Life Category					
Age	\bar{X}	(SD)	Experience in Years	\bar{X}	(SD)
20-25	26.74	(6.69)	0- 3	26.30	(6.22)
26-35	31.44	(8.50)	4- 8	31.41	(9.10)
36-45	31.03	(8.61)	9-14	30.86	(8.22)
46-55	29.09	(7.28)	15-20	30.96	(7.56)
56-65	28.95	(7.68)	Over 20	31.07	(6.93)

Employment Category		
Age	\bar{X}	(SD)
20-25	25.15	(5.49)
26-35	26.97	(5.22)
36-45	26.12	(6.71)
46-55	22.56	(6.24)
56-65	24.79	(5.37)

Factor 1: "Woman's Role in Family"			
Age	Factor Score	Experience in Years	Factor Score
20-25	-.24	0- 3	-.29
26-35	.19	4- 8	.12
36-45	.08	9-14	.19
46-55	-.15	15-20	.03
56-65	-.03	Over 20	.15

Table 5
ANOVA Results for Significant Differences in Scale Scores

	F	p	Percent Explained Variance
<u>Family Life Category</u>			
Main effects	3.62	.01*	15.3
Age	2.64	.04*	9.6
Experience	3.14	.02*	15.2
Level	3.31	.04*	2.9
<u>Employment Category</u>			
Main effects	2.42	.01*	10.7
Age	3.50	.01*	9.0
Experience	1.48	.21	4.0
Level	.77	.46	0.6
<u>Factor 1</u>			
Main effects	3.26	.01*	13.9
Age	2.59	.04*	10.2
Experience	2.82	.03*	13.7
Level	3.64	.03*	3.2

*Statistically significant, < .05.

Discussion

Factor analysis of the scale scores indicated that the sex equity attitudes of home economics teachers are comprised of a number of independent factors and are quite complex. Due to this independence, an individual may score high on one particular factor and low on another. Therefore, total scores do not provide a precise measurement as in the case of a single, global attitude. An implication of this finding for vocational educators is that educational strategies to eliminate sex bias, stereotyping, and discrimination may be more successful when focused on one or more particular factors. An implication for researchers is that instruments should be developed and tested for in-depth analysis of independent attitude factors, such as legislation or education, rather than assessment of a single overall attitude.

The confirmatory factor analysis was close to

prediction. However, the Family Life category appears to be more complicated than predicted and the Interpersonal Relationships category appears to depend on the context of the relationships. These two areas deserve more study.

The independent variables of age, experience, and level of teaching were found to have slight effects on teachers' attitudes toward the Family Life and Employment categories and Factor 1, "Woman's Role in Family" items. Age and experience interacted to produce a complicated pattern: positive attitudes increased with experience but decreased with age (experience was the stronger variable). A likely explanation for this finding is that "real-life" professional experience increases one's preferences and beliefs about equity, but it is the younger group of teachers who have developed during a time of greater consciousness for equal conditions for the genders. These variables counteract within individuals, with experience being the dominant factor.

Home economics teacher educators should consider the implications of age and experience patterns of findings when developing teacher training curriculum in vocational and sex equity education. Since family life courses are an important aspect of the home economics curriculum and significant differences in teachers' attitudes are indicated, further research may be needed to determine interrelationships between the teacher's personal attitudes on family life and classroom instruction in family life classes.

Although this study only included teachers from Utah, other studies and surveys suggest that Utah home economics teachers are not unlike their counterparts from other states (Hughes, Rougvie, and Woods, 1980; Trenbeath, 1981). Thus, the findings of the study have implications for educators elsewhere.

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