

## Sex-role Attitudes and the Employment of Married Women —A Detroit Area Study\*\*

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### Problem

In the U. S., men's and women's attitudes toward sex roles have experienced dramatic changes since the late 1960s (Ferree, 1974; Mason et al., 1976; Thornton and Freedman, 1979; Thornton et al., 1983; Tallichet and Willits, 1986). Conventional attitudes supporting traditional division of labor between men and women have waned and been replaced by egalitarian ideas supporting equality between the sexes.

This study focuses on the causes and consequences of married women's attitudinal changes. While there is no generally accepted theory concerning the process of sex-role change, most literature suggests that the social condition within which traditional sex roles are challenged is the major factor in sizable change--i.e., Changes in economic and political structure, changes in family and interpersonal relations, and rising levels of women's educational attainment and labor force participation (Mason et al., 1976; Smith-Lovin and Tickamyer, 1978; Thorn and Freedman, 1979). Among these, the sharp increase in women's labor force participation represents one of the most significant changes. Since World War II, the number of women in the labor market has surged; the percentage of married women with jobs has increased from 15% in 1940 to 54.5% in 1985 (U. S. Bureau of the Census, 1986).

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A substantial proportion of literature has documented the relationship between changes in sex-role attitudes and women's labor force participation. Some researchers have argued that the experience of women in the labor market has led to changes in their attitudes toward sex-roles (Spitze and Waite, 1980; Molm, 1978); other studies have suggested that a shift in gender ideology has caused the influx of women into the labor force (Spitze and Spaeth, 1976; Waite and Stolzenberg, 1976). However, with few exceptions, most of these studies have not examined the nature of causality between labor participation and changes in sex-role attitudes.

According to most of the classical literature on attitudes --such as Allport (1935) -- attitudes may influence behavior to which they are related. This perspective suggests that women's employment is affected by sex-role attitudes which are the results of the socialization process. Women with traditional attitudes toward sex roles may restrict their working outside, while those with more egalitarian attitudes tend to have greater chance of entering the labor force.

However, the reverse is also possible; many studies have indicated that an individual's attitude may be the result of adjustments in their employment status (Molm, 1978; Thornton et al., 1983). For example, economic forces may impel women with children to enter the labor force regardless of their prior socialization or current normative situations, thereby rendering their attitudes toward sex roles consistent with their attitudes toward work roles. From this perspective, changes in sex-role attitudes are the results of adjustment rather than socialization.

This paper addresses the issue of causality, that is, whether women's sex-role attitudes are more likely to influence or be influenced by their employment--or whether both work and sex-role attitudes are equally influential to each other. The present study is based on a survey sample from 1985 Detroit Area Study. As a cross-sectional survey research with purpose of exploring a causal relationship, the analytical procedure used is crucial in differentiating the direction of causality, hence this study will discuss the analytical models and examine the possible bias of those models after presenting the results of analyses.

### **Literature Review**

The substantial literature on sex-role attitudes and women's employment demonstrates a common concern for feminist ideology. In contrast to traditional stereotypes, feminism is

characterized by egalitarian definitions of sex roles. Most of the literature on sex-role attitudes and women's employment was published after the late 1960s. Apparently the increased interest of sociologists and psychologists in the study of women's roles and employment was aroused by the Women's Liberation and Women's Rights Movements. Much of this research, however, focused on populations of college students, since the sex-role orientations of this young, unmarried, well-educated group are more sensitive to societal ideological change. Those studies described the influences of individual psycho-social characteristics and environmental factors on attitudes toward sex roles. Only very few studies included the relationship between sex-role attitudes and women's employment (Dowdall, 1974; Mason and Bumpass, 1975; Waite and Stolzenberg, 1976; Spetze and Spaeth, 1976; Thornton et al., 1983).

Generalizing from the previous literature, at least three traditions of theories have been offered to explain the relationship between women's sex-role attitudes and employment. The socialization perspective is congruent with classical attitude literature in claiming that a woman's attitudes toward sex roles are the result of early socialization processes, and that sex-role attitudes may, in turn, lead to later employment. Cognitive-dissonance and exchange perspectives, however, argue that a woman's employment may change her attitudes toward sex roles.

From the socialization perspective, sex-role attitudes are the result of socialization processes, and this inclination may further affect a woman's participation in the labor force. As suggested by many studies, the major factors in the socialization process which determine a person's sex-role orientations are parental family background, and the respondent's educational attainment (Tangri, 1972; Mason and Bumpass, 1975; Safilios-Rothschild, 1979; Eshleman, 1974; Epstein, 1976). Those studies suggested that women with more egalitarian attitudes toward sex roles were more likely to have job skills and aspirations to work, and therefore were more likely to participate in the labor force (Fogarty and Rapoport, 1971; Tangri, 1972; Bielby, 1978; Waite and Stolzenberg, 1976). Further, Herzog and Bachman's 1982 study of high school seniors showed that sex-role attitudes are a major intervening factor between socialization on the one hand, and various plans (including occupational and family plans) on the other. Spitze and Spaeth (1976) analyzed sex role/employment relationships based on longitudinal data; they suggested that sex-role attitudes held in 1964 affected employment in 1968. However, their measurements of sex-role attitudes may be problematic, since only a single attitude item was available for their analysis.

However, the cognitive-dissonance perspective (Festinger, 1957), suggests that behavior will lead to attitudes which support it. According to this perspective, an individual's subject-

tive attitudes regarding sex roles are adjusted to conform to actual behavior and environment. Thus, women's employment experiences modify their sex-role attitudes. According to Bielby (1984), as married working women found themselves constrained by particular patterns of work and family responsibilities, they changed their affective attachments to the roles so that their attitudes were consistent with those constraints.

Oppenheimer (1973) also suggested that the very fact that more women are now working, even while their children are young, may mean it has become increasingly difficult for them to believe that this activity is harmful for marriage or for their children's well-being. Therefore, women's employment may undermine sex-role attitudes which rationalize traditional divisions of labor by sex.

The exchange perspective, in line with the cognitive dissonance perspective, also suggests that an individual's sex-role attitudes are dependent upon their perceptions of the costs and rewards of maintaining gender roles (Davis and Van den Oever, 1982). This perspective argues that individuals are inclined to support egalitarian gender roles if they believe they will profit from such role arrangements, or if they find traditional roles of the sexes increasingly costly. Such a perspective predicts that with more options available to a woman, the more she will forego rewards in order to maintain traditional roles. On the other hand, women who are supportive of egalitarian sex-roles are likely to be those having alternative rewards from labor force participation, and therefore, more likely to support less-stereotypical sex roles than non-working women (Morgan and Walker, 1983).

As stated above, the socialization perspective predicts sex-role attitudes may affect a woman's participation in the labor force, while the cognitive-dissonance and the exchange perspective predict that a woman's sex-role attitudes are dependent upon her employment status. While the previous studies and theories have no consistent conclusion about the causal relationship between women's employment and their sex-role attitudes, several recent studies have investigated a reciprocal causation hypothesis between them. Molm's (1978) cross-sectional study, based on a single cohort of married women, suggested that there is a small effect occurring in one direction from women's employment status to attitudes; however, they claimed that no effect in the opposite direction is taking place. Thornton et. al. (1983), using data from an eighteen-year panel study of women and their children, showed that attitudes toward sex roles influenced subsequent participation in the labor force, while work experience influenced subsequent sex-role attitudes. Continuing this line, the present study aimed to clarify the causality between sex-role attitudes and employment, based on a theoretical framework and analytical models which are different from the previous studies.

## Data

This study employed data from the 1985 Detroit Area Study (DAS). The 1985 DAS focused on the life events and mental health of married couples. The data included family background, social life, home and work, health, and life events. Although the study was not explicitly designed to study women's sex-role attitudes, it contained useful item for this study, including women's work, sex-role attitudes, and family background. In addition, the data on life events provided the necessary "instrumental variables" for an analysis of the causal relationship between married women's employment and sex-role attitudes in a two-stage least square model which will be described later.

The sample of the 1985 DAS included 1755 noninstitutional married men and women living in the Detroit metropolitan area based on a multistage area probability design. Part of the sample was composed of one spouse in a household, (which I refer to as "individual sample"), while another part of the sample was composed of both spouses in a household (this I refer to as "couple sample"). A subsample of 250 married women from the couple sample was used for this study, since the study required information regarding both spouses.

## Method and Theoretical Framework

As stated earlier, the major purpose of the present study is to explore the causal relationship between sex-role attitudes and employment. The hypothesis of reciprocal causation requires investigation of a nonrecursive relationship. Two-Stage Least Squares (2SLS) analysis allows one to estimate regression coefficients in a non-recursive model, and thus was employed for this study.

A nonrecursive model contains overidentified structural equations, among the two reciprocal related variables, the error term of one endogenous variable tends to correlate with other endogenous variables. Therefore, the regression coefficients from an Ordinal Least Squares (OLS) estimation are no longer consistent. To remedy this difficulty, the 2SLS strategy calculate the OLS estimate of the endogenous regressor (X) based on instrumental variables which are theoretically correlated with X but uncorrelated with the error term, then replace X with its estimate and use OLS on this revised equation--that is, regress the dependent variable on the estimate instead of the original regressor (Duncan, 1975).

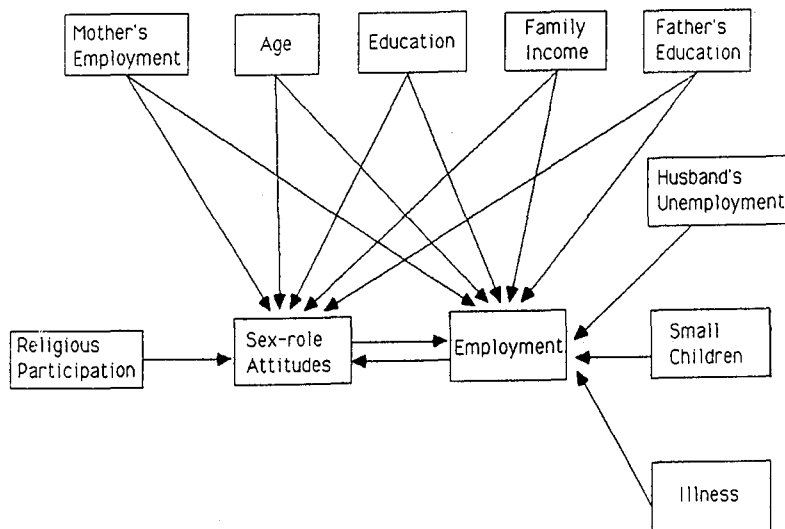
In our nonrecursive model, one of the endogenous variables--Employment Status--is

qualitative variable. One may worry that applying linear structural-equation model on qualitative dependent variable would violate homoskedasticity assumption (Duncan, 1975:161). However, the 2SLS estimator is generally distinct from the OLS estimator: since the instrumental variables are uncorrelated with the error the 2SLS strategy may remedy the heteroskedasticity problem to some extent. It should be mentioned that the logit models which are usually applied in case of dependent qualitative dependent variable is not fit for recursive models. Fienberg (1985) has shown that it is not possible to set up nonrecursive systems of logit models for qualitative variables, with properties resembling those of the nonrecursive systems of linear structural equations. Brier (1978) has also shown that reciprocal effects can never be separated in systems of simultaneous logit models. Thus it seems that the 2SLS strategy may be a better choice in this study. In a similar analysis of a nonrecursive model involving qualitative dependent variable, Molm (1978) also applied 2SLS strategy.

In our nonrecursive model, the theoretical requirements for instrumental variables for sex-role attitudes in the equation predicting employment are: (1) being highly correlated with sex-role attitude, and (2) having no direct effect on employment status. The requirements for the instrumental variables for employment in the equation prediction sex-role attitudes are: (1) being highly correlated with employment status, and (2) having no direct effect on sex-role attitudes.

The 2SLS model employed in this study is presented in Fig.1. In this model, the endogenous variables are employment status and sex-role attitudes, which theoretically affect each other. In addition, there are three classes of exogenous variables:

Fig. 1. The 2SLS Model



- (1) Predetermined variables with direct effects on both employment and sex-role attitudes. The family background and personal characteristics which were shown in previous literature to have significant effects on both women's employment and sex-role attitudes are included in the analysis model, including: educational attainment, age, mother's employment status, socio-economic status of parental family, and socio-economic status of current family.
- (2) Predetermined variables with direct effects on sex-role attitudes, but without direct effects on employment status, i.e., religious participation.
- (3) Predetermined variables with direct effects on a wife's employment status, but without direct effects on her attitudes toward sex role, i.e., husband's unemployment, presence of children under three, and wife's illness. Exogenous variables (2) and (3) are instrumental variables.

The variables in the 2SLS model are described in the following section; the sample distribution of these variables is shown in Appendix 1.

### **Sex-role Attitudes**

The endogenous variable, sex-role attitudes, is indicated by four statements concerning the roles of wife and mother, as well as the sexual division of labor within the family:

- 1) "A working mother can establish as warm and secure a relationship with her children as a mother who does not work."
- 2) "It is much better for everyone if the man earns the main living and the woman takes care of the home and family."
- 3) "It is more important for a wife to help her husband's career than to have one herself."
- 4) "Most of the important decisions for the family should be made by the man of the house."

Each respondent was asked to indicate whether they strongly agreed, agreed, disagreed, or strongly disagreed with these statements. The distribution of responses is shown in Appendix 1. The result of factor analysis showed that these four items are all in one dimension. One factor is extracted which is based on a principal components analysis with rotation of a varimax criterion. This factor accounts for 57.3% of the total variance. The reliability of Cronbach's Alpha is .744.

### Employment Status

The other endogenous variable, employment status, is a dichotomous dummy variable, indicating whether or not a respondent is working. Those respondents either temporarily unemployed or laid off are both included in the category of 'working', since the interest of this study is in how women's sex-role attitudes and identification with being part of the work force--rather than her actual current work status--are related to her sex-role attitudes. The sample distribution showed that, excluding retirees and students, 51.2% of 250 respondents were working, and the rest (48.8%) were not working at all.

The next concern is with the exogenous variables. The rationale for and measurement of the exogenous variables are as follows:

### Educational Attainment

Educational attainment is proposed to affect both sex-role attitudes and employment status. Many studies have found women's education to have a significant positive effect on women's labor force participation (Bowen and Finegan, 1969; Sweet, 1973). Education can also be a liberalizing factor since it provides access to new ideas and aspirations thus better-educated women may have more egalitarian attitudes than other women (Thornton et al., 1984; Mason et al., 1976). Educational attainment was measured by the number of years of formal schooling each respondent had completed by 1985; the range was from 0 to 17. The average for the sample was 13.3 years. Within the sample, 40% were high-school graduates, and 38.9% had attained 13 to 16 years of schooling.

### Age

Age was suggested by previous literature to have negative effect on women's sex-role attitudes in that older women support the traditional roles of the sexes more strongly than younger women do (Ryder, Mason et al. 1965; 1976; Morgan and Walker, 1983). Furthermore, Thornton et al. (1984) indicated that age affected sex-role attitudes indirectly by its negative effect on women's work experience that younger women have more egalitarian attitudes because they had more work experience. Thus age is considered as exogenous variables to both employment status and sex-role attitudes. In this study age was measured as the respondent's age at the time of interview. The average age of the sample was 42.6 years.



### **Mother's Employment**

Mother's employment is considered as an exogenous variable to both sex-role attitudes and employment status. The evidence from previous literature shows that mothers' employment has a modeling effect on daughter's role orientation thus the daughters of working mothers tend to have more egalitarian attitudes toward sex-role (Tangri, 1972; Douvan, 1963). Theoretically it is also possible that mothers' work has a direct effect on daughters' employment status since daughters with working mothers may more likely to have access to job skill and work opportunities. Mother's employment is a dichotomous variable indicating whether the respondent's mother was working for pay outside the home during the time period the respondent was growing up. Forty-five percent of the sample reported that their mothers worked for pay while they were growing up.

### **Father's Education**

Father's education serves as an indicator of the socioeconomic status of the parental family. Evidence on the effects of parental family background on daughters' sex-role attitudes in previous literature, however, has not yielded consistent conclusions. Several studies have suggested that people who grow up in a higher socioeconomic class tend to support non-traditional sex roles, while those from working class backgrounds are likely to support traditional sex-role stereotypes (Mason and Bumpass, 1975; Safilios-Rothschild, 1979), since upper class people are more likely to have access to enriching experiences and therefore to gain broader conceptions concerning sex roles. Other studies have suggested the reverse: that people from families with higher socio-economic statuses are more likely to support traditional sex roles than those from lower-status families (Kreps, 1971; Blood and Wolfe, 1960). These studies argued that parents with higher socioeconomic statuses portray traditional sex roles more than do parents with lower socioeconomic statuses, since a husband with higher occupational status is less likely to have a working wife, and who may also experience greater work demands that keep him from involvement in familial chores. On the other hand, it is also possible that family socioeconomic status may exert a direct effect on daughter's employment status by providing access to job resources or job opportunities. Thus father's education is proposed as an exogenous variable to both sex-role attitudes and employment status. It is measured by years of formal schooling which the respondent's father had completed. The average for the sample was 11.1 years.

### Family Income

Family income serves as an indicator of socioeconomic status of the current family. As the socio-economic status of parental family may affect both a daughter's sex-role attitudes and her employment status, so may the socio-economic status of her current family do. As the same as the rationale stated above, family income may also exert mixed effects on wives' sex-role attitudes. Furthermore, family income has been shown to have significant negative effect on wives' employment since wives from lower-income family are more likely to work for economic pressure (Bowen and Finegan, 1969; Sweet, 1973). Thus family income is considered as an exogenous variable to both sex-role attitudes and employment status. It is indicated by the respondent's report of the family's total annual pretax income in 1984. Seventy-eight percent of the sample were in the \$24,000-\$75,000 range of income, with the average being \$30,000 to \$35,000; thus, this sample represented a middle class population in terms of income.

### Religious Participation

Religious participation serves as an instrumental variable for sex-role attitudes in the analysis model. In this study I used church attendance rather than religious identification as an indicator of religiosity. As suggested by previous literature, the degree of participation in a religious organization is more strongly related to one's parental values than are denominational differences (Alwin, 1986), thus it is possible that religious participation, rather than religious identification, is more closely linked to one's attitudes toward sex roles. According to Thornton et al. (1983), church attendance has a significant negative impact on one's sex-role attitudes, and the sex-role attitudes in turn, have a modest positive influence on women's labor force participation. However, no direct effect of church attendance on women's employment status has been found. Church attendance, as an indicator of religiosity, pertains to a religious orientation and belief which includes beliefs restricting women's roles to traditional ones, thus it is plausible to expect women's church attendance to have no direct causal impact on her employment status, except through her attitudes toward sex roles. Therefore church attendance is a logically adequate instrumental variable for sex-role attitudes.

Religious participation was measured by frequency of attendance at religious services. In the sample, 36.1% attended once a week or more than once a week, 32.1% less than once a month, and the remaining 18.1% never attended.

### **Husband's Unemployment Status**

Husband's unemployment (or underemployment) serves as an instrumental variable for a wife's employment status. A husband's unemployment is likely to necessitate a wife's employment; however, there is no logical basis to assume that a husband's unemployment has a direct effect on a wife's sex-role attitudes. The variable is dichotomous: those husbands unemployed, laid off, or working less than 20 hours per week versus those working more than 20 hours per week. In the sample, 8.2% of all husbands were unemployed or underemployed.

### **Presence of Small Children**

The presence of small children serves as an instrumental variable for employment. Many of the studies of women's labor force participation suggested that having small children is likely to affect a wife's employment status; a wife with young children is less likely to work outside than the wife without (Bowen and Finegan, 1969; Cain, 1966; Sweet, 1973). A few studies had examined the relationship between the presence of small children and sex role attitudes (Morgan and Walker, 1983; Huber and Spitze, 1981), but none of them found a significant relationship. Theoretically, the presence of young children has no direct effect on sex-role attitudes; it may affect women's sex-role attitudes only through its influence on employment status. In this study, the measurement of presence of small child is a dichotomous variable, based on whether the respondent had at least one child under the age of three. Twenty-two percent of the sample had at least one child under age three.

### **Illness**

Illness serves as an instrumental variable for employment status. The rationale is that a wife's illness is likely to restrict her participation in the labor market; however, there is no reason to expect the direct effect of a wife's illness on her sex-role attitudes. Illness was measured by a dichotomous variable indicating whether the respondent had a health problem serious enough to keep her from doing things normally. About eight percent of the sample had serious health problems.

## Results

In the first phase of data analysis, interrelationships between the dependent variables and determinants were examined. The zero-order correlation coefficients (Table 1) showed significant relationships between the independent variables (employment status, age, educational attainment, family income, mother's education, and religious participation) and the dependent variable of sex-role attitudes. All correlation coefficients fit in with predictions that those who were working, younger, more educated, with higher socio-economic status and with less church attendance tended to have more egalitarian attitudes toward sex roles. The determinants of employment status, sex-role attitudes, husband's employment, and religious participation are also significantly correlated with the dependent variable of employment status; those women with stronger egalitarian attitudes toward sex roles, with less church attendance, or with unemployed (underemployed) husbands were more likely to be employed.

Among the three instrumental variables for employment status, only husband's unemployment was significantly correlated with employment status. The presence of small children and respondent's illness were not significantly correlated with it; however, the correlation coefficients were as expected. The non-significant zero-order correlations between presence of small children and illness and employment status seem to be attributable to the skewed distributions of these instrumental variables. That a small proportion of the sample had small children or severe illnesses may have caused the depreciation in the correlation between those factors and employment status. Net correlation coefficients controlled for other relevant variables might be higher. These were retained in the model in order to determine whether their relationships with sex-role attitudes changed once the effects of other variables were taken into account.

Table 1. Correlation Matrix of Variables in the Model (N=139)

Sex-role Attitudes	Sex-role Attitudes	Employment	Family Income	Age	Educa- tion	Mother's Employment	Father's Employment	Religious Participation	Husband's Unemployment	Small Children	Illness
1											
Employment	.440*	1									
Family Income	.182*	.127	1								
Age	-.220*	-.004	.205*	1							
Education	.300*	.144	.349*	-.053	1						
Mother's Employment	.077	-.162	-.002	-.205*	.009	1					
Father's Education	.097	.003	.128	-.140	.374*	-.049	1				
Religious Participation	-.351*	-.183*	.072	.015	.123	-.014	-.028	1			
Husband's Unemployment	.060	.188*	-.114	.048	-.068	-.012	-.080	-.192*	1		
Small Children	.147	-.107	-.122	-.559*	.153	.076	.147	.033	.064	1	
Illness	-.141	-.099	.027	.112	-.153	-.008	-.022	-.187*	.031	-.150	1

\*Coefficient is significant at the .05 level

Results of the 2SLS analysis are presented in Table 2 and Fig. 2. The causal effect of sex-role attitudes on employment status is significant, with a standardized regression coefficient of .379, but the effect of employment on sex-role attitudes is not significant. The standardized regression coefficients showed that the effect of sex-role attitudes on employment status was two times that of the reverse effect.

**Table 2. Results of Two-stage Least Squares Estimation of Coefficients in the basic model (N=178)**

A. Dependent Variable: Sex-role Attitudes

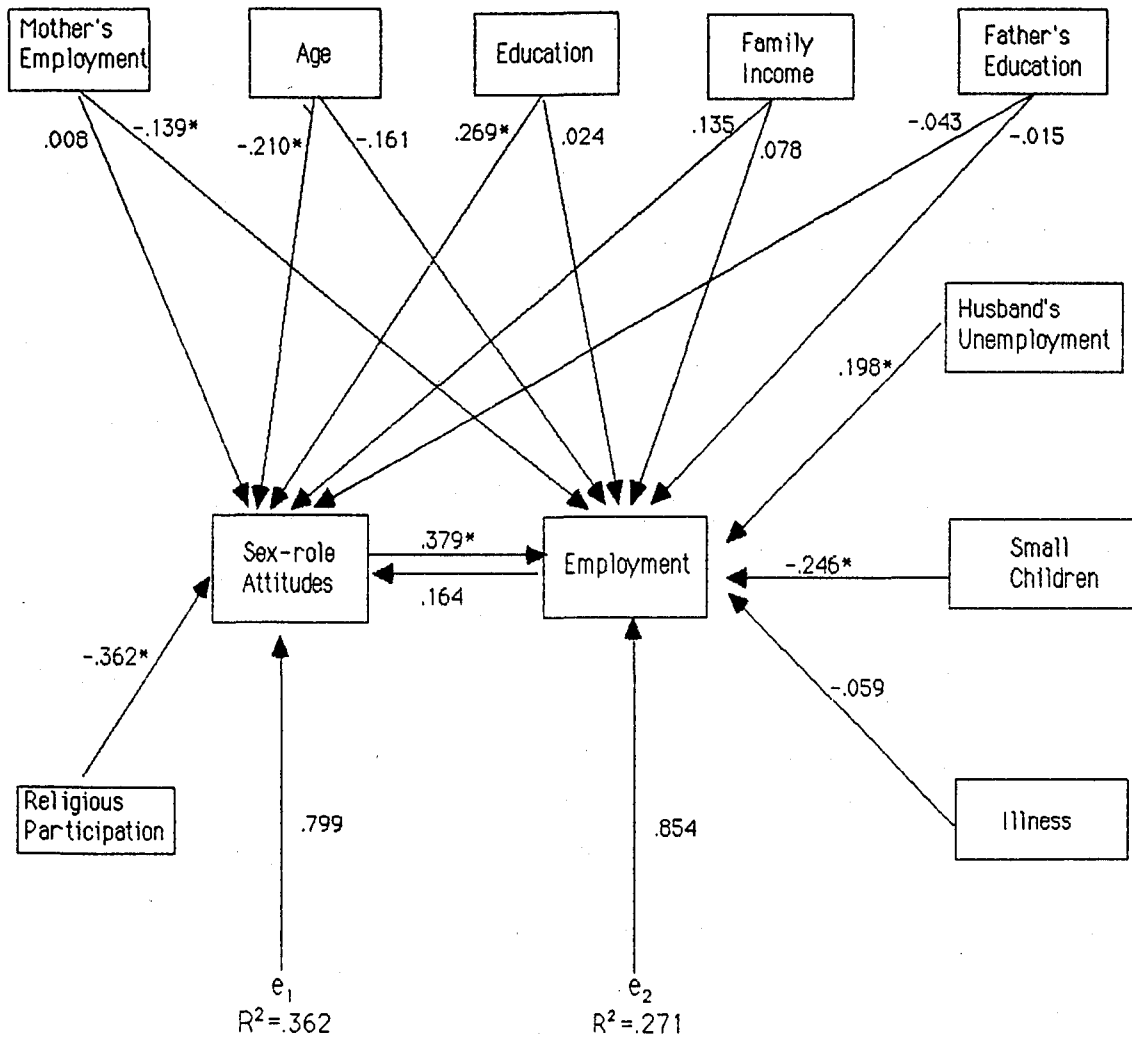
Variable	Stand. Beta	Stand. Error	t
Employment	.164	.203	.81
Education	.269	.077	3.49*
Mother's			
Employment	.008	.068	.11
Father's			
Education	-.043	.071	-.61
Age	-.210	.072	-2.92*
Family Income	.135	.069	1.95
Religious			
Participation	-.362	.075	-4.83*

B. Dependent Variable: Employment Status

Sex-role	.379	.170	2.23*
Education	.024	.087	.28
Mother's			
Employment	-.139	.068	-2.04*
Father's			
Education	-.015	.075	-.20
Age	-.161	.089	-1.80
Family Income	.078	.079	.98
Small Children	-.246	.073	-3.36*
Husband's			
Unemployment	.198	.071	2.78*
Illness	-.059	.069	.87

\* Coefficient is significant at the .05 level

Fig. 2. A Basic Model of Sex-role Attitudes and Employment Status(N=178)



\* Coefficient is significant at the .05 level

In the regression equation for employment, the standard regression coefficients showed that mother's employment, husband's unemployment, and the presence of young children all have significant effects on employment. With the exception of mother's employment, these findings support the predictions that those women with unemployed husbands are more likely to be employed, and those with young children are less likely to be employed.

The unexpected negative effect of respondent's mother's employment status is not consistent with previous studies, which mostly suggest a role-model effect of employed mothers on their daughters. It is possible that most of these respondents' working mothers tend to be from lower-income rather than higher-income families. (The zero-order correlation between father's education and mother's employment shows a possible negative effect of a family's economic status on a mother's employment.) Since the only jobs available to those lower-class mothers are most likely low-paying and unsatisfying, employment in these cases may exert a negative rather than positive impact on a daughter's desire to go to work.

Among the remaining variables in the model, age, education, family income, father's education, and illness have non-significant effects on employment; however, they all fit in with the predicted direction. The absence of a relationship between education and employment status was not consistent with several previous studies which suggested strong positive effects of education on employment status. One possible explanation for this insignificant relationship is that the effect of education on employment could be mostly explained by the intervening variable of sex-role attitudes, thus the net effect of education would become insignificant when controlled for sex-role attitudes. Given the nonsignificant zero-order correlation between education and employment, it is impossible that the lack of a significant relationship here is due to controlling for the sex-role attitudes variable. While the differences in coefficients for these two variables cannot be tested directly due to a lack of a specific hypothesis prior to analysis, the differences could be attributed to sampling variability because of the distinctive structure of job opportunity in the Detroit area (Detroit is known as a blue collar town).

In the regression equation for sex-role attitudes, the remaining coefficient estimates show that age, education, and religious participation have significant effects on sex-role attitudes. Sex-role attitudes tend to be more egalitarian among those women who are younger, who have higher schooling, and who are less involved in religious activities. These tendencies are similar to those seen in previous studies. The effect of age may reflect the cohort effect, that is, women of different birth cohorts are socialized in different social structures and with different social values. Those born after World War II may possess stronger atti-



tudes toward egalitarian sex roles than members of earlier cohorts.

That sex-role attitudes are influenced by age, schooling, and religious participation--but not influenced by current family income and employment status--may suggest that sex-role attitudes are influenced by socialization institutions rather than current work experience or family status. However, the parental family, suggested by previous studies as important factor in the socialization process, showed no significant effect on sex-role attitudes in this study. The variables of parental family background, including mother's employment, and father's education, showed no significant effects on sex-role attitudes, although the effects are in the predicted direction. The nonsignificant effect of mother's employment on children's sex-role attitudes is in line with Thornton et al (1983), in which they found that a mother's work experience through a child's adolescence had no positive impact on children's attitudes.

As stated earlier, previous studies concerning the effects of parental family background on daughters' sex-role attitudes have not yielded consistent conclusions. It is possible that both positive and negative effects could occur; which effect becomes established depends on individual familial contexts. If this is the case, the lack of significant effect from parental family's socio-economic status is not surprising; it could be the result of a balancing of both effects.

The trend that the sex-role attitudes are influenced by socialization institutions rather than current work experience indicates the tendency of sex-role attitudes to remain stable over time, despite the impacts of exogenous sources of attitude change, as was found by Thornton et al. (1983). Their study reported that attitudes will, to some extent, be dependent on their previous embodiments, and therefore tend to remain stable. Their study supports our main finding that a woman's attitudes toward sex roles are more likely to influence her employment status rather than to be influenced by it.

### **Sensitivity Test**

In 2SLS analysis, the estimation of regression coefficients relies on the adequacy of the instruments; inadequate instruments may yield biases in estimation. Since it is hard to find perfect instrumental variables, in this section the strategy of the sensitivity test used to examine the credibility of the estimation of the regression coefficients for the reciprocal relationship between sex-role attitudes and employment will be described.

These sensitivity tests were employed in order to examine the sensitivity of the coefficient estimates to alternative specifications in a model which uses different sets of instruments; from the results, I drew conclusions about the consequences of the use of "not-perfect" instrumental variables. The sensitivity test was also employed to examine the sensitivity of the coefficient estimates to different samples. For convenience of reference, the results of the sensitivity analyses based on the basic model--are summarized in Appendix 2.

(1) Sensitivity Test 1: Husband's unemployment and illness as alternative instrumental variables for employment.

In the basic model, there are three instrumental variables for the endogenous variable of employment: presence of small children, husband's unemployment, and illness. There is one instrumental variable for the variable of sex-role attitudes: religious participation. Under Sensitivity Test 1, the variable presence of small children was hypothesized to affect both sex-role attitudes and employment, thus not being an instrumental variable for employment. As shown in model 2 (in Table 3 and Fig. 3), the presence of small children is an exoge-

**Table 3. Results of Two-stage Least Squares Estimation of Coefficients in a Sensitivity Test, Model 2. (N=178)**

A. Dependent Variable: Sex-role Attitudes

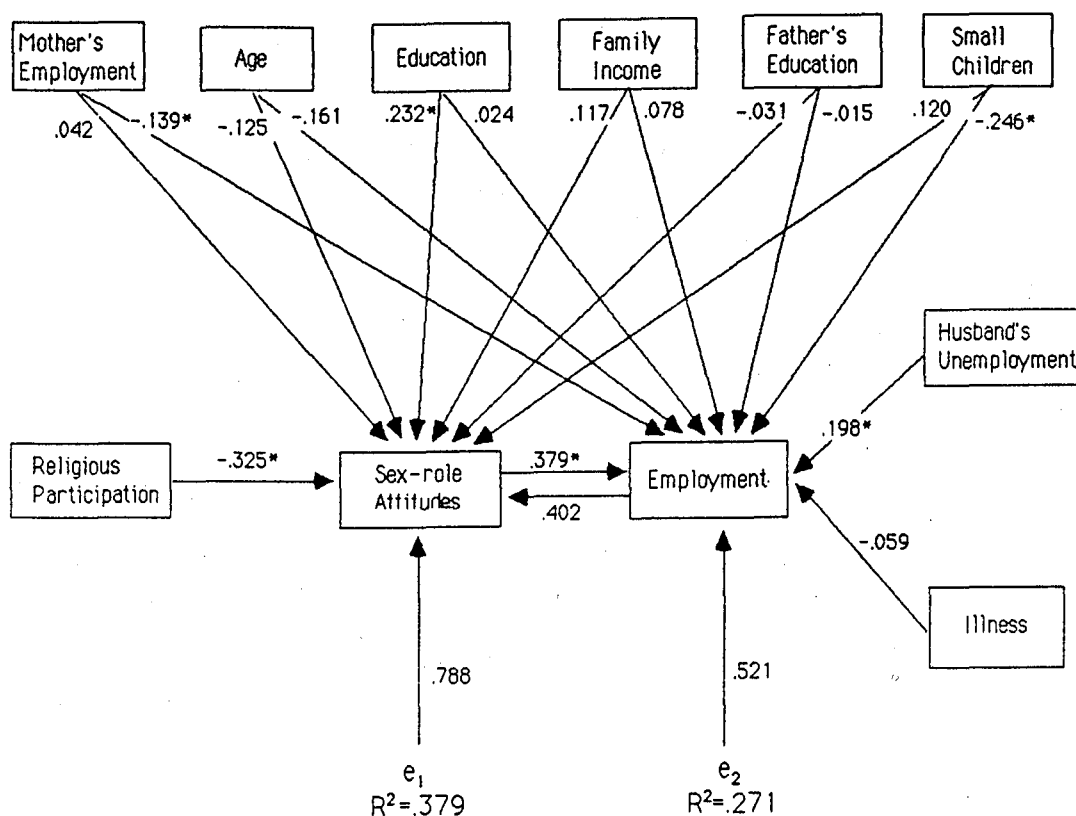
Variable	Stand. Beta	Stand. Error	t
Employment	.402	.269	1.49
Education	.232	.081	2.86*
Mother's			
Employment	.042	.073	.58
Father's			
Education	-.031	.071	-.44
Age	-.125	.095	-1.32
Family Income	.117	.070	1.67
Religious			
Participation	-.325	.079	-4.11*
Small Children	.120	.090	1.33

B. Dependent Variable: Employment Status

Sex-role			
Attitudes	.379	.170	2.24*
Education	.024	.087	.28
Mother's			
Employment	-.139	.068	-2.04*
Father's			
Education	-.015	.075	-.20
Age	-.161	.089	-1.80
Family Income	.078	.079	.98
Small Children	-.246	.073	-3.37*
Husband's			
Unemployment	.198	.071	2.78*
Illness	-.059	.069	-.87

\* Coefficient is significant at the .05 level

Fig. 3. Model 2: A Sensitivity test Model with instrumental variables of Husband's Unemployment, Illness, and Religious Participation



nous variable which affects both employment and sex-role attitudes; the husband's unemployment and illness variables remained as instrumental variables for employment. In addition, religious participation remained as an instrument for sex-role attitudes. In Table 3, the results of 2SLS analysis based on Model 2 shows that the regression coefficient of the path from sex-role attitudes to employment remains the same as that found in the basic model: .397; however, the coefficient of the path from employment to sex-role attitudes inflates from .17 to .40. Since the standard error was also inflated, the coefficient of the employment variable's effect on sex-role attitudes remained non-significant. Inflation of the standard error may be due to the inadequacy of the instruments for employment in this model, as compared to those in the basic model.

The result from this sensitivity test suggests that the estimation of the reciprocal relationship between sex-role attitudes and employment is not greatly affected by an alternative specification that treats presence of small children as an exogenous variable for both en-

ogenous variables, instead of as an instrumental variable for employment.

(2) Sensitivity Test 2: Presence of Small Children and Illness as instrumental variables for Employment.

In this analysis, husband's unemployment was hypothesized to affect both sex-role attitudes and employment. As shown in Model 3 (Table 4 and Fig. 4), husband's unemployment is an exogenous variable which may influence both sex-role attitudes and employment; presence of small children and illness remain as instrumental variables for employment, and religious participation remains as an instrumental variable for sex-role attitudes. In Table 4, the results of 2SLS analysis show that the regression coefficients of the path from sex-role attitudes to employment were the same as those in the basic model. While the coefficient of the path from employment to sex-role attitudes was similar to that of the basic model, its standard error was inflated. This inflation is also possibly due to inadequate instruments.

Table 4. Results of Two-stage Least Squares Estimation of Coefficients in a Sensitivity Test, Model 3 (N=178)

A. Dependent Variable: Sex-role Attitudes

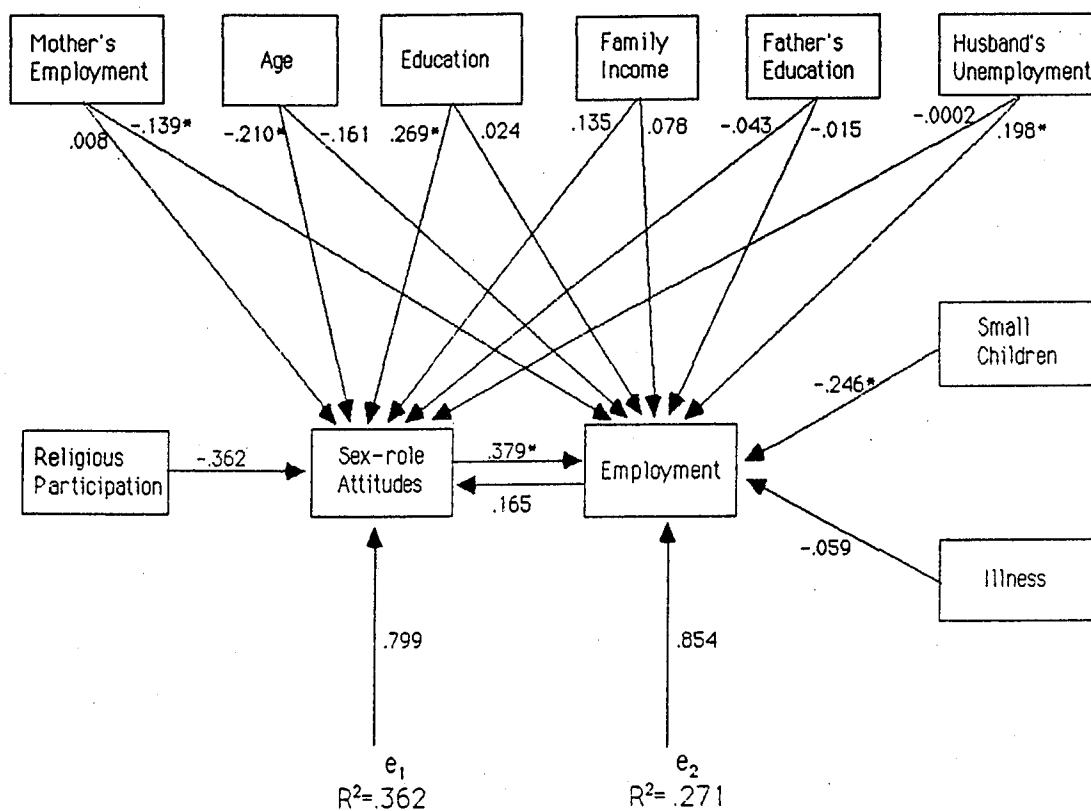
Variable	Stand. Beta	Stand. Error	t
Employment	.165	.262	.63
Education	.269	.080	3.35*
Mother's			
Employment	.008	.073	.10
Father's			
Education	-.043	.071	-.60
Age	-.210	.077	-2.73*
Family Income	.135	.077	1.75
Religious			
Participation	-.362	.077	4.70*
Husband's			
Unemployment	-.000	.084	.00

B. Dependent Variable: Employment Status

Sex-role			
Attitudes	.379	.170	2.23*
Education	.024	.087	.28
Mother's	-.139	.068	-2.04*
Employment			
Father's	-.015	.075	-.20
Education			
Age	-.161	.089	-1.81
Family Income	.078	.079	.98
Small Children	-.246	.073	-3.36*
Husband's	.198	.071	2.78*
Unemployment			
Illness	-.059	.069	-.87

\* Coefficient is significant at the .05 level

Fig. 4. Model 3: A Sensitivity test Model with instrumental variables of presence of Young Children, Illness, and Religious Participation



The two sensitivity tests suggest that the regression coefficients of the path from employment to sex-role attitudes are more sensitive to choice of instrumental variables than those of the reverse path. While the coefficient was inflated by using different sets of instrumental variables, the standard error was also inflated; thus, the effect of employment on sex-role attitudes remained non-significant. The coefficient of the path from sex-role attitudes to employment seems more stable than that of the reverse path since it is not sensitive to the alternative specification, which includes new exogenous variables in the equation for sex-role attitudes, and utilizes a different set of instrumental variables.

In conclusion, the results of the above analysis suggest that the effects of women's sex-role attitudes on their employment are greater than the effects of their employment on sex-role attitudes, and that the latter is not significant. The reciprocal relationship was not found to be very sensitive to different sets of instrumental variables employed in the analysis, based on the current sample.

(3) Sensitivity Test 3: a replication of Molm's model.

Since these findings are contrary to several recent studies which found that women's employment status affects their sex-role attitudes rather than the reverse, I replicated one of those studies--which was comparable in terms of the research framework and statistical analysis--in order to examine whether the different results were due to sampling variability, choice of instrumental variables, or other reasons. Based on these considerations, I compared the present study with Molm's 1978 study. Molm examined the causal relationship between the employment status of married women and their attitudes toward sex roles based on a single cohort of women from a national sample; the women in this cohort were all approximately thirty years of age at the time of the survey. Employing 2SLS analysis, Molm found that employment status had some influence on attitudes toward women's roles, but no effect in the opposite direction. Molm's statistical model is shown in appendix 3.

To compare the results of the present study with those of Molm's, Sensitivity Test 3 was a replication of Molm's model, that is, it used the same variables in the 2SLS analysis that Molm used; in addition, I used a sample in an age bracket similar to that which Molm used. As shown in Model 4 (Table 5 and Fig. 5), the model included the endogenous variables of sex-role attitudes and employment status, plus the exogenous variables of education, husband's income, presence of children under six, mother's employment, and religious participation. Husband's income and presence of children under six were treated as instrumental variables for employment; mother's employment and religious participation were treated as instrumental variables for sex-role attitudes. In this replication, religious participation was a proxy for religious attitudes, which was used in Molm's study.

The sample used in this replication included 268 married women age 25 to 35. It came from the total sample of 1985 DAS study, regardless of whether they were part of the couple data or the individual data. Notice that only couple data (250 cases) is used in the main 2SLS analysis and the above sensitivity tests because these analyses required the information from both spouses, as stated earlier.

**Table 5. Results of Two-stage Least Squares Estimation of Coefficients in the Replication Model, Model 4 (N=226)**

**A. Dependent Variable: Sex-role Attitudes**

Variable	Stand. Beta	Stand. Error	t
Employment	.400	.189	2.11*
Education	.225	.068	3.30*
Mother's Employment	.034	.065	.53
Religious Participation	-.299	.074	4.01*

**B. Dependent Variable: Employment Status**

Sex-role	Stand. Beta	Stand. Error	t
Attitudes	.416	.186	2.24*
Education	.070	.076	.93
Husband's Income	-.146	.065	2.26*
Small Children	-.217	.073	2.96*

\* Coefficient is significant at the .05 level

**Fig. 5. Model 4: A Replication of Molm's Model for Women Aged 25-35**

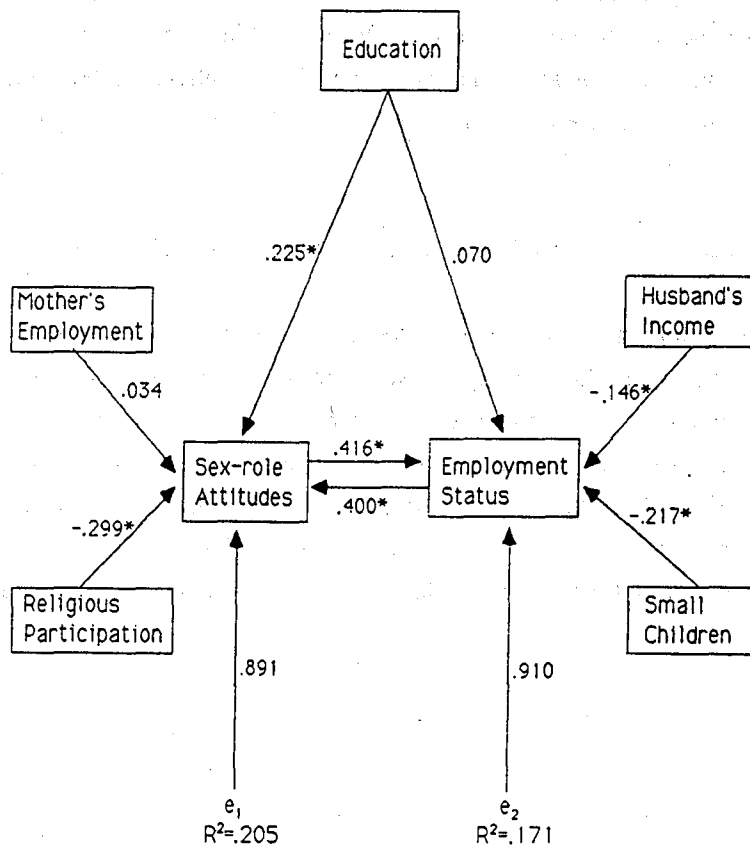


Fig. 5 and Table 5 show the results of the replication. The effects between sex-role attitudes and employment were found to be significant in both directions. The two coefficients were similar, with the coefficient of the path from sex-role attitudes to employment slightly greater than the reverse.

The remaining six coefficient estimates were totally consistent with Molm's findings. Four effects were found to be significant: The positive effect of education on sex-role attitudes, the negative effect of religious participation on sex-role attitudes, and the negative effects of husband's income and presence of small children on employment.

When comparing the replication model (Model 4) with the basic model (Model 1), I found that the coefficients of the sex-role attitudes to employment relationship were similar to each other, but the standard error for the estimate of these coefficients in Model 4 was higher than that in the basic model. It seems that the sex-role attitudes/employment relationship is stable across the different samples. The higher standard error for the estimate of the coefficient in Model 4 may be due to the biases of measurement caused by inadequate instruments in the replicated model. The coefficients of the employment/sex-role relationship in Model 4 were more than double those in Model 1. Since the magnitude of this standard error was lower than that found in the basic model, the difference between the coefficients may not be due to differences in instrumental variables, but due to age differences within the sample.

(4) Sensitivity Test 4: a replication of Molm's model for older cohort.

For further exploration of whether the causal relationship between sex-role attitudes and employment varies for different age groups, the second replication of Molm's model was a 2SLS analysis based on a subsample of 236 women aged 35-50 (from both the couple and individual samples). The results are shown as Model 5 (Table 6 and Fig. 6). The coefficients for both effects between sex-role attitudes and employment in this replication were not significant, and were much lower than those in the former replication model; however, the effects of sex-role attitudes on employment was still stronger than the reverse effect.



Table 6. Results of Two-stage Least Squares Estimation of Coefficients in the Replication Model, Model 5 (N=236)

A. Dependent Variable: Sex-role Attitudes

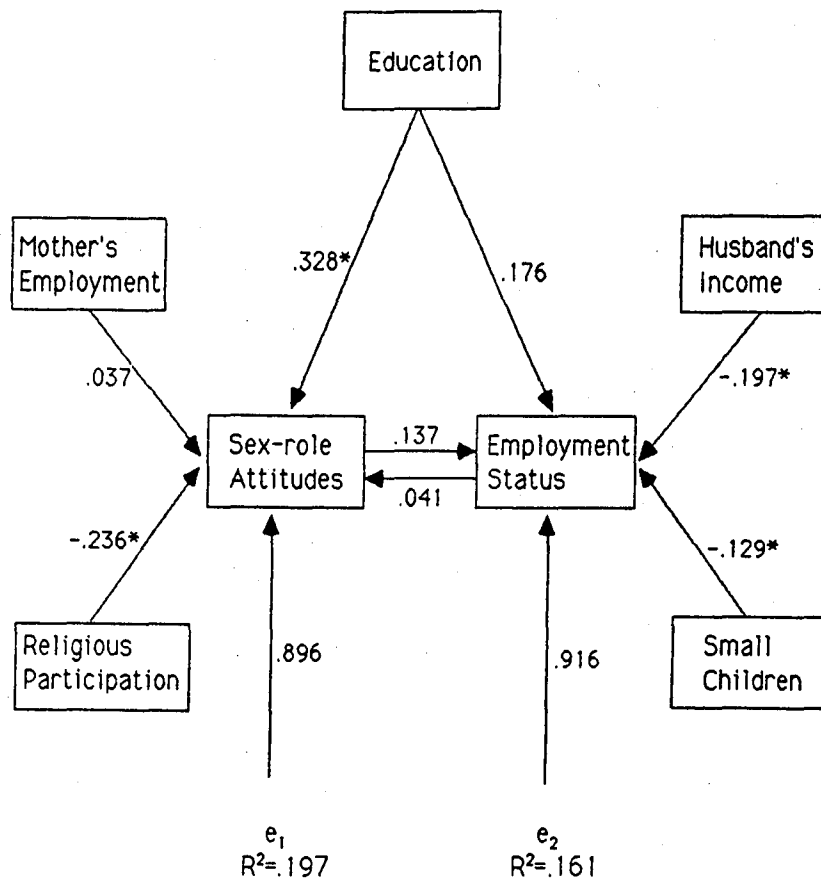
Variable	Stand. Beta	Stand. Error	t
Employment	.041	.269	.15
Education	.328	.076	13.23*
Mother's Employment	.037	.060	.62
Religious Participation	-.236	.060	3.93*

B. Dependent Variable: Employment Status

Variable	Stand. Beta	Stand. Error	t
Sex-role Attitudes	.137	.256	.54
Education	.176	.106	1.66
Husband's Income	-.197	.064	3.08*
Small Children	-.129	.063	2.16*

\* Coefficient is significant at the .05 level

Fig. 6. Model 5: A Replication of Molm's Model for Women Aged 36-50



This pattern was consistent with patterns from the previous models. It was noted that in Model 5 the nonsignificant coefficient for the effect of sex roles on employment was comparable in magnitude to the coefficient for the effect of presence of young children on employment--which, on the other hand, was found to be highly significant. Given the inflated standard error for the sex role/employment coefficient, the nonsignificance is possibly due to instrument inadequacy. Specifically, presence of young children as the instrumental variable for employment may have yielded inadequate estimation of employment status, since there were much fewer respondents having small children among older cohorts as compared to those among younger cohorts.

Among the remaining variables, the effects of education and religious participation on sex-role attitudes, as well as the effects of husband's income and presence of young children on employment, are significant; the patterns of these relationships are consistent with Molm's model and the replication model used with younger cohorts.

The above replications suggest that the causal relationship between sex-role attitudes and employment seems to vary with age groups, with stronger effects of sex-role attitude on employment among the younger group; however, in both replications the coefficients of the path from sex-role attitude to employment are larger in size than those of the reverse path. Given the fact that the reciprocal relationship between sex-role attitudes and employment is not very sensitive to different instrumental variables in the models, the results of this study being contrary with Molm's study seems largely attributable to differences in sample composition. Molm's study was based on a single cohort of married women -around 30 years of age, while this study was based on married women aged 20-65.

To conclude, the results of the above sensitivity tests show that the tendency of sex-role attitudes influencing employment, rather than being influenced by employment, is not affected to any significant degree by different instruments being employed in the models; thus, a possible threat to the analysis resulting from the inadequacy of the instrumental variables may not be important. On the other hand, the results of analyses may vary with sample variability. Results from the replication of Molm's model among different age groups indicates that the effects of employment on sex-role attitudes seem stronger among younger cohorts.

## Conclusion and Discussion

This study explored the causal relationship between sex-role attitudes and employment based on a sample of married women in the Detroit metropolitan area. The results indicated that a married woman's sex-role attitudes exert a significant effect on her employment status, while her employment status has no significant effect on her sex-role attitudes. The findings support the idea that attitudes are dependent to some extent on their previous embodiments, and therefore tend to remain stable (Alwin, 1973; Wheaton et al., 1977; Thornton et al., 1983).

This conclusion is different from those found in several recent studies (Thornton, 1983; Spitze and Waite, 1980; Molm, 1978) which suggest that participation in the labor force is conducive to the adoption of more egalitarian sex-role attitudes. The sensitivity tests in this study, however, suggest that the inconsistent results may be due to sample variability; the reciprocal relationship between sex-role attitudes and employment may vary with different age groups in that the effect of employment on sex-role attitudes may be stronger among younger groups.

The findings in this study, however, support the ideas found in classical sociological and psychological literature which emphasized that a person's sex-role attitudes are the product of the socialization process, and that women's employment is the consequence of their sex-role attitudes; thus, a woman's adherence to traditional sex-role attitudes are likely to reduce the probability of her working outside the home, whereas egalitarian sex-role attitudes is likely to reduce egalitarian sex-role attitudes are like to increase this probability. However, work experience is less likely to affect than to be affected by sex-role attitudes.

These results are also in line with the classical literature of family sociology (Walker, 1970; Meissner et al., 1975; Robinson et al., 1976) which indicated that family tasks are segregated by sex, and that neither wives' nor husbands' familial roles change in response to wives' employment. As Rapoport and Rapoport (1972) formulated it, there is a psychosocial lag between changes that occur for women in the macrosocial world of work, and changes in the microsocial world of the family.

A possible limitation of this study is that it pertains to one particular geographical area--metropolitan Detroit. The Detroit area obviously is not typical of all America; in many aspects, however, Detroit people share the same life experiences with the rest of the country. As shown in the results, the patterns of relationships between demographic charac-

teristics and women's work or sex-role attitudes found in this study were mostly consistent with those of other geographical area in the States. Thus, I would argue that to some extent the results can be generalized to the rest of American society.

It is possible that the reason why women's employment varies as a response to sex-role attitudes rather than vice versa is due to sex-role segregation which is deeply rooted in the patriarchal social structure. In other words, sex-role attitudes are less likely to shift only in response to women's employment because these attitudes are supported by sex-based labor division in the social structure as a whole. Although women's employment is now prevalent, patriarchal ideology is still, to some extent, persistent in defining appropriate masculine and feminine roles; this underlies segregation of the sexes within both the workplace and the family. Following this line, socialization institutions--such as parental family, education, religion, socioeconomic status, and mass media--tend to be more important factors in determining married women's sex-role attitudes than their work experience. Therefore, sex-role attitudes--which are the products of socialization--are more likely to shift when the practice of the ideology of sexual labor-division changes within the social structure.

The sizable changes in gender ideology that have occurred during the past few decades may be primarily owing to those continuing changes in American social structure that have lead to a reduction of sex segregation.

Changes in occupational structure brought about a continuing decline in sex segregation between 1960 and 1970 (Blau and Hendricks, 1979; Beller, 1984). In addition, changes in the labor market occurred in tandem with women's liberation movements and related legislation in the 1970s. During the 1970s, the women's liberation movement emerged as an important social force which challenged stereotypical divisions of work into "women's" jobs and "men's" jobs; in addition, the mass media began showing women in nontraditional roles, and young women's occupational aspirations were subsequently broadened (Reskin, 1984).

Ligislation is another factor contributing to a reduction in sex segregation in the social structure. For example, the 1964 Civil Rights Act and Executive Order were enacted to bar employment discrimination by sex, and the 1972 Education Amendments and a 1976 amendment to the Vocational Education Act mandated special efforts to eliminate sex bias in education and job training programs (Reskin, 1984). Also, according to Reskin, during the 1970s women began to make inroads into a wide range of typically male occupations; much of their progress was directly or indirectly due to various laws designed to equalize educational and employment opportunities for women.

These changes in social structure are changing the institutions that socialize young people in appropriate sex-role attitudes; thus, the noticeable changes witnessed during the past decades concerning attitudes toward more egalitarian sex roles should not be surprising.

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## Appendix 1. Characteristics of Sample (in percent)

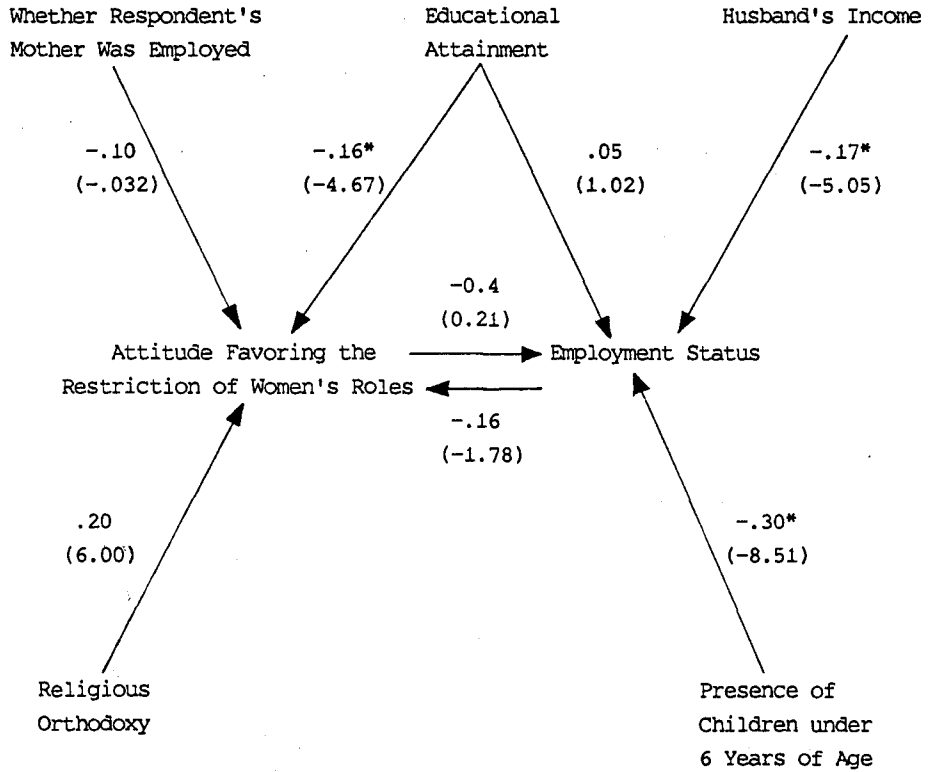
Age		Presence of Children Under 3	
21-30	26.0	yes	22.4
31-40	22.4	no	77.6
41-50	18.0	Base N	250
51-60	21.2	Husband's Unemployment	
61 and over	12.4	unemployed or working less than 20 hours per week	8.2
Base N	250	working 20 hrs or more per week	91.8
Education Attainment (years)		Base N	220
7-11	10.0	Illness	
12	40.0	yes	7.6
13-16	38.8	no	92.4
17 and over	11.2	Base N	250
Base N	250	Sex-role Attitude(1)	
Employment Status		strongly agree	24.0
working	51.2	agree	42.8
non-working	48.8	neutral	0.8
Base N	250	disagree	26.0
Family Income		strongly disagree	6.4
under 3000	.4	Base N	250
3000-23999	16.0	Sex-role Attitude(2)	
24000-39999	40.7	strongly agree	9.6
40000-74999	37.2	agree	40.2
75000 and over	5.6	neutral	2.0
Base N	231	disagree	35.7
Religious Participation		strongly disagree	12.4
more than once a week	10.8	Base N	249
once a week	25.3	Sex-role Attitude(3)	
a few times a month	11.6	strongly agree	5.3
once a month	2.0	agree	29.9
less than once a month	32.1	neutral	1.2
never	18.1	disagree	47.5
Base N	249	strongly disagree	16.0
Mother's Employment		Base N	244
working	45.1	Sex-role Attitude(4)	
non-working	54.9	strongly agree	4.0
Base N	224	agree	16.8
Father's Education		neutral	1.6
2-6	9.9	disagree	42.0
7-11	32.1	strongly disagree	35.6
12	31.3	Base N	250
13-16	20.6		
17 and over	6.2		
Base N	243		

Appendix 2. Summary of 2SLS Analysis

	Model 1 (Basic Model)	Model 2	Model 3	Model 4	Model 5
Instruments for SR	Religious Participation	Religious Participation	Religious Participation	Religious Participation, Mother's Employment	Religious Participation, Mother's Employment
Instruments for EMP	Unemployment, Small Children, Illness	Unemployment, Illness	Small Children, Illness	Husband's Income, Small Children	Husband's Income, Small Children
Age of Sample	20-65	20-65	20-65	25-35	36-50
SR->EMP Regression					
Standard Coefficient	.379*	.379*	.379*	.416*	.137
Standard Error	.170	.170	.170	.186	.256
EMP->SR Regression					
Standard Coefficient	.164	.402	.165	.400*	.041
Standard Error	.203	.269	.262	.189	.269

\* Coefficient is significant at the .05 level

Appendix 3. Molm's Model for the Employment Status of Married Women



\*Coefficient is significant at the .05 level

# 已婚婦女之性別角色態度與就業之關係 ——底特律區域研究

呂玉瑕\*

## (中文摘要)

本研究探討性別角色態度與就業間之因果關係。數十年來美國社會的性別角色意識已大幅度的轉變，這轉變與同一時期龐大的婦女勞動力投入職業市場之關聯如何？理論上兩者互為因果，然而在個體層次上分析婦女之性別角色態度與其就業行為間之因果關係，可對以往的態度變遷理論作一次實證的探討。

本研究根據 1985 底特律區域研究資料，使用兩階段最小平方法 (Two-State Least Squares) 對 250 名已婚婦女分析其性別角色態度與就業間之因果關係。在分析模型中考慮個人及家庭因素（包括年齡、教育程度、宗教參與與家庭收入、子女年齡、丈夫就業與否本人健康狀態）及出身家庭背景因素（包括受訪者之母親就業狀況以及父親教育程度）。

研究結果顯示妻子性別角色態度對其就業狀況的影響大於就業對其態度的影響。進一步比較不同年齡層的婦女發現性別角色態度與就業之間的因果關係可能因年齡而異：在低年齡層的婦女中就業對其性別角色態度之影響較大，但無論高低年齡層，性別角色態度對就業的影響皆較其反向的影響大。因此婦女之性別角色態度較多可能由社會結構透過社會化過程而模塑，較少可能是調適其本身就業行為的結果。作者進一步引伸性別角色意識乃是由社會結構系統中性別分工型態所支撐的，不會單獨因著調適婦女之勞動力參與而轉變。

關鍵詞：性別角色態度、已婚婦女就業、社會化、底特律、兩階段最小平方法

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## Sex-role Attitudes and the Employment of Married Women —A Detroit Area Study

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### (Abstract)

This study focuses on the causal relationship between women's sex-role attitudes and labor force participation. Men's and women's attitudes toward sex roles have experienced dramatic changes since the late 1960s in the U. S., the study tries to explore how the change in sex-role attitudes related to the sharp increase in women's labor force participation.

The causal relationship was investigated among a sample of 250 married women from the 1985 Detroit Area Study (DAS). Based on Two-Stage Least Squares analysis, the analysis model took into account the individual factors (age, educational attainment, religious participation), current family conditions (family income, presence of small children, husband's employment status and his health condition) and parental family background (mother's employment status, father's educational attainment).

The results indicated that a married woman's sex-role attitudes are more likely to affect rather than to be affected by her employment status, but the reciprocal relationship between sex-role attitudes and employment may vary with different age groups in that the effect of employment on sex-role attitudes may be stronger among younger groups. The findings suggest that women's sex-role attitudes are a product of the socialization process which is directed by the social structure, rather than a consequence of adaptation to their employment status. Therefore, women's sex-role attitudes are less likely to shift only in response to their employment because these attitudes are supported by sex-based labor division in the social structure as a whole.

**Key Words:** sex-role attitudes 、 married women's employment 、 socialization 、 Detroit 、 two-stage least squares.

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