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THE INTERRELATIONSHIP BETWEEN FERTILITY PATTERN
AND TYPE OF OCCUPATION OF WORKING WIVES

by

Karen S. Edwards

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ABSTRACT

THE INTERRELATIONSHIP BETWEEN FERTILITY PATTERN AND TYPE OF OCCUPATION OF WORKING WIVES

By

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The strong inverse relationship between female employment and family size is often explained as alternate need gratification. The purpose of this study is to explore one aspect of this alternate need theory.

In reviewing the literature, a number of motivations for having children can be found. One of the major values reported by women is the opportunity to affiliate and nurture. This investigation was initiated to determine if specific occupations which vary in terms of their approximation of mothering roles, specifically nurturance and affiliation, correlate differentially with fertility patterns of the employed wife.

It was hypothesized that women employed in "nurturant" occupations would demonstrate lower fertility and have fewer opportunities to nurture and affiliate at home as compared to other employed women of the same cohort group. Nurturant occupation was defined as employment in personal, health and educational service occupations. It was determined that these work activities are likely to be more rewarding in terms of opportunities to nurture and affiliate with others

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than employment in manufacturing, clerical or sales occupations. The relationship between fertility pattern and employment in these occupations was assessed using multiple linear regression analyses so that the effects of extraneous demographic variables could be controlled simultaneously.

A sample of stably married employed wives under the age of 53 was divided into three cohort age groups for separate analyses. These wives participated in the Panel Study on Income Dynamics from its inception through the wife's interview in the ninth year of data collection.

The results of this investigation indicate that employment in the "nurturant" occupations is not a significant variable in predicting fertility patterns. The hypothesized causal path from work gratifications to childbearing decisions was not supported. Opportunities to nurture and affiliate at home reflected in the number of children under 18 in the family unit was a significant variable in predicting employment in a nurturant occupation for the youngest cohort group, but the direction of the relationship was opposite that expected by the proposed model.

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CHAPTER I

INTRODUCTION

Although the existence of an inverse relationship between family size and female employment has been well documented, the issue is complex and not well understood. Most studies have emphasized social factors affecting both family size and employment. What is needed is more careful theoretical formulations and supportive research integrating female employment, fertility, and the psychology of women. One aspect of the employment of the wife and her fertility pattern is the focus for the present study.

Female work experience may generate an important role alternative to childbearing. An occupation which meets the psychological needs of women otherwise met by childbearing would constitute an alternative to having more children.

Little attention has been paid to the needs of adults who parent and the ways in which nurturance of children may gratify fundamental psychological needs. The issue of the importance of children to parents, or the possible uniqueness of parenting as a source of major gratification of generative stage needs has become an important social issue as population pressures increase and as the women's

movement encourages commitment to career success. Women may choose to work for money income, but the particular occupation she chooses may be due to the potential of that work activity for psychic need gratification. For example, women employed in occupations which provide opportunities to affiliate and nurture would be less likely to need more children of their own to nurture.

Statement of the Problem

The purpose of this study is to evaluate the relationship between employment in an occupation which structurally provides opportunities to nurture and affiliate with others and fertility pattern. A basic premise of this study is that work roles which require similar functions to the mothering role could offer an alternative for the gratifications of childrearing. It is theorized that if work roles do offer such alternatives, women employed in "nurturant" occupations would demonstrate lower fertility and have fewer opportunities to provide nurturance at home. There would be less social role conflict for these women since they are fulfilling their social role, but in a different context. However, it seems no research has analyzed these alternatives to determine if specific occupations which more closely approximate mothering roles correlate differentially with fertility patterns.

In this study one general research question is stated: "Can variance in fertility variables be explained by

employment in a nurturant occupation with the effects of general and family demographic variables controlled?"

It has also been suggested that women who do not have opportunities to nurture children at home may seek occupations which provide opportunities to nurture.

In the analysis of this relationship between family variables and occupational variables, a general research question is stated: "Can variance in occupation be explained by differences in family demographic variables with general demographic variables controlled?"

Importance of the Study

The relationship between family size and occupational choice can be clarified using an ecological system framework.

The focus of the present study is on the transactions between wives and their family environment as well as the family transactions with the larger social environment. Hopefully the interdependence of childbearing decisions and environmental factors will be clarified.

Some major environmental forces which have affected the family system in recent decades are women's liberation movement, fertility management, and employment of wives. The impact of these forces differ according the the developmental stage of the family. The women's liberation movement has stressed equal employment opportunities for women. Sex stereotypes in occupational categories have come under fire of the women's movement supporters in an attempt to change the ecosystem. Thus women may feel

social pressure to alter their occupational goals and roles.

Concern for population limitation combined with the widespread availability of effective contraceptives and legalized abortions has resulted in almost complete discretionary control over parity (childbearing). Thus, procreation has become a decision problem for many American couples. Intelligent decisions can only be made when alternatives and cost of alternatives are known. In their discussion of parental needs satisfied by children, Hoffman and Hoffman (1973) suggest that while there are many alternative activities that also supply gratification to the couple, few of them provide for certain needs as efficiently and comprehensively as childrearing. Today it is important to more closely examine alternative sources of those needs typically provided by childrearing.

Every society has a family system which has as the basic unit the mother-child dyad. However in order to protect and enhance the continuity of species, a variety of family forms and structures have emerged through time. Research is needed to predict the consequences of some current changes for the related social systems and subsystems so that social-psychological equilibrium can be maintained.

The analysis of the relationship between female employment and fertility is of considerable importance for economists, ecologists and psychologists. Some of the

psychologists are concerned that our evolutionary heritage includes not only the ability to parent but the need to parent, especially for women (Bardwick, 1974). Some suggest that the socialization of women in Western society prepares women for nurturant roles which they feel a need to fulfill (Barry, Bacon, and Child, 1957; Bandara and Walters, 1963). Others believe that behavior cannot be explained by either biological factors or socialization alone. Rather, behavior such as nurturance represents the interaction of biological and environmental influences. Thus, certain changes would be likely to occur in the expression of nurturance as a result of environmental forces such as availability of food, economic conditions, fertility control and social values. Many of these forces coalesce in the family system. This complex interplay between individual, family and environment is best explained in an ecosystem framework.

In this study the wife is viewed as an organism within the family ecosystem. The opportunities to be nurturant within the family ecosystem are particularly salient for the wife. These opportunities decrease with the number of children in the family unit and with increasing age of the children. The increased ability to manage fertility and the concern with population control are correlated with lower normative parity for American women. The changing expectations and opportunities for employment of women are also correlated with lower

normative parity of American women. Thus these social forces in the larger environmental system feedback to the family subsystem affecting the opportunities to nurture in the home. These changes in the larger social system may result in disequilibrium for women who feel a need to be nurturant. One of the major interfaces between the family subsystem and the larger social system is employment of family members. It may be that the occupation of the wife reestablishes equilibrium by providing opportunities to nurture and affiliate outside the family environment.

One aspect of the family ecosystem will be investigated here. The relationship between family variables which reflect opportunities to nurture at home and the occupational variables which may also provide opportunities to nurture and affiliate will be assessed. It is assumed that the nature of the occupational choice made by the wife is both an output of the family system and provides input to the family system.

Assumptions

The following assumptions have been made in constructing the research hypotheses:

1. Women choose certain occupations and remain in those occupations for reasons other than happenstance.
2. Different types of occupations provide differential opportunities to nurture and affiliate intimately with others.

3. Most women are socialized to identify with the role of nurturant provider.

4. The species capacity to nurture and affiliate intimately reflects a generative stage need in female adults.

5. It is possible for generative stage needs to be met in alternatives to parenting.

6. The means by which a woman selects to meet her psychic needs gives rise to differential fertility patterns.

7. The power of working wives to influence childbearing decisions is sufficient to warrant examining the relationship between work activities and fertility pattern using only wife-related variables.

Definitions

Nurturant Occupation: Employment which structurally provides opportunities to affiliate and nurture which includes personal service, health related and educational occupations.

Fertility Pattern: The total number of children and changes in the number of children during the nine years of the panel study.

Family Demographic Variables: These include the age of wife at first birth, age of wife at marriage, whether she expects more children, whether she worked before marriage, whether she worked with preschool child at home, and the actual minus the required number of rooms in the home.

Family Demographic Variables Reflecting Opportunities to Nurture at Home: Age of the youngest child and the number of children in the family unit under 18 years.

General Demographic Variables: These include rural background of the wife, religion, race, education and income of the wife, number of years worked and number of hours a week worked.

CHAPTER II

REVIEW OF LITERATURE

Motivation for Parenthood

The most comprehensive conceptual model for predicting fertility is that of Hoffman and Hoffman (1973). It consists of five major classes of variables: (a) the value of children to parents; (b) the alternative sources of these values; (c) the costs of children to parents; (d) barriers which affect the difficulty of attaining a particular value through children; (e) facilitators which affect the ease of attaining a particular value through children.

Based on their review of the literature, Hoffman and Hoffman (1973, p. 43-47) have constructed a scheme of the value of children. Its nine categories are:

1. Adult status and social identity.
2. Expansion of the self, tied to a larger entity, "immortality."
3. Morality--religion, altruism, good of the group, norms regarding sexuality, impulsivity, virtue.
4. Primary group ties or affiliation.
5. Stimulation, novelty, fun.
6. Creativity, accomplishment, competence.
7. Power, influence, effectance.
8. Social comparison, competition.
9. Economic utility.

This study will be concentrating on the fourth category in this scheme, the affiliative value of children.

The affiliative value of children is particularly important and has been reported in a wide variety of cultures. Evidence for the "avoidance of loneliness" and "companionship" as reasons for having large families has been obtained among Americans and also among parents in other cultures (Whelpton, et al., 1966; Rainwater, 1965; Caldwell, 1967; Heisel, 1968).

The affiliative value of children is apt to be especially important for the wife. Both Komarovky (1967) and Rainwater (1960) stressed the desire on the part of the lower class wife for more affection from her husband than she received. For these women, children became a major source of affection and object of nurturance. There are empirical data that suggest that women's need for affection is greater than men's (Hoffman, 1973). In describing the parent-child relationship, women more often than men refer to love, affection, and companionship (Gurin, et al., 1960; Meade, 1971). Many men felt the first stirrings of a more nurturant side around age 40, after the childbearing decisions have been made and the children are older (Sheehy, 1976).

Motivation for parenthood has also been investigated in a series of largely unpublished studies by Rabin and his students (Rabin, 1965; Green, 1967; Major, 1967; Rabin and Green, 1968; Carter, 1968; Rhodes, 1974; Silver, 1975). This research is directed toward understanding the influence of different motivations on parent-child relationships, and

not toward issues of population and fertility.

These investigators have attempted to measure unconscious levels of motivation using projective and semi-projective instruments. These instruments focused on categorizing motivations for having children. Green (1967) and Major (1967) analyzed four classes of motivations: altruistic, fatalistic, narcissistic, and instrumental. Rhodes (1974) added a fifth category--conformity motives. Carter (1968) used three general categories: parent-need oriented, child-need oriented, and non-need oriented. Parent-need included nurturant and child-centered motives. Non-need included humanitarian, fatalistic, and by-product (of another need or goal) motives. Silver (1975) developed a "Parenthood Inventory" to measure many of these same motivations for having or not having children.

In studies by Green, Major and Carter, parents of normal and emotionally disturbed children served as subjects. In Rhodes' study and Rabin's early work, college students were the subjects.

None of these studies have had much success in relating different motive categories to child's mental health (Green, Major and Carter). Nor have they been very successful in relating these categories to manifest psychological needs (Green) or attitudes towards parents and family (Rhodes). Perhaps future attempts in this area will be aided by Silver's development of the Parenthood Inventory.

Biological Motivation to Nurture--Teresa Benedek is a leading proponent of the theory that there is a biological drive to reproduce and parent (1970). She has been working in this area for at least 25 years. According to Benedek the drive toward motherhood derives from the endocrine system and concomitant emotional changes that are associated with the menstrual cycle. The drive toward fatherhood derives from the instinct for survival.

Although Benedek believes that "Mothering" is a biologic and hormonally regulated function as is the process of childbearing itself, she recognizes a broad range of modifications in mothering behavior. She suggests that the mothering behavior of the human female has two sources: one is rooted in her physiology; the other evolves as an expression of her personality which has developed under environmental influences that can modify her "motherliness." This accounts for the differences in motherliness of women belonging to the same civilization, social group, even to the same family. The integration of motherliness is a complex and rarely investigated process. One aspect of its psychodynamics could be defined as a process by which the infant's passive tendency "to be fed," "to be given," changes to the active tendency "to feed, to give, to succor" (Benedek, 1970).

According to Fitzgerald (1977) there is little evidence in support of the concept that women possess an "instinct" for mothering, although in several respects both

men and women seem to be psychobiologically prepared to provide caregiving to the young of the species.

The following section will deal with the environmental factor of socialization to prepare women for motherhood.

Sex Typing

The individual's sex role is the most salient of his many social roles. No other social role directs more of the individual's overt behavior, emotions, reactions, cognitive functioning, covert attitudes and general psychological and social adjustment, nor is the ascription of any role more fundamental for the maintenance and continuity of society. Activities, tasks, characteristics and attitudes are assigned differentially to men and women in all but a few societies. But there are wide differences among cultures in the specific activities and personality characteristics ascribed to males and females. For example, the majority of societies organize their social institutions around males, and in most cultures men are more aggressive and dominant; they are usually assigned the physically strenuous tasks. Women generally are expected to minister to the needs of others. The male role is instrumental (task-oriented and emotion-inhibited) and the female role is customarily more expressive and nurturant.

These almost universal sex differences are observable among children. Boys in most cultures are much more likely to engage in conflict and overt aggression. Girls are much more likely to be affectionate, cooperative, sociable and

succorant (D'Andrade, 1966).

These cross cultural regularities in sex differences might be interpreted to mean that male and female roles are biological "givens." However, since there are cultural exceptions as described by Mead (1935) in her studies of primitive societies, it could be concluded that for the most part, sex-role differences do not stem directly from biological factors: being born a girl does not mean that the individual will "automatically" acquire feminine behavior. Sex appropriate behavior and attitudes are the products of a complex process of cultural sex-typing.

Although there is a substantial body of research and theory on sex-typing, our understanding of the process is not complete. This section will review the major explanatory hypotheses related to this process and relevant empirical data.

Three different explanatory hypotheses about sex-role development have been described in the literature. The first, a social-learning theory of sex-typing, emphasizes teaching, reward and punishment, generalization and imitation. The second type views sex-typing as a product of identification which is associated with the concept of imitation learning in the first. The third explanatory hypothesis proposes that sex typing is a natural result of cognitive development and maturation, emerging independently of specific training and learning experiences.

Social-learning Theory. These theorists utilize well known, experimntally verified principles of learning, i.e., sex appropriate responses are rewarded (reinforced) by parents and others and hence are repeated. Sex-inappropriate behavior is likely to be punished and hence to diminish in strength and frequency (extinguished). On a common sense basis, this argument seems irrefutable. Certainly, parents are keenly aware of the cultural definitions of sex role behavior and it may be inferred that they reward their children's sex appropriate responses and punish those that are inappropriate. This argument may be compelling, however, in their comprehensive study of child-training practices, Sears, Maccoby and Levin (1957) found no sex differences in most aspects of child care such as feeding or toilet training. Mothers were somewhat more indulgent and warmer toward their infant daughters than toward their infant sons.

In a summary of the social learning point of view as applied to the sex-typing of aggression and dependence, Mischel says:

The greater incidence of dependent behaviors for girls than boys, and the reverse situation with respect to physically aggressive behavior, seems directly applicable in social-learning terms. Dependent behaviors are less rewarded for females in our culture and consequently there are mean differences between the sexes in the frequency of such behaviors after the first few years of life . . .

Unfortunately, present evidence that the sexes are indeed treated differentially by their parents with respect to the above behaviors is

far from firm and much more detailed investigations are needed of the differential reward patterns and modeling procedures used by mothers, fathers and other models with boys and girls in the natural setting. The current empirical evidence is equivocal, although consistent with a social-learning view.

(Mischel, 1966, p. 75)

According to a cross-cultural study involving 110 cultures, sex differences in child-training practices seemed clearly designed to produce sex-typed characteristics. Girls in most cultures are subjected to greater pressures (rewards and punishments) to develop nurturance, obedience and responsibility. Boys throughout the world are trained to achieve and to be self-reliant (Barry, Bacon and Child, 1957).

Generalization. Social learning theorists do not argue in favor of a simplistic notion that direct rewards and punishment are the only sources of the development of sex-typed responses. There is also the principle of generalization, which states that when a response has been learned to one stimulus, it is likely to occur in response to other stimuli. Thus, certain broad patterns of behavior, attitudes, and characteristics that are related to later sex-typing may be established early in childhood. It follows that women are able to generalize the nurturant role learned from their mothers in the home to occupations, especially when the opportunities to act out this role in their own home is limited.

As the child's cognitive development progresses, s/he forms concepts and attaches labels to objects and events. These labels may then serve as the bases for further generalization. Objects and events labeled masculine become attractive to boys and are linked with parental disapproval for girls. Thus the power of the label, "feminine occupation."

The major conclusion of a vast amount of research by social-learning theorists is that simply by observing a model's behavior, the child may acquire responses, including sex-typed ones, that were not previously included in the behavioral repertoire. It is impossible to determine how much of the child's sex-typed responses develop as a result of the imitation of models. But there is little doubt that children learn by imitating models, either because they are instructed to do so, or because they simply want to or are biologically predisposed to. Thus many of the child's sex-typed responses may develop simply through imitation of his like-sexed parent's behavior.

Bandura's research showed that powerful and nurturant models were more likely to be imitated than models lacking these characteristics. Thus if the father is more nurturant and more powerful than the mother, a child of either sex will use him as the more imitated model (Bandura & Walters, 1963). In this case, nurturant behavior is and continues to be included in the masculine sex type. But the study of

Sears, et al. (1965) was not supportive of this "modeling" hypothesis.

Identification. Many complicated sex-typed patterns of behavior appear to develop spontaneously, without direct training or reward. A more subtle process than social-learning theory, identification, has been hypothesized to account for such development. Freud defined it as the process which "endeavors to mold a person's own ego after the fashion of one that has been taken as a model" (Freud, 1921, p. 62). Learning theorists conceptualize identification as "learned drive" or "motive" to be like a model (parent).

The concepts, imitation and identification, have much in common. It seems that observational learning is generally labeled "imitation" in experimental psychology and "identification" in theories of personality. However, identification may be used to denote a particular kind of imitation, based on an intimate relationship between the identifier and the model. The outcome of the process is assumed to be relatively stable and highly resistant to change.

The hypothesis of developmental identification maintains that love and affection for the model are the principle factors instigating identification. The child, being dependent on the nurturant parent, feels frustrated when s/he is absent. But by performing some of the acts ordinarily performed by that parent, the child is able to

provide self with some of the rewarding feelings usually associated with the parent's presence.

For role theorists, identification is equated with "role playing," e.g., identification with the mother is synonymous with "playing the mother's role."

Cognitive-Developmental Theory. Kohlberg (1966) proposed a theory based on the assumption that the basic patterning of sexual attitudes is to be found neither in biological instincts nor in arbitrary cultural norms. The development of sex-type is conceived as an aspect of cognitive growth which involves basic qualitative changes with age in the child's modes of thinking and in her/his perceptions of the physical and social world, including her/his sense of self. "Rather than biological instinct, it is the child's cognitive organization of social role concepts around universal physical dimensions that accounts for the existence of universals in sex-role attitudes" (Kohlberg, 1966, p. 82).

The child's gender identity becomes stabilized at about 5 or 6 years of age. With further cognitive development, the child acquires a number of cross-cultural stereotypes of masculine and feminine behavior; the stereotype forms of males as active, dominant, powerful and aggressive and females as more nurturant. These are not derived from parental behavior or direct teaching, but rather stem from universally perceived sex differences in bodily structure and capacities.

Once established, basic sex-role concepts generate new sex-typed values and attitudes. Kohlberg (1966) postulates five mechanisms by which sex-role concepts become directly translated into masculine-feminine values:

- 1) The child has a tendency to respond to new activities and interests that are congruent with old ones. This is an expression of Piaget's notion of assimilation. According to this assumption, women are likely to respond to paid careers in ways which are congruent with established roles.
- 2) Children make value judgments consistent with their self-concepts of sex role and hence seek activities that are representative of their own sex.
- 3) Young children tend to associate positive, self-enhancing values with sex-role stereotypes. For example, femininity is associated with values of nurturance and for a girl acquiring this stereotype produces a motivation to enact a feminine role, to conform to the stereotype. According to Kohlberg, this is true regardless of the rewards associated with the role. This is illustrated by women continuing to select female dominated occupations despite the low status and income associated with those occupations.
- 4) The child perceives the gender role as normative and hence generates judgments that conformity is morally right and deviations are morally wrong. So guilt about transgressions helps maintain sex-role stereotypes.

Vocational Development

Nearly 48% of all American women work. In all, 38.6 million women held jobs or were actively looking for jobs in 1973 according to the Bureau of Labor Statistics. In 1975 the female labor force increased by 1.6 million. Some of these are single women (23%); some are divorced, widowed or separated (19%); some may need to supplement their husband's income if it is \$10,000 or less (26%); and some, nurtured by the women's movement, want to leave their traditional role in the home and pursue careers (31%). There is already some concern that the typically feminine occupations will not be able to absorb all of the new recruits. Are there needs which many women hope to fulfill through employment other than money income needs?

Much has been written about career development which demonstrates the increasing clarity with which society understands the importance of vocational behavior and work in human experience. Unfortunately, most of this literature concentrates on male vocational behavior. This review will summarize some of the more important literature on female employment and occupational choice.

Some of the major theories describing career development are clearly identified with specific individuals such as Ginzberg, et al. (1951), Super, et al. (1963), Roe (1956) and Holland (1973). Other conceptual approaches to understanding vocational choice and development are not as clearly identified with an individual theorist, but draw

from behavioral science concepts and data in general.

What all the approaches seem to share is the common assumption that there is something systematic about people's careers and their development. The psychological theories tend to emphasize the description and sequencing of human development. Descriptions of the exact nature and timing of the stages differ. The personality constructs emphasized by the theorists also vary. Holland (1973) identifies six personality types, each characterized by a distinctive orientation to the world in general and work in particular. Roe (1957) postulates work choice and adjustment as a function of an orientation toward people which, in its turn, stems from early childhood familial experiences. Super, et al. (1963) relate stages of vocational development to the implementation of the self-concept in work.

Sociological approaches tend to emphasize factors which shape the options open to individuals, such as social class variables, family size, sex and race (Osipow, 1973), regardless of the individual's personal qualities.

Several broadly based conclusions emerge from the body of research and theory describing vocational development. It seems clear that vocational life is developmental, that is to say, an individual's concept of what are appropriate work and work attitudes at one stage of his life is likely to be shaped over time. As noted elsewhere (Osipow, 1969), the changes stem both within the individual as a reflection of physical, social and intellectual capacities and

orientations, as well as from social forces.

A second conclusion is that for many people in Western society, work success is closely related to self-esteem. Definition of self is often a function of the work role assigned and success in accomplishing it.

The present study is particularly concerned with this organism-environment relationship in regard to parity and occupational choice, for three different age groups of women.

Another assumption deals with difference in motivations to work. It is often assumed that for men work is serious, basically related to self-esteem and important in terms of the maintenance of livelihood. For women, work is a hobby, an outlet for emotional needs and a source of gratification, a luxury. As a result, the woman's employment is subordinate to family needs, childrearing and husband's desires.

Existing data suggest that in most respects the work motivations of women are similar to those of men; women and men experience similar work-related frustrations; women and men desire the same rewards and possess basically the same aptitudes and interests. What does appear to be different is that the proportion of women employed at activities congruent with personal attributes may be less than for men (Osipow, 1973). Until recently, women had very limited occupational choices.

Motivation to Work. The following studies support the premise that work roles do supply an alternate source of

psychological gratification for women.

Shea, Seitz, and Zeller (1970) found support for the importance of intrinsic job satisfaction to employed women. Three-fifths of the employed white female subjects and two-thirds of the employed black female subjects indicated that they would continue to work even if it were not economically necessary. However, the proportion of black women stressing the extrinsic job motivation of wages was double that of white women. It is important to remember here that minority women typically occupy low status jobs. Based on this idea, race is controlled in this study.

Career-oriented subjects stressed the intrinsic features of the occupation they chose in the Almqvist and Angrist (1970) study. They desired a vocation which would allow them to use their special talents and free them from close supervision. However, women who chose male-dominated occupations stressed the extrinsic motivation of high income more than did women who chose typically feminine occupations. Those who chose feminine occupations stressed people-oriented values more than did the others. This may be because of the cultural definition of feminine occupations as being those which are nurturant and stress people orientation.

Work Commitment. The concept of work commitment as it relates to married women is discussed by Safilios-Rothschild (1970). She points out that the conditions for work commitment differ for men and women, since most societies

assume that men will be employed, but do not assume that women will be employed. Length of employment is an inadequate way to measure work commitment. A more generally applicable definition might be based on the relative distribution of interest, time, energy, and emotional investment in work as opposed to other life sectors.

Demographic and Social Factors Related to Work and Family

Self-esteem. As noted earlier, self-concept development through career is an important element in Super's theory (1963). It is generally assumed that work provides many important experiences contributing to an individual's self-esteem. Since many of the work roles readily accessible to both talented women and less talented women alike do not enhance self-esteem, the question of the impact of occupying many low self-esteem job roles on women's mental health is important. Most women report children as enhancing their self-esteem and employed women have fewer children. Perhaps women in low esteem job roles feel a need to have more children to enhance their own self-concept or they suffer diminished mental health.

Korman (1966, 1967) hypothesized that individuals, high in self-esteem, will be likely to choose occupations which they perceive as personally need satisfying. Their choices will be congruent with their self-concept of a "need satisfying individual," and thus high self-esteem people will be more likely to reject social or other influences which might minimize the achievement of this

satisfaction. Low self-esteem individuals will be less apt to choose vocations which they see as likely to fulfill their specific needs. Such a choice would be inappropriate to the role of "non-need satisfying individual." Low self-esteem people will be more likely to accept influences which would maximize the probability of their entering inappropriate occupations. Korman suggests, then, that high self-esteem individuals tend to implement their self-concept when making vocational decisions, whereas low self-esteem individuals do not. Korman's (1967) results indicate that females tended to choose an occupation which called more for low abilities than for high, suggesting that women tend to have lower self-esteem, as reflected in vocational decisions.

Age of Children

By far the most important factor in whether a woman works, irrespective of skills, education or socioeconomic level is the age of her children. Among women who had children under three years of age only 27% were in the labor force. Where children's ages ranged from three to five years, 38% of the mothers worked. In families where all the children were of school age, 52% of the mothers were working. The participation rate of minority mothers in the work force is much higher than their white counterparts (Bureau of Labor Statistics, 1971).

Tropman (1968), investigating the employment patterns of social workers, found the absence or presence of young

children to be a significant variable in determining if a woman will be employed in the future. Women who received their professional degree after the birth of their first child were more apt to work full time than those who graduated before having their first child. The usual sequence of employment for mothers is to terminate or delay employment until the child begins school. If a mother continues to work after childbirth it is frequently on a part-time basis rather than full, especially if the child is under six. The results of the Tropman study demonstrated that for women in a nurturant occupation, such as social work, the motivation to work diminished when the opportunity to nurture was present at home. This factor is particularly potent for women who were already working, the presence or absence of young children affected the number of hours that they spent working. In the present study the number of work hours is included in the paradigm to refine further the analysis of work as an alternate nurturant activity. It could be argued that the change in work schedules is simply due to the time and energy demands of motherhood, not the nurturant role requirements of motherhood.

Support for the premise that nurturant opportunities in the home are a factor in the determination of work activities (this is not simply a time and energy decision) can be found by comparing the findings of Sobol (1936) and Tropman (1968). Sobol analyzed the data obtained in an

earlier study (Freedman and Whelpton, 1959) which surveyed a stratified random sample of white, married women between the ages of eighteen and thirty-nine to assess the variables affecting maternal work commitment. The future work plans of those wives already working did not seem to be significantly related to the ages of their children or to their expectation of more children. In Sobol's survey the work activities of the women were not limited to nurturant types as in Tropman's study of social workers for whom the presence of younger children affected the number of hours that they spent working. The time and energy requirements of motherhood are conceivably the same for both groups. It follows that the motivation to work in a nurturant occupation is diminished when there are opportunities to nurture at home.

Age of Wife. Since the age and number of children affect the career plans of women, it may also be reasonable to expect an association between a woman's age and her employment status, at least for mothers. Consistent with this expectation are the observations that the number of working wives increases as children grow up (Harbeson, 1967) and that the largest proportion of working women is between the ages of thirty-five and forty-five (Nye, 1963). Even a woman's attitude toward employment can be differentiated by her age. Modern-oriented women (favorable work attitudes) are more likely to be forty-five years old or older whereas traditionally-oriented women (unfavorable work attitudes)

tend to be forty-four years old or younger (Katelman and Barnett, 1968). Perhaps the younger women find their needs for status, identity, affiliation and nurturance met through their children and the older women need employment to meet these needs now that their children are grown.

Another study (Sweet, 1973) reported that age is not consistently a discriminator of woman's work status. Utilizing the data from the U. S. Census of 1960, Sweet found that under the age of fifty a woman's age was of little significance in determining her work status if her children were under eighteen years of age. Age is controlled in the present study by dividing the sample into three cohort age groups.

Education. Education is another important variable in determining whether a woman works and the kind of work she does. There are data that indicate that the more education a woman has the more likely she will be working. In 1972 if a woman had less than eight years of schooling the chances were one in four she would be working. If she had a high school education, the probability was one in two, while the chances were two in three if she had five or more years of college. A recent study by Almquist and Angrist (1971) indicated that a majority of college women wanted dual careers as homemakers and career women.

Wolfe (1969) hypothesized that the values women seek from their work differ according to the level of education they attain. The results of Wolfe's study did not support

this hypothesis because all the women in the study placed the greatest importance on the desire to achieve satisfaction and the sense of accomplishment, regardless of the educational level they completed. Women at the lower end of the educational continuum were more likely to stress independence while those with more education placed a higher value on the social attributes of work. Most women considered the desire to control or direct as well as be noticed by other people, and the economic value of work to be low, although the importance of the former aspect increases while the latter decreases with education. Thus, there is no significant difference in the values that women of various educational levels seek from their work but there is some indication that women with less education stress the independence and financial aspects of work, and women with more education stress the dominance and social values of their jobs. Education is one of the demographic variables included in the predictive models utilized in this study.

Race. It is generally found that in population studies (Whelpton et al., 1966) minority group women bear more children. The relationship between employment and family size was analyzed for black women by Terry (1975). She found that the usual inverse relationship between work and fertility was eliminated for black women when marital and background variables were controlled. The marital and background variables used in Terry's study were almost

identical to the family and general demographic variables used in this study: age, age at marriage, religion, education, race, rural background, education, income, age at first birth, number of years worked and hours worked per week.

Marital and Familial Effects of Employment. It has been suggested that the phenomenon of the working woman has had a greater impact upon the institutions of marriage and family than any other recent social change. Some apprehension has been expressed over the increasing number of women entering the labor force as a potential threat to the institutions of marriage and the family. In an effort to understand the situation, much attention has been directed toward the marital and familial effects associated with the employment of women. The evidence substantiating or negating the concern about the detrimental effects of women's employment on marriage and family has not been overwhelming because of the complexity of the issue. Nevertheless, differences between employed and unemployed women have been observed on a number of marital variables. The woman who plans to pursue a career seriously and the woman who prefers to become a full-time homemaker have been differentiated in terms of their marital status, age when first married, and marital satisfaction (Tinsely, 1972).

In the present study, stably married women were selected to control for differences due to marital status. Age when first married is one of the independent variables

included in the regression equation.

Divorce. Although the number of unmarried women among professional women has declined in recent years, the incidence of divorce is substantially higher for professional women than it is for professional men (Epstein, 1970). The roles of wife, mother, and professional are often marked by role strain as a result of the demands made by each role on a woman's time and energy. In their research on the dual career family, Rapoport and Rapoport (1971) found the stress occurring in a dual-career family is manageable and need not inevitably lead to divorce for the majority of couples interviewed.

Only women in dual career families were selected for this study. Although they are not all professional women, they have remained married throughout the nine years of data collection.

Marital Power Structure. Nagely (1971) found that a woman's influence in family decisions could also be differentiated according to the type of occupation she held. Women who chose traditionally male-dominated occupation reported that they had more authority in deciding how the family income would be spent and also took more responsibility for disciplining their children than women who were in traditionally female-dominated occupations.

Blood's (1969) overview of the literature regarding the influence of employment on the marital power structure reveals that it is a complex phenomenon as the research

data are often contradictory. There is evidence to suggest that an employed woman is less involved in household task decisions and more involved with economic decision making. The degree of influence that each spouse has over the other, however, remains relatively unaffected. This observation indicates that the revisions in the family decision-making pattern are the result of the wife's greater bargaining power stemming from her greater familiarity with economic matters that increases her involvement and influence in the family's financial decisions.

Therefore, the use of data gathered from interviews with the wife is deemed most appropriate for this study which is concerned with fertility decisions and occupation of the wife.

Personality Variables in Career Development of Women

Achievement Motivation. The current investigation hypothesizes that certain kinds of needs can be met in some occupations though not in all, with resulting differential fertility patterns of women in different occupations. Many studies of the career development of women have examined the relationship of personality variables to traditional career interests. Hoyt and Kennedy (1958) found that career-oriented girls were more achievement oriented, introspective, dominant, and persevering according to the Edwards Personal Preference Schedule. These researchers postulated that career-oriented women were motivated by one

or more of four independent needs: a need to establish self-worth through competition, a need to accomplish concrete goals, a need to know and understand intellectually, or a need to avoid relations with the opposite sex. Hoyt and Kennedy also hypothesized that homemaking-oriented girls are motivated by a need for affection which can be satisfied through marriage and a family.

In an extension of the Hoyt and Kennedy study, Gysbers, Johnston and Gust (1968) found support for the idea that career women are motivated by several needs, one of which is the need for achievement. They suggest that career-oriented women may attach primary importance to work, and may regard achievement as more important than personal regard from others. These investigators speculate that career-oriented women may fit into the Holland (1966) intellectual and enterprising personality types while homemaking-oriented women correspond to the social and conventional types.

Tangri (1972) found that women aspiring to male-dominated fields described themselves as "not too successful," and "always feeling one is acting, not being myself," and as concerned about identity. These women had greater conflict between marriage and career. Tangri (1972) feels that these items on the questionnaire may have elicited the conflict in self perception that career-oriented girls feel when confronted with social situations where demands for outward conformity conflict

with their behavior and reactions. Tangri also found that traditionally oriented women were likely to displace their achievement motivation onto future husbands. Women oriented toward masculine careers were more apt to be motivated by self-imposed demands to fulfill their potential.

Tangri's findings relate to Horner's (1972) hypothesis that women have a motive to avoid success, a disposition or tendency to become anxious about high achievement because of their anticipation of negative consequences of success. This is not the same as a "will to fail." Horner speculates that women with a high motive to avoid success will be least likely to develop interests and intellectual potential when in competition with men, since the expectancy of negative consequences is greatest under this condition. The motive to avoid success is viewed as a latent, stable, personality disposition acquired early in life as part of sex (and race) role socialization. Women have incorporated the culture's attitude that competition, success, competence, and intellectual achievement are masculine traits, hence inconsistent with femininity, and thus constitute inappropriate goals for a woman. Horner hypothesizes that the motive to avoid success is a potent factor in limiting women's aspirations toward meaningful participation in a career. Later findings suggest that men fear success as well.

Comparisons Among Occupations. Family demographic variables and fertility patterns are compared across

different occupations in the author's study. Personality variables will not be assessed. However, the study described below which examines the personalities of women aspiring to various occupations provides a base for an alternate explanation for differential parity among women in diverse occupations.

Katz, Comstock, and Lozoff (1970) examined the personalities of college women aspiring to careers as teacher at the elementary, high school, and college levels, in business, in the arts, and as housewives. The housewife oriented women were more security minded and interested in economic affluence. Their families usually did not encourage them to have a career. Housewife oriented women were less apt to choose a difficult task over an easy one, but felt it was important to be busy at all times. They had a passive orientation toward life, and wished to work less but have more material goods. The home oriented subjects saw homemaking as conducive to achieving goals of self-confidence and contentment, indicating their competence through family interaction, social poise, and personal development and a limitation in perception. Their definitions of right and wrong were more clear-cut, and they may have been avoiding the complexities and challenges of the outside world.

Potential college teachers on the other hand, were less security-minded and less people-oriented or inclined to help others. Often their parents had encouraged them

to have a career. They were task-oriented and enjoyed intense concentration and difficult tasks. These women set high standards for themselves, and desired intellectual achievement. Women who aspired to careers in teaching on the elementary and high school levels were more security-minded and oriented to helping others.

Women interested in business vocations valued security, were low in risk taking, enjoyed people but were not oriented toward helping roles. These women were very different from the women aspiring to artistic careers, who were low on security striving, had little need to work with or help people, and were risk-taking and impulsive (Katz, et al., 1970).

Comparable data on women actually engaged in these occupations were not found.

Summary

As reported in the review of the literature, some psychologists (Benedek, 1970; Kohlberg, 1966) favor nativistic explanations of human behavior by assuming that there are predetermined genetic traits in females which predispose them to become caregivers. Others favor environmental explanation for nurturance and affiliation needs in females (Bandura & Walters, 1963; Sears, et al., 1965). Psychobiologists believe that behavior cannot be explained by either environmental or biological factors alone. Rather, there is a mutual development of

psychological and biological components of behavior. There is little evidence in support of the concept of an "instinct" for mothering, although both men and women seem to be psychobiologically prepared to provide caregiving to young children (Fitzgerald, 1977).

With this psychobiological preparation for motherhood in mind, the question emerges of how labor force participation interacts with this preparation.

The conclusions which emerged from the review of research and theory describing vocational development reflect something systematic about women's careers and their development. However, there is a lack of consistency and cohesion in the research on personal factors in career orientation of women.

Confusion in the area of individual variables and women's career orientation reflects the current evolution and change of women's social and cultural roles. As women re-evaluate their values and self-concept due to feedback from the social system, new possibilities for expression of personal ability through occupational achievement arise. Clearly, the more open the system is, as manifested in the occupational interface investigated in this study, the more likely change will occur. The current investigation is concerned with one aspect of the feedback loop--the type of occupation of the wife and family configuration.

I have hypothesized that the psychobiological

preparedness to nurture may be actualized in nurturant type occupations when the opportunities to express nurturance at home are limited.

As shown in the review of the literature, a number of other variables also affect both the fertility pattern of women and their occupational choices. These include age, race, education, age when first married, age at first birth, age of children, income, expected number of children, and whether the wife is willing to work when there are young children at home. These variables are entered in the analysis only to control their effects so the variance due to employment in a nurturant occupation can be assessed.

CHAPTER III

METHODOLOGY

The purpose of this study is to evaluate the relationship between employment in an occupation which structurally provides opportunities to nurture and affiliate with others and fertility pattern. The study is concerned with explaining the strong inverse relationship between fertility and labor force participation of wives which is so well documented in the literature. This inverse relationship is often explained in terms of role alternatives. However, no research to date has analyzed this "role alternative" theory in terms of specific occupational activities. This investigation is initiated to determine if specific occupations which vary in terms of their approximation of mother roles, specifically nurturance and affiliation, correlate differentially with fertility patterns of the employed wife.

It has also been suggested in the literature that adult women have a need to nurture. This theory of "nurturant need" implies that women who do not have opportunities to nurture children at home, may seek occupations which provide opportunities to nurture. This theory of nurturant need will be assessed by evaluating

the correlation between occupation groups which vary in structural opportunities to nurture (manufacturing, clerical, and sales versus health, personal and educational service) and family demographic characteristics which reflect opportunities to nurture at home (number of children under 18 years in the family unit and age of the youngest child).

In the analysis of the "alternate role" theory, fertility pattern is the dependent variable. In the analysis of the "nurturant need" theory, occupational category is the dependent variable.

Research Questions

There are two general research questions in this study. A natural language statement is given for each followed by specific research hypotheses (H).

Research Question I: Is there a relationship between occupation of the wife and her fertility pattern?

H₁ : Occupation accounts for variance in the total number of children, when the effects of general and family demographic variables are controlled.

H₂ : Occupation accounts for variance in the change in number of children during the nine year study, when initial parity, general and family demographic variables are controlled.

Research Question II: Is there a relationship between the occupation (nurturant/nonnurturant) and family demographic variables?

H₃ : Family demographic variables account for variance in occupation when the effects of general demographic variables are controlled.

H₄ : Family demographic variables which reflect nurturant opportunities in the home such as age of the youngest child, number of children under 18 in the family unit account for variance in occupation when the effects of other family and general demographic variables are controlled.

Sampling

Data Set. The data set used is from the Panel Study of Income Dynamics initiated by the Research and Plans Division of the Offices of Economic Opportunity and conducted by the University of Michigan's Survey Research Center under the direction of Dr. James Morgan. It represents an effort to document the social and economic conditions that exist in a large panel of families (n=5725) over a nine year period of time from 1968 through 1976.

Data Collection. The data from the ninth wave of the Panel Study of Income Dynamics were used as the data base for this study. The ninth wave data set was selected for use in these analyses rather than the eight year merged data set. The rationale for this selection included the following: (a) The ninth wave of data collection occurred in 1975 and represents the most recent data available. (b) During the ninth wave of the data collection, wife interviews were conducted for the first time(s). (c) The description of occupational variables was changed in the ninth wave questionnaire making it more appropriate for use in this study, and making occupations more difficult to compare with previous years if a merged tape was used. (d) The ninth wave tape contains all the necessary background

variables reported in previous years and contains fewer errors.

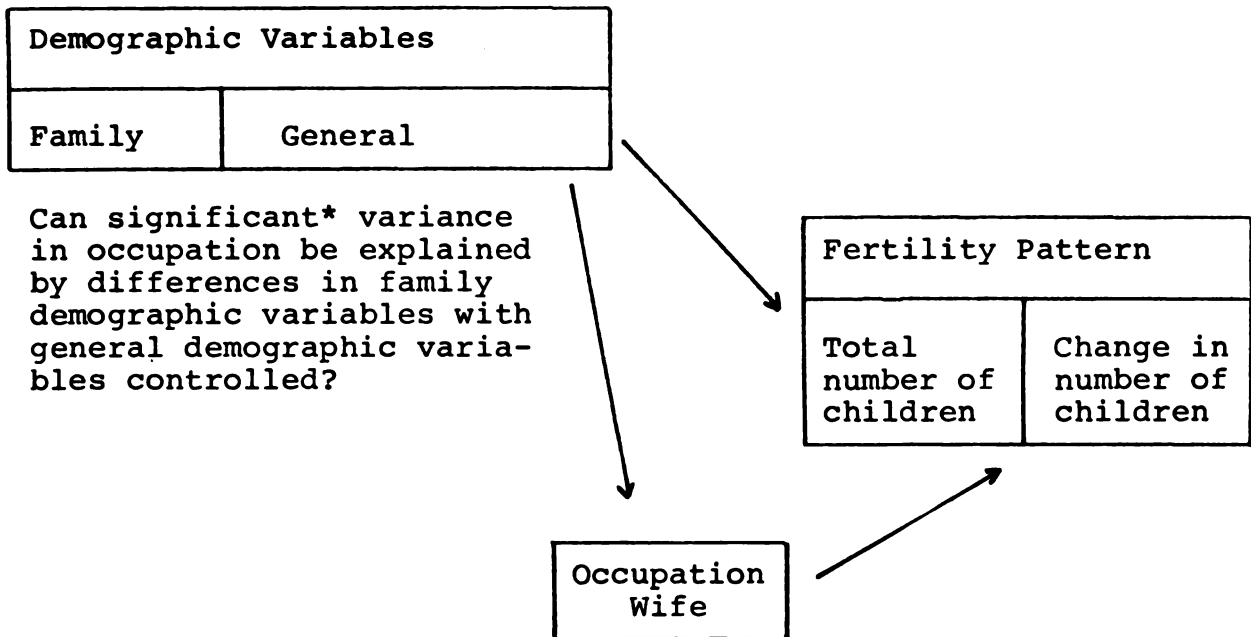
It was determined that the most recent occupation of the wife is the best indicator of her "chosen" occupation. It is assumed that people seek to maximize their need for gratification and move into occupations which meet more of their needs. The relationship between current opportunities to nurture at home and current occupations is evaluated in this study.

Research Design

The research design calls for analysis of multiple independent variables in predicting to both fertility pattern and occupation of the wife. Multiple regression analyses are utilized to assess the proportion of variance explained by a given predictor while controlling for the effects of others. This design is outlined in Figure 1. Decision rules with regard to significance of findings is set at chance probability of 5%. Significance, then, means that the difference between the Full and the Restricted model is not likely to occur by chance more than five times in 100.

Cohort Groups. Separate analyses are completed for each of three cohort groups of wives; the youngest cohort group includes wives under 25 years of age, while the middle cohort group consists of those between 25 and 35 years of age. The oldest cohort group includes wives between 36 and 44 years of age. This breakdown is based on the age of the wife in 1968.

Figure 1
Conceptual Schema of Research Design



* $p \leq .05$

Separate analyses are deemed necessary because the age of the wife alters the meaning of the fertility variables. For instance, three children for the oldest group of wives more likely represents ultimate fertility whereas it might not be such a representation for the youngest wives.

Study Sample. The criteria for selecting this study sample were (a) both husband and wife have remained the same throughout the nine waves; (b) the wife is employed during the nine waves of this study; (c) the wife was under 45 years of age in 1968; (d) an interview with the wife was conducted. Interviews with 3,482 wives were conducted, of

these 545 wives were stably married and employed.

DESCRIPTION OF VARIABLES

The variables which follow are listed under categorical headings which conform to the headings utilized in the research design.

The means and standard deviations for each of the continuous variables are provided in Table 1. The specific content of the interview questions which correspond to these variables can be found in Appendix A.

General Demographic

Wife's Income. This is a continuous variable which reflects the actual income of the wife in 1976. This variable is included in the regression equation predicting fertility pattern because it reflects the lost opportunity costs of having additional children. Additional children have been found to result in diminished employment for the wife. The cost of additional children are higher in terms of lost opportunity costs for wives earning higher income. In the regression equation, predicting occupation, the wife's income is included to control the amount of variance in occupation due to income prior to evaluating the proportion of the variance explained by family demographic variables. This is necessary because there may be some intereffect between family demographic variables.

Total Number of Years the Wife has Worked. This is a continuous variable ranging from 1 to her age minus 18.

TABLE 1

Mean and Standard Deviation of Independent Variables

	<u>Youngest Cohort</u>		<u>Middle Cohort</u>		<u>Oldest Cohort</u>	
	M	S.D.	M	S.D.	M.	S.D.
Years worked	9.0	4.2	13.2	6.2	18.4	8.1
Education	12.2	2.0	11.7	2.4	11.5	2.7
Wife income	\$5608	3158	\$5701	3669	\$5818	3715
Hours/wk work	36.6	8.8	36.4	9.8	35.2	8.7
Age of wife at 1st birth	20.5	4.3	21.7	7.6	23.5	7.2
Room/required	5.2	1.4	5.1	1.5	5.5	1.6
Age marriage	19.1	5.8	19.5	7.5	21.2	4.8
Children under 18 years of age	2.3	1.3	2.1	1.4	1.1	1.3
Age youngest	6.5	3.5	9.1	5.0	6.5	6.6
Change in number of children	.87	.82	.21	.45	.05	.29
Initial parity	1.5	1.3	3.2	1.9	3.8	2.5
Total number of children	2.4	1.4	3.4	1.9	3.9	2.5
N of Cases	153		189		194	

This variable is included in the regression equation predicting fertility pattern because of the high inverse relationship between employment and fertility. The more years the wife has worked, the stronger that inverse relationship is likely to be. In the regression equation predicting occupation, total number of years worked is included prior to evaluating the proportion of variance explained by family demographic variables as there is likely to be some interaction between number of years worked which would artificially change the proportion of variance actually explained by the variables of interest.

Hours Per Week the Wife Works. This is a continuous variable reflecting the actual number of weeks worked. The mean of the sample represents full time employment though there is some variation in total hours. This variable is included for the same reasons as those given for the inclusion of total number of years worked.

Wife's Education. This is a continuous variable representing the total number of years of the wife assessed in 1976. Population studies traditionally find that educational level is a significant predictor of fertility; as educational level of the wife increases, fertility decreases. This may be related to the findings which indicate that the more education a woman has, the more likely she will be working, and working women have fewer children. Since all the wives in this sample are working, the inclusion of education in the equation predicting the

fertility pattern is based on the interpretation of education as an index of family planning knowledge. Educational level of the wife is included in the regression equation predicting the occupation prior to evaluating the proportion of variance explained by the family demographic variables of interest. Thus a closer approximation of the true variance in occupation accounted for by family variables controlling educational level can be assessed.

Race. This is a nominal variable (white/nonwhite). Race of the wife is included as a dichotomous variable in the regression equation predicting to fertility as minority group membership has been found to predict to larger family size in most population studies. Arguments for making the interval assumption in such cases have been advanced by a number of social statisticians (Blalock, 1964).

Religion. This is a nominal variable (catholic/noncatholic). Religious preference is included as a dichotomous independent variable in the regression equations predicting to fertility as Catholic Church doctrine takes a strong stand against limiting family size.

Rural Background. This is a nominal variable (rural/nonrural) which is included as a dichotomous independent variable in the regression equations. Rural background of the wife may be important in predicting family size and occupational decisions due to different social norms operating in rural areas.

Family Demographic

Whether Wife Expects More Children. In 1976 the wife was asked if she expected to have any more children some time in the future. This is a nominal variable which will be used as a Yes/No dichotomous variable in the regression equations. This study is assessing parity decisions of working wives. The future plans for increasing family size need to be controlled in the assessment of current fertility patterns.

Age of Wife at Marriage. This is a continuous variable which reflects the number of years the couple has had to conceive their total number of children. This variable reflects certain social role norms operating for the wife as women who marry at a later age tend to be less traditional and have fewer children.

Number of rooms minus required rooms. This is a continuous variable which is determined by subtracting the number of rooms required for a family of given composition plus three from the total number of rooms in the family dwelling as of 1976. The rationale for inclusion of this variable is that crowded conditions in the home may affect the decision to have an additional child. Therefore, this variable is utilized in the regression equation predicting to change in number of children and occupation. Family size is part of the construction of this variable so it is not used in the regression equation predicting to total number of children.

Initial Parity. This is a continuous variable which assesses the total number of children the wife had in 1968. This variable will not be included in the regression equations with total number of children as the dependent variable due to the problem of multicollinearity. Control of this variable is particularly necessary in predicting to change in number of children as it is known that the decision to add children to the family unit is largely determined by current family size. Therefore, this independent variable is controlled before other predictors are entered in the multiple regression equation.

Age of Youngest Child. This is a continuous variable which is determined by the age of the youngest child in the family unit in 1976. This variable reflects nurturant opportunities available in the home as it is assumed that young children require more care and nurturance than older children. It is used in the equation predicting to occupation.

Number of Children Under 18 years. This is a continuous variable which is determined by the number of children under 18 years of age in the family unit as of 1976. This variable reflects nurturant opportunities available in the home as more children are likely to require more nurturance. This independent variable is used only in the regression equation predicting to occupation. Problems of multicollinearity are encountered when this variable is used in equations predicting to fertility pattern.

Occupation. The occupational variables are computed from both the occupational code and the industry code variables listed in the 5000 American Families data set. All of the occupational variables are nominal and will be used as dichotomous variables in the regression equation. Since the wife is describing her own occupation in these interviews, the occupational categories should be highly reliable.

Manufacturing includes those women for whom the "industry code" is manufacturing or construction or trades and the "occupation code" is technical, manager, craftsman, operative or laborer (any of these).

Clerical includes those women for whom the "industry code" is not retail or wholesale trade and the "occupation code" is clerical.

Sales includes those women for whom the "industry code" is retail or wholesale trades and the "occupation code" is sales.

Personal Services includes those women for whom the "industry code" is personal services or recreation or professional and related services other than medical or educational and the "occupation code" is professional or technical or service worker.

Health Services includes those women for whom the "industry code" is health or related services and the "occupation code" is professional or manager or service worker.

Educational Services includes those women for whom the "industry code" is educational services and the "occupation code" is professional or manager or self-employed or service worker.

Dependent Variables

Total Number of Children. This is a continuous variable which is determined by the total number of children of the wife as of 1976.

Change in Number of Children. This is a continuous variable which is determined by the total number of children in 1976 minus the total number of children in 1968.

Occupation. This is a dichotomous variable designated nurturant = 1 and nonnurturant = 0. Nurturant occupation is a combination of personal, health and educational service occupations which structurally provide more opportunities to nurture. These occupations have been selected for this analysis for two reasons. First, they are among the top ten occupations in which women are employed according to the Labor Bureau of Statistics (1970). Secondly, they are the occupational categories which are most easily dichotomized into nurturant and nonnurturant.

Analysis Strategies

Multiple Linear Regression. This is a study into the topic of how occupation of the wife relates to the fertility pattern and how certain family demographic variables relate to choice of occupation for the wife. The

predictive value of an unexplored variable, occupational type, for the fertility pattern of stably married women was explored. The unit of analysis in this study is the individual wife.

Multiple regression analyses have been employed to investigate the predictive significance of the occupation of the wife on her fertility pattern; and to investigate the predictive significance of certain family demographic variables on the choice of occupation of the wife.

Multiple regression is a general statistical technique through which one can analyze the relationship between a dependent or criterion variable and a set of independent or predictor variables. Multiple regression can be viewed either as a descriptive tool by which the linear dependence of one variable on others is summarized and decomposed, or as an inferential tool by which the relationships in the population are evaluated from the examination of sample data.

The most important uses of the technique as a descriptive tool are: a) to find the best linear prediction equation and to evaluate its accuracy; b) to control for confounding factors in order to evaluate the contribution of a specific variable or set of variables; and c) to find structural relations and provide explanation for seemingly multivariate relationships, such as is done in the path analysis.

Through multiple regression techniques statistics

have been obtained that indicate how accurate the prediction equation is and how much of the variation in fertility pattern is accounted for by the joint linear influence of the independent variables.

The full model in multiple linear regression refers to the equation in which all variables have been entered. The chance probability of the proportion of variance explained by the full model is dependent on the proportion of variance explained by each variable in the model in combination with the others. The restricted model in multiple linear regression refers to the equation in which all the variables have been entered except the variable(s) of special interest for hypothesis testing. The chance probability of the proportion of variance explained by the restricted model is dependent on the proportion of variance explained by each variable in the model in combination with the others. In comparing the full and restricted models the chance probability refers to the difference in the proportion of variance explained by each model.

Multiple regression analysis is the best statistical procedure for this study due to the research design of multiple independent variables predicting to singular dependent variables. Multiple regression provides a means of examining the effects and magnitudes of the effects of more than one independent variable on one dependent variable.

Limitations. The operationalization of the occupation variable used in this study may have limited the nature of the study findings. The failure of the nurturant occupation variable to predict fertility behavior may be due to the global nature of this variable. There are no precedents for categorizing occupation on the nurturant dimension. In this study a random sample of men and women were asked to rank order a group of occupations according to the amount of affiliation and nurturance required. (See Appendix B). Since ordinal scales are inconsistent with the assumptions required by multiple regression analysis, this scale was converted to a dichotomous interval variable by grouping the top three occupations into a single variable called "nurturant occupation." Women employed in a nurturant occupation received a score of one and others received a score of zero. Personal service, health, and educational occupations were considered most nurturant. An attempt was made to control for status differences in nurturant occupations versus the others by including all levels of participation from worker to professional within the categories.

CHAPTER IV

RESULTS

Research Findings

The results of the data analysis are presented in terms of the specific research hypotheses.

H_1 : Occupation of the wife accounts for variance in the total number of children when the effects of family and other demographic variables are controlled.

Multiple regression analysis was implemented on separate cohort groups in order to investigate this hypothesis. The total number of children of the wife in 1975 was used as the criterion variable and the occupation, family and general demographic variables were used as the predictor variables. As indicated in the results of the analysis reported in Tables 2, 3, and 4, the occupation variable which represents groups of nurturant and nonnurturant occupations was not found to be a significant predictor of total number of children. The amount of variance explained by the full models which included this variable was .491 for the youngest cohort group, .315 for the middle group and .441 for the oldest group. The restricted models which omitted the nurturant occupation variable were not significantly different with proportion of the variance explained being .481, .315, and .438 respectively.

TABLE 2

Results of Multiple Regression Analysis Predicting
Total Number of Children from General and Family
Demographic Variables and Nurturant Occupation for
the Youngest Cohort Group

Variables	Multiple R	R^2	R^2 change	Simple R	Chance Probability
Race			.1309	-.3554	.000**
Number years worked			.0441	-.2421	.009**
Education			.0277	-.3042	.025*
All general demographic			.2330		.000**
Whether expects more children			.0700	-.1688	.002**
Age first birth			.1668	-.5976	.000**
All family demographic			.2486		.000**
<u>RESTRICTED MODEL</u>	.5618	.4816			.000**
Occupation			.0098	.1299	.108
<u>FULL MODEL</u>	.5890	.4904			.000**

When the F ratio is computed comparing the Full and Restricted models, no significant difference is found.

* Significant at the .05 level

** Significant at the .01 level

TABLE 3

Results of Multiple Regression Analysis Predicting
Total Number of Children from General and Family
Demographic Variables and Nurturant Occupation for
Middle Cohort Group

Variables	Multiple R	R^2	R^2 change	Simple R	Chance Probability
Race			.1309	-.3554	.000**
Number years worked			.0487	-.2258	.001**
All general demographic			.2281		.000**
Age first birth			.0791	-.3630	.000**
All family demographic			.0876		.000**
<u>RESTRICTED MODEL</u>	.5618	.3157			.000**
Occupation			.0001		.912
<u>FULL MODEL</u>	.5622	.3158			.000**

When the F ratio was computed comparing the Full and Restricted models, no significant difference was found.

* Significant at the .05 level

** Significant at the .01 level

TABLE 4

Results of Multiple Regression Analysis Predicting
Total Number of Children from General and Family
Demographic Variables and Nurturant Occupation for
Oldest Cohort Group

Variables	Multiple R	R^2	R^2 change	Simple R	Chance Probability
Race			.1327	-.4081	.000**
Number years worked			.0971	-.2964	.000**
Religion			.0146	.0655	.034*
All general demographic			.4382		.000**
Age first birth			.0911	-.4482	.000**
All family demographic			.1233		.000**
<u>RESTRICTED MODEL</u>	.6619	.4382			.000**
Occupation			.0037	.1457	.274
<u>FULL MODEL</u>	.6647	.4419			.000**

When the F ratio was computed comparing the Full and Restricted models, no significant difference was found.

* Significant at the .05 level

** Significant at the .01 level

Other regression analyses implemented to test this hypothesis used each specific occupational category (manufacturing, clerical, sales, personal service, health and education) as a predictor variable in separate equations which also included the general and family demographic variables. As indicated in Table 11 for the youngest cohort group, personal service occupation was found to be a significant predictor of total number of children. The proportion of variance explained by the full model which included this variable was .526. The restricted model which omitted this variable was significantly different with .481 proportion of the variance explained ($\alpha = .000$). Youngest cohort wives employed in personal service occupations were likely to have more than the average number of children. None of the specific occupation variables were significant predictors for the middle or oldest cohort group.

In the tables which summarize the results of the Multiple Regression Analysis only the specific general and family demographic variables which were significant in the equation are reported in the table. All general and family demographic variables are included in the restricted model. The full model includes the proportion of the variance accounted for when the occupational variable is added to the restricted model.

In Table 2 the variables rural background, education, religion, wife's income, hours per week worked, age at

marriage, whether worked premarriage, whether worked with preschool child at home and whether expects more children did not contribute significantly to the equation.

In Table 3 the variables rural background, education, religion, wife's income, hours per week worked, age at marriage, whether worked premarriage, whether worked with preschool child at home and whether expects more children did not contribute significantly to the equation.

In Table 4 the variables rural background, education, wife's income, hours per week worked, age at marriage, whether expects more children, whether worked premarriage, whether worked with preschool child at home did not contribute significantly to the multiple regression equation.

Due to the possible short term impact of occupation on family size decisions, an analysis of the relationship between occupation and the change in total number of children during the nine years of data collection was implemented.

H₂ : Occupation accounts for variance in the change in number of children during the nine year study when the effects of certain family and general demographic variables are controlled.

A multiple regression analysis was implemented on separate cohort groups in order to investigate this hypothesis. The change in the number of children of the wife from 1968 to 1975 was used as the criterion variable and occupation, family and general demographic variables were predictors. As indicated in the results of the

analysis reported in Tables 5, 6 and 7, the proportion of the variance explained by the full model for the early cohort group was .259 ($\alpha = .000$), .181 ($\alpha = .002$) for the middle cohort group and .088 ($\alpha = .402$) for the oldest group. Significant differences were not found between the full model and the restricted models for any of the cohort groups. Thus, we have no evidence that occupation predicts change in number of children over a nine year period of time.

In Table 5 the variables rural background, religion, race, wife's income, hours per week worked, education, whether expects more children, and number of rooms minus required rooms did not contribute significantly to the multiple regression equation predicting change in number of children in the youngest cohort group.

In Table 6, the variables rural background, religion, race, wife's income, number of years worked, education, age at marriage, age at first birth, whether expects more children, and whether worked premarriage did not contribute significantly to the multiple regression equation predicting change in number of children.

In Table 7 the variables rural background, religion, wife's income, education, number of years worked, hours per week worked, whether expects more children, whether worked with preschool child at home, age at first birth, age at marriage, and number of rooms minus required number of rooms did not contribute significantly to the multiple

TABLE 5

Results of Multiple Regression Analysis Predicting
Change in Number of Children From General and
Family Demographic Variables and Nurturance
Occupation for Youngest Cohort Group

Variables	Multiple R	R ²	R ² change	Simple R	Chance Probability
Initial parity			.05025	-.22417	.006**
Number years worked			.02826	-.12736	.037*
All general demographic			.11011		.034*
Whether worked with preschool child			.03134	.15637	.014*
Age at first birth			.03575	-.08967	.004*
Age at marriage			.02548	-.02691	.034*
All family demographic			.1457		.000*
<u>RESTRICTED MODEL</u>	.5659	.2559			.000**
Occupation			.0031		.455
<u>FULL MODEL</u>	.5689	.2590			.000**

When the F ratio was computed comparing the Full and Restricted models, no significant difference was found.

TABLE 6

Results of Multiple Regression Analysis Predicting
Change in Number of Children from General and
Family Demographic Variables and Nurturant
Occupation for Middle Cohort Group

Variables	Multiple R	R ²	R ² change	Simple R	Chance Probability
Initial parity			.0003	-.0175	.810
Number hours per week worked			.0301	.0711	.026*
All general demographic			.0879		.32*
Whether worked with preschool child			.1074	.2278	.001**
Number rooms minus required			.0475	-.2627	.001**
All family demographic			.0929		.001**
<u>RESTRICTED MODEL</u>	.4252	.1808			
Occupation			.0011		.617
<u>FULL MODEL</u>	.4264	.1819			.002**

When the F ratio was computed comparing the Full and
Restricted models, no significant difference was found.

* Significant at the .05 level

** Significant at the .01 level

TABLE 7

Results of Multiple Regression Analysis Predicting
Change in Number of Children from General and
Family Demographic Variables and Nurturant
Occupation for Oldest Cohort Group

Variables	Multiple R	R ²	R ² change	Simple R	Chance Probability
Initial parity			.0071	.0843	.242
Race			.0403	.1921	.005**
All general demographic			.0580		.188
All family demographic			.0349		.309
<u>RESTRICTED MODEL</u>	.2884	.0832			.309
Occupation			.0060		.304
<u>FULL MODEL</u>	.2970	.0882			.402

When the F ratio was computed comparing the Full and
Restricted models, no significant difference was found.

* Significant at the .05 level

** Significant at the .01 level

regression equation predicting change in number of children.

H₃ : Family demographic variables account for variance in occupation when general demographic variables are controlled.

A regression analysis was implemented to test this hypothesis. In Tables 8, 9, and 10 the results of this multiple regression analysis are summarized. The dichotomous variable nurturant-nonnurturant occupation was used as the criterion variable. The full model included the seven general demographic variables and the six family demographic variables. The restricted model included only the general demographic variables. The full model accounted for .19 proportion of the variance in the youngest cohort group ($a = .014$), .12 in the middle group ($a = .059$) and .101 for the oldest cohort group ($a = .183$). The restricted model which omitted the family demographic variables accounted for .10 proportion of the variance in the youngest cohort group ($a = .027$), .08 for the middle group ($a = .030$) and .061 for the oldest cohort group. The difference between the full and restricted model for the youngest cohort group was significant ($a = .050$). Family demographic variables account for variance in occupation for the youngest cohort group but not for the middle and the oldest cohort groups.

Only the specific general and family demographic variables which were significant in the equation were reported in the table. All general demographic variables are included in the restricted model. The full model includes the proportion

of the variance accounted for when the family demographic variables are added to the restricted model.

In Table 8 the variables rural background, religion, race, hour per week worked, number years worked, whether expects more children, number rooms minus required, age at first birth, age at marriage, whether worked with a preschool child at home and age of the youngest child did not contribute significantly to the multiple regression equation predicting to nurturant occupation.

In Table 9 the variables rural, race, wife's income, education, hours per week worked, number of years worked, whether expects more children, number rooms minus required, age at first birth, age at marriage, whether worked with a preschool child at home, number of kids*under 18 years, and age of the youngest child did not contribute significantly to the multiple regression equation predicting to nurturant occupation.

In Table 10, the variables rural background, religion, wife's income, education, hours per week worked, number of years worked, whether expects more children, number rooms minus required, age at first birth, age at marriage, whether worked with a preschool child at home, number kids under 18 years in the family unit, and age of the youngest child did not contribute significantly to the multiple regression equation predicting to nurturant occupation.

* The terminology used in describing this variable was determined by the parent study.

TABLE 8

Results of Multiple Regression Analysis Predicting
Nurturant Occupation from General and Family
Demographic Variables for Youngest Cohort Group

Variables	Multiple R	R ²	R ² change	Simple R	Chance Probability
Wife's income			.0189	-.13792	.022*
Wife's education			.0635	.1573	.002*
General demographic			.1041		.027*
<u>RESTRICTED MODEL</u>	.3226	.1041			.027*
Number kids under 18 years			.0328	.1553	.022*
Family demographic			.0864		.014*
<u>FULL MODEL</u>	.4364	.1905			.014*

When the F ratio was computed comparing the Full and Restricted models significant difference was found.
F = 2.02 (a = .05)

* Significant at the .05 level
** Significant at the .01 level

TABLE 9

Results of Multiple Regression Analysis Predicting
Nurturant Occupation from General and Family
Demographic Variables for Middle Cohort Group

Variables	Multiple R	R^2	R^2 change	Simple R	Chance Probability
Religion			.0408	-.2402	.007**
All general demographic			.0881		.030*
<u>RESTRICTED MODEL</u>	.2968	.0881			.038*
All family demographic			.0387		.059
<u>FULL MODEL</u>	.3562	.1269			.059

The Full model is not significant.

* Significant at the .05 level

** Significant at the .01 level

TABLE 10

Results of Multiple Regression Analysis Predicting
Nurturant Occupation from General and Family
Demographic Variables for Oldest Cohort Group

Variables	Multiple R	R^2	R^2 change	Simple R	Chance Probability
Race			.0492	-.1808	.002**
All general demographic			.0620		.099
<u>RESTRICTED MODEL</u>	.2490	.0620			.099
All family demographic			.0394		.649
<u>FULL MODEL</u>	.3185	.1014			.183

The Full model is not significant.

* Significant at the .05 level

** Significant at the .01 level

H₄ : Variables which reflect nurturant opportunities in the home, age of the youngest child and number of children under 18 in the family unit are not related to occupation when other family and general demographic variables are controlled.

A multiple regression analysis was implemented to test this hypothesis. The results of this procedure reported in Tables 8, 9, and 10 indicate that the variable, number of children in the family unit under 18 years is a significant predictor of occupation for the youngest cohort group. The full model which included number of children under 18 in the family unit explained .19 proportion of the variance in the criterion variable, nurturant-nonnurturant occupation. The restricted model explained .15 proportion of the variance. The difference between these models is significant ($\alpha = .025$). The wives with more children under 18 years in the family unit than the average were more likely to be in a nurturant occupation for the youngest cohort group. The age of the youngest child and the number of children under 18 years in the family unit were not significant variables in the prediction of nurturant occupation for the middle and oldest cohort groups.

TABLE 11

Results of Multiple Regression Analyses Predicting
Total Number of Children from General and Family
Demographic Variables and Specific Occupations for
Youngest Cohort Groups

Variables	Multiple R	R ²	R ² change	Simple R	Chance Probability
<u>RESTRICTED MODEL</u>	.6940	.4816			.000**
Health			.0026	.0415	.285
Clerical			.0095	-.2083	.085
Personal Service			.0283	.2423	.033*
Sales			.0015	.0596	.305
Manufacturing			.0014	-.0311	.414
Education			.0015	-.1266	.514
<u>FULL MODEL</u>	.7258	.5268			.000**

When the F ratio is computed comparing the Full and Restricted models, no significant difference is found, except for personal service (F = 2.2).

* Significant at the .05 level

** Significant at the .01 level

TABLE 12

MIDDLE COHORT GROUP

Variables	Multiple R	R ²	R ² change	Simple R	Chance Probability
<u>RESTRICTED MODEL</u>	.5618	.3156			.000**
Personal Service			.0007	.0258	.504
Sales			.0001	-.0477	.591
Health			.0000	.0493	.770
Clerical			.0001	-.0326	.657
Manufacturing			.0013	.0542	.559
<u>FULL MODEL</u>	.5640	.3181			.000**

When the F ratio is computed comparing the Full and Restricted models, no significant difference is found.

* Significant at the .05 level

** Significant at the .01 level

TABLE 13

OLDEST COHORT GROUP

Variables	Multiple R	R^2	R^2 change	Simple R	Chance Probability
<u>RESTRICTED</u> <u>MODEL</u>	.6617	.4382			.000**
Health			.0105	.0945	.068
Clerical			.0000	-.1026	.802
Sales			.0035	-.1100	.964
Personal					
Service			.0000	-.0011	.519
Education			.0021	.0571	.260
Manufacturing			.0018	.0909	.439
FULL MODEL	.6755	.4564			.00**

When the F ratio is computed comparing the Full and Restricted models, no significant difference is found.

* Significant at the .05 level

** Significant at the .01 level

CHAPTER V

DISCUSSION

The results of the research will be discussed in two parts. The first part discusses the findings relative to the major research questions. The second part will discuss how the research findings contribute to an understanding of the important independent variables which predict to total number of children, change in number of children and occupation of working wives within different cohort groups.

This study evaluated whether the type of labor force participation of the wife is of potential significance in predicting differential fertility behavior. It was hypothesized that employment in an occupation which meets some of the psychological needs of women typically met by childrearing (whether or not these needs are socialized or biological) would correlate with lower rates of childrearing both before and during the years of data collection.

In general, occupation was not predictive of total number of children or change in number of children during the nine years period when the full regression model was compared to the restricted model. The only exception to this conclusion occurred in the case of personal service

occupation for the youngest cohort group. However the direction of the relationship was opposite to that hypothesized.

This study was also designed to evaluate whether family variables are of potential significance in predicting differential occupational choices. The primary purpose of this evaluation was to determine if similar family variables account for variance in both occupational choice and childbearing decision, thus establishing links between the two which have not been previously explored in the literature. Therefore the set of variables which are known to predict childbearing patterns from previous studies were used as predictors of occupation. It was found that this set of variables was predictive of occupation for the youngest cohort group. The full equations were not significant for the middle and oldest cohort groups.

The finding that family demographic variables do predict to employment in a nurturant occupation for the youngest cohort group is an important contribution of this study. The family demographic variables are the most personal and individualistic. If in fact women today are freer to choose the nature of their labor force participation as well as their participation in domestic functions such as childbearing--these individualistic family variables should assume greater importance in predicting occupation for the youngest cohort group, as is the case. Furthermore, the specific variable of interest,

nurturant opportunities in the domestic role as measured by number of children at home was found to be a significant predictor of employment in a nurturant occupation. Although this relationship is now powerful, it does suggest that this youngest cohort group is manifesting some congruence between work and family roles. Future research should be aimed at replicating this finding and clarifying the relationship between home and work roles. This research did not support the theory that work provides an alternate outlet for the nurturant role when nurturant opportunities in the home are limited by fewer children.

It was hypothesized that work roles which provide gratifications similar to those provided by childrearing would be selected as alternative sources of that gratification if childrearing functions at home are limited by age and number of children in the family unit.

This aspect of the investigation concerned the power of nurturant opportunities in the home, measured by number of children under 18 years in the family unit and age of the youngest child, to predict employment in nurturant occupations. Age of the youngest child was not found to be a significant variable in any of the equations. Number of children under 18 years did predict to employment in a nurturant occupation for the youngest cohort group. However, the direction of this relationship was opposite to that hypothesized.

The most significant findings apparent in the results

of this study is the evidence provided that number of children under 18 years in the family unit, which is considered a measure of nurturant opportunities in the home, does predict to employment in a nurturant occupation. This lends support to the notion of categorizing occupations on the dimension of nurturance and evaluating concomitant opportunities but was present in the global measure of nurturant occupations. Thus the validity of grouping occupations into a nurturant category and assessing the relationship with nurturant opportunities in the home is somewhat supported.

Although certain variables, age at first birth, number of years worked and race recur for every cohort group in the prediction of total number of children, the marked change across cohort groups of the predictive capacity of other variables represents the importance of assessing age before asserting models. The model for prediction of nurturant occupation is even more diverse for the three cohort groups. Income, education and number of children under 18 years were the predictors for the early cohort group. Religion was the significant predictor in the middle cohort group and race predicted nurturant occupation in the oldest cohort group. For the youngest cohort group, the same set of variables which (traditionally) predict fertility in this study, also predict employment in a nurturant occupation although the power of specific variables within the equation differ.

The importance of clarifying the role of work activities in the psycho-social system of American women is increasingly recognized by family theorists, psychologists and educators. The issue is often discussed and analyzed from the standpoint of everyone except the woman herself. It has been the purpose of this research to evaluate the relationship between work activities and domestic activities on the dimension of nurturance. This is the first attempt at such a study.

Nurturant Occupation as Criterion

Personal service, health and education occupations are grouped as nurturant and sales, clerical and manufacturing are grouped as nonnurturant.

The family demographic variables such as age at marriage, age at first birth, work premarriage, work with preschool children at home decrease in importance from the youngest cohort group in which they account for .086 ($a = .014$) proportion of the variance to .039 ($a = .183$) proportion of the variance for the oldest cohort group. The temporal relationship between these family demographic variables and the current occupation of the wife is greatly diminished for the older cohort group. This lack of temporal proximity may be manifested in the lack of predictive power for the family demographic variables for the middle and oldest cohort groups.

The socio-economic variables, income and education of

the wife are the most predictive of employment in a nurturant versus a nonnurturant occupation for the youngest cohort wives. However there was an interesting twist in these variables. Income of the wife was negatively related ($\beta = .022$) to employment in a nurturant occupation. Education was positively related to employment in a nurturant occupation. It seems that better educated women are trading off money for opportunities to work in nurturant occupations, or higher status occupations. A simple evaluation of wages in different occupations represented by this grouping may help to clarify this seeming paradox in economic terms. A young woman working at an automotive manufacturing plant (nonnurturant occupation) can earn \$13,000 with only a high school education whereas a beginning teacher with a college education can earn \$9,000 in this nurturant occupation.

General and Family Demographic Variables--Total Number of Children

The variables which consistently emerge as major predictors of total number of children for all cohort groups are number of years worked, race and age of woman at the birth of her first child. Non-white working wives and those who began childbearing at an earlier age have more children than the average for their cohort group. Women who have worked more years have fewer children than the average for their cohort group. These variables are well documented predictors of family size as reported in the

Growth of American Families studies (Freedman, Whelpton and Campbell [1959]; Whelpton, Campbell and Patterson [1966] and the Family Growth in Metropolitan American Studies (Westoff, et al., [1960, 1963])).

Education. Although education of the wife is well documented as a primary predictor of family size, education of the wife was found to be a significant predictor of the total number of children for the youngest cohort group only. Less educated working wives had more children than the average for the youngest cohort group accounting for .027 proportion of the variance ($a = .025$). In these analyses education was entered as a predictor variable in conjunction with other general demographic variables (background, religion, race, income, years worked, hours per week worked). It seems that much of the predictive power of education for the other cohort groups is shared by the other demographic variables, thus limiting the proportion of variance explained by education in the multiple regression analysis. The Pearson Product Moment Correlation of education with total number of children is $-.304$, $-.222$, and $-.195$ for the youngest, middle and oldest cohort groups respectively. Consistent with the multiple regression findings, education is more closely related to total number of children for the youngest cohort group as compared to the other age groups.

The correlation between race and education is $.20$, $.35$ and $.30$ for the youngest, middle and oldest cohort groups

respectively. This appropriately indicates the diminishing differential of minority group educational opportunities since the 1960's which is manifested in the youngest cohort group.

Religion. Another important variable often found in the older population studies is religion. The conclusion of every major empirical study traditionally has been that controlling for race, education, occupation, income and other socioeconomic measures, Catholics retain higher levels of fertility. However the analysis in this study of working wives indicates that religion is a significant variable in predicting total number of children only for the oldest cohort group. This may indicate the trend of younger Catholics to ignore the church doctrine on birth control which the older group of women adhered to. Or, that the family size decisions of working wives as compared to nonworking wives are less susceptible to the influences of traditional Catholic theology, especially for the younger working wives.

Whether Expects More Children. Whether the wife expects to have more children was a significant predictor variable of total number of children only for the youngest cohort group. This is reasonable since most of the middle and oldest cohort wives have already completed their planned families. It is interesting to note however that

the mean age of the youngest child is 6.5 years for the youngest cohort group, 9.1 for the middle group and 6.5 for the oldest cohort group. It seems that the oldest group of women added a tail end to their family rather late in life.

Race. Observed differences in childbearing between minority and white groups are usually explained as differences in the extent to which social, economic and demographic influences affect the two groups. For example, as found in this study, education and fertility were inversely related for every cohort group. Education and minority group membership are also inversely related for every cohort group ($r = .20$, $r = .35$, $r = .30$); and as previous studies have indicated, minority group membership is directly correlated with total number of children ($r = .35$, $r = .34$, $r = .40$).

Income. The costs of children to parents are both direct (food, clothing) and indirect opportunity costs. If the wife can't work or must work fewer hours due to the number of children in the family unit or must stop work for a period of time following the birth of an additional child, she has suffered an opportunity cost. Income of the wife is an indication of the indirect opportunity cost of children due to the loss of the wife's income. The greater

the opportunity cost, the less likely the decision will be made to have another child. Consistent with this view, the wife's income is negatively related to fertility in these analyses of young ($r = -.15$), middle ($r = -.26$) and older cohort wives ($r = -.10$).

Hours per week worked. A major assumption explicit in discussion on the inverse relationship between employment of wives and family size is that more children require more time and energy so women with larger families can't work. Or vice versa, that work requires time and energy which cannot then be devoted to raising a family. In this analysis, hours per week worked was found to be a significant predictor of total number of children for the oldest cohort group. The more children they have, the more hours per week they work. This seems in contradiction to the previously stated assumption. One possible explanation for this seemingly contradictory finding is that they work more hours because they need more money to help support the larger family. Or it may be due to a differential in perceived time and energy. The average number of children for the oldest group is 3.9 compared to 2.4 for the youngest group and 3.4 for the middle cohort group. However there are fewer children still at home in the oldest cohort group, the mean is 1.1 as compared to 2.3 for the youngest group and 2.1 for the middle group. Therefore it may be that the high differential between total number of children and

number left at home for the oldest cohort group is manifested as a differential in perceived time and energy available for employment after the children are gone.

Change in Number of Children

In analyzing the impact of occupation on family size decisions (or vice versa) it was recognized that decisions relating to family size may occur many years prior to employment in any given occupation. This study attempted to minimize the time lag between the two by assessing the change in number of children over a nine year period of time. The multiple regression equation predicting change in number of children included the same general and family demographic variables as in the equation predicting total number of children except initial parity of the wife was controlled in the change equation by forcing it into the equation at the first step. An additional family demographic variable actual number of rooms in the family unit minus required number of rooms was included in the equation predicting change in number of children as it was thought that crowded conditions in the home might preclude adding another child to the family.

The multiple regression equations were significant in predicting change in number of children for the youngest and middle cohort group. The proportion of variance explained was .25 ($\alpha = .000$) for the youngest group and .18 ($\alpha = .001$) for the middle group. The equation predicting change for the oldest cohort group is not

significant ($\alpha = .309$). There is very little variance in the criterion, change, for the oldest cohort group.

None of the occupational variables predict change in number of children for any of the cohort groups when general and family demographic variables are controlled. The set of six specific occupations was not significant in predicting change in number of children when general and family demographic variables are omitted from the multiple regression equation. These findings strongly suggest that occupation, at least as defined in this study, is not related to child-bearing decisions. The lack of significance of occupational variables in predicting change in number of children is a stronger indication of a lack of relationship than the results predicting total number of children because current occupation with recent change in number of children is a temporally closer phenomenon.

Youngest Cohort Group

The general and family demographic variables in the multiple regression equation predicting change in number of children which accounted for significant variance were number of years worked ($R^2 = .127$) ($\alpha = .037$), work with preschool children at home ($R^2 = .031$) ($\alpha = .014$), age at first birth ($R^2 = .035$) ($\alpha = .004$), and age at marriage ($R^2 = .026$) ($\alpha = .034$) for the youngest cohort group.

It is often assumed that many women will not work for a year or more following the birth of a child. The finding

that women who have borne a child within the last nine years have worked fewer years supports that assumption.

Since we are using a sample of working wives and the criterion in this equation reflects the recent addition of a child it is not surprising that willingness to work with a preschool child at home related positively with the criterion.

The younger the wife at marriage and at first birth, the more likely she is to have borne children over the nine years of the data collection. For this early cohort group, the nine years of this study represent the greatest childbearing years for American women. Since it is widely reported that age at marriage and age at first birth are highly inversely correlated with total family size, we would expect women in the youngest cohort group to reflect this relationship in the change in number of children during their peak childbearing years.

As expected the initial parity of the wife accounted for the greatest proportion of the explained variance: .050 ($\alpha = .006$). The lower the initial parity of the young cohort wife, the higher the change in number of children. The mean initial parity of the young cohort wives was 1.5 children and the mean change in number of children was .85. Perhaps the youngest cohort group was fulfilling the social norms of our society, two children per family, by bearing an additional child.

Middle Cohort Group

The variables which accounted for significant variance in the criterion, change in number of children, for the middle cohort group included hours per week worked, willingness to work with a preschool child at home and crowded conditions in the family unit defined as actual number of rooms minus required number of rooms.

Hours worked per week. Number of hours per week worked accounted for .030 proportion of the variance ($a = .026$). It is difficult to explain why working more hours per week correlates with greater change in the number of children. One might expect that wives who have recently increased their family would want to work fewer hours unless the increased family size has resulted in a financial burden on the family which the wife is attempting to minimize by working more hours.

Work with preschool child at home. As with the early cohort group, willingness to work with a preschool child at home predicts greater change in number of children for the middle cohort group. The proportion of variance explained was .017 ($a = .043$). This relationship would be expected given the criterion of recent additions in number of children and the sample of working wives.

Number of rooms minus required number of rooms. Middle cohort families are more likely to increase the size of the family despite crowded living conditions in the home. The proportion of the variance explained by this variable,

defined as actual number of rooms minus required number was .047 ($\alpha = .001$). Some light may be shed on this issue by pointing to the lack of a relationship between initial parity and change in number of children (which was the strongest relationship for the youngest cohort group). Unlike the youngest cohort group which seem to be adding the socially expected and probably planned for second child, the middle cohort group already had three children as their mean initial parity. It seems likely that the addition to the family size was unplanned as evidenced in the crowded conditions in the home. Or this may reflect the higher normative parity of this age group relative to the youngest cohort group in conjunction with the standard three bedroom dwelling unit available in the United States.

Oldest Cohort Group

The regression equation predicting change in number of children for the oldest cohort group was not significant. It seems that most of the women in the oldest cohort group have completed their families prior to the beginning of the data collection for this study. As a result, there is very little variance to be explained in the criterion variable, change in number of children for the oldest cohort group. It was hoped that there would be some clarification of the phenomenon of a "tail-end child" added late in the family life cycle. The only variable which was significant in the non-significant equation was race. Non-white working wives were more likely to add another child late in the

life cycle. The proportion of the variance explained by race was .040 ($\alpha = .005$).

Summary

A basic premise of this study is that work roles which require similar functions to the mothering role could offer an alternative outlet for acting out the socialized role (nurturant other). It was theorized that if work roles do offer such alternatives, women employed in nurturant occupations would demonstrate lower fertility. There would be less social role conflict for them since they are fulfilling their social role.

This premise is not supported by the findings of this study. In terms of exploring the role incompatibility issue, it seems more likely that working wives manifest their adherence to social role norms (at least in terms of providing nurturance) in both their domestic and work roles. However, no such conclusions can be drawn from this study. This is the first study to analyze the relationship between fertility and nurturant occupations. There are no precedents for predicting employment in nurturant occupation. Therefore, despite the low magnitude of the correlations, it is appropriate to note that of the variables used in this study, the family size variables were among the most highly correlated with employment in a nurturant occupation for both the youngest and the oldest cohort group. For the youngest cohort group the highest correlation with nurturant occupation

was reported for number of children under 18 years ($r = .15$) which was equalled only by education ($r = .15$). For the oldest cohort group the variable number of children under 18 years was the second highest correlation reported with nurturant occupation ($r = -.17$). This indicates that most of the variance in employment in a nurturant occupation is unknown, but family size variables are among the best predictors known.

Although the hypotheses were not supported, sufficient information was presented in this study to indicate the need for a closer look at the interdependence of work roles and family roles. We cannot study female roles independent of occupational roles in a society with high female employment.

CHAPTER VI

SUMMARY AND FUTURE IMPLICATIONS

The strong inverse relationship between female employment and parity is well documented but causality has been difficult to establish owing to a number of extraneous variables which may independently influence both work and parity and, to the same extent, cause an artificial relationship between these two variables. These independent variables include age at marriage, education, religion, rural background, income of the wife, age of the wife, age of the wife at first birth, and race.

It is assumed that mothers gain some intrinsic rewards from childrearing such as opportunities to affiliate with and nurture others, social identity, expansion of the self, stimulation, a sense of accomplishment and power. Clearly women can gain many of these rewards from working activities. It was suggested here that the availability of an alternate source of gratification for the rewards of childbearing may cause the employment-parity relationship. If this is true, women employed in occupations which are more likely to provide these gratifications would be motivated to have fewer children. Or, women with fewer children would be motivated to seek employment in occupations which provide

similar gratifications to childrearing.

The specific intrinsic rewards examined in this study were opportunities to nurture and affiliate with others. It was determined that work activities in personal service, health service, and educational service occupations were likely to be most rewarding in terms of opportunities to nurture and affiliate with others. The relationship between fertility patterns and employment in these occupations was assessed using multiple linear regression analysis so that the effect of extraneous variables could be controlled simultaneously.

A sample of stably married, employed wives under the age of 53 was selected. These wives participated in the 5000 American Family Study from its inception through the wife's interview in the ninth year of data collection. This sample was divided into three cohort age groups for separate analyses. The results of this investigation indicate that employment in the "nurturant" occupations is not a significant variable in predicting fertility patterns. The hypothesized causal path from work gratifications to childbearing decisions was not supported. Opportunities to nurture and affiliate at home represented by the number of children under 18 in the family unit was a significant variable in predicting employment in a nurturant occupation, but the direction of the relationship is opposite that expected by the proposed model.

No support was found for the explanation of the inverse

work-parity relationship based on alternate sources of similar rewards. However, more work needs to be done on the other intrinsic rewards which can be found in both childrearing and work activities, such as the sense of power available to women in supervisory positions. The selection of a nurturant occupation may be concomitant with adherence to traditional sex role norms, which are known to relate positively with parity. This extraneous factor may mask the value of alternate gratification theory when the particular reward sought is affiliation and opportunities to nurture because women who have strong desires to nurture and affiliate may choose to work in a nurturant occupation and have many children as well. It has been found in previous research in vocational development that women who identify strongly with the sex role stereotypes of our society are more likely to pursue careers in traditionally female dominated occupations. Almquist & Angrist (1970) found that women who chose feminine occupations stressed people oriented values more than others. Concomitantly, gender role norms can be thought of as a means of prescribing to women traditional gratifications centered in husband, home, and children. It may be that if women select nurturant occupations due to gender role norms, they might also choose the traditional gratifications of a larger family. Thus, rather than seeking alternative gratification in their work activities, role congruity is sought. This study was not designed to test role congruity

so no conclusions about the value of such a formulation can be drawn from the results.

The results of this study are not supportive of alternate gratifications of nurturant-affiliative desires as a cause of the inverse relationship between parity and employment.

Implications for Future Research

The youngest cohort group of women are likely to be the most similar to any group of working wives studied in future research. Therefore the implications of this study for future research will be concentrated on this group.

The relationships found between work and family roles justify a more comprehensive investigation.

The regression equation predicting to total number of children used in this study is most predictive for the youngest cohort group. The independent variables in this equation (other than the occupation variable) were selected based on their reported predictive power in previous studies. Since the earlier studies more likely used a sample of women which are cohorts of the middle and oldest cohort groups in this study, it is rather surprising to find the regression equation most predictive for the youngest cohort group. Except, most previous studies of fertility pattern also used samples of women who were currently in the peak childbearing years. Therefore it is possible that the variables reported predict to early childbearing decisions but cannot account for variations in

the later years of childbearing regardless of cohort group.

The difference in variance predicted for the youngest cohort group over the other groups is due to the differential predictive power of family demographic variables with general demographic variables controlled. Family demographic variables predicted .25 proportion of the variance for the youngest cohort group as compared to .09 for the middle and .12 for the oldest cohort group. This suggests that future researchers interested in predicting family size for working wives should pay special attention to gathering data on family demographic variables such as age at marriage and age at first birth as these are likely to be even more predictive of family size than general demographic variables such as race, religion, and income--both in terms of zero order correlations and when general demographic variables are controlled as covariates in a regression equation.

Emphasis should be placed on the finding that some specific occupations do predict to total number of children for the youngest cohort group--the group we are most interested in studying in terms of predicting future population trends. This is the group of women most likely to have been influenced by the changing fertility and labor patterns and the women's liberation movement in the United States.

The results indicate that though work activities grouped as nurturant do not predict to fertility, more

specific work activities ranked as highly nurturant do predict to fertility, even when general and family demographic variables are controlled. More research needs to be done to analyze the perception of women employed in specific occupations to determine if availability of opportunities to nurture and affiliate are considered in choosing these occupations. Additional information about role compatibility-role conflict between family and work is also needed. These findings tentatively suggest that role compatibility is sought. Opportunities to nurture at home and nurturant work activities are directly related.

Several interesting findings were uncovered in this research which were unrelated to the topic of interest (work activities-fertility) but which should be explored in future research. One of these is the finding that the youngest cohort wives began childbearing at an earlier age than the middle and oldest cohort groups. This is in direct opposition to the popular literature available which states that the younger generation is putting off having children. Analysis of frequency distributions in this sample found an earlier age at first birth for this highly representative sample of young American working wives. It seems unlikely that the selection of working women accounted for the paradox. The selection of stably married women may account for the contradictory finding. A possible interpretation of this phenomenon is that American women are putting off getting married (which for

the most is a necessary prerequisite for childbearing) which results in later initiation of childbearing. For those young women who do marry, childbearing actually occurs at an earlier age than for the middle and oldest cohort group of working wives. The lag between marriage and first birth is also less for the youngest cohort group; 1.4 years as compared to 2.2 years and 2.3 years for the middle and oldest cohort group.

Another interesting finding is the shift in racial distribution when working wives are selected out of the larger 5000 American Family sample. In the original sample 14.1% of the sample is non-white. When only working wives are selected, the percentage of non-white respondents increases to 35%. Demographers are aware that more dual income families occur in minority groups. However when the civil rights gains of minority groups are assessed and praised, gains in family income are often used as the unit of analysis. This is inappropriate unless the family incomes of minority group members are compared with other dual income families or a weighting factor is added to the comparison which takes account of the greater proportion of dual income families in minority groups. To claim diminishing differentials (and therefore non-discrimination) in standard of living between white and non-white families when the gap is actually being closed by the work of minority wives is unfair and inaccurate.

The findings from this study will most fruitfully be

applied to young working wives as the models discussed here were most predictive for the youngest cohort group. It would be most helpful in clarifying the relationship between childbearing and occupational choice if the employment of the wife were analyzed prior to and immediately following the birth of each child. Thus changes in the type of work activities over the course of the family life cycle could be evaluated. It is recommended that future research in this area begin with occupations which are even more congruent with parenting functions than those selected in this study.

More of the nine values of children summarized by Hoffman and Hoffman (1973) should be included in the assessment of occupations to determine if the "alternate need theory" is supported by needs other than nurturance and affiliation. The sense of power associated with childrearing may be supplied in supervisory work activities. If opportunities to supervise others is combined with a nurturant occupation, more similarity in need gratification is evident. Furthermore, artists and craftspersons may be gratifying the creative urge often associated with childbearing and childrearing.

Since need to nurture is not a constant in human nature, it would be appropriate to ask subjects to describe the value they expect to get from their children and compare the response with the value they expect to get in employment.

Men also receive value from their children, including opportunities to nurture and affiliate with others. Therefore it would be worthwhile to analyze their work activities in relation to fertility pattern. Also a combination of husband-wife occupation may be more appropriate than either occupation alone.

It may be important to include the wife's mother's occupation in the equation predicting to occupation of the wife. Most studies have approached this relationship only in terms of career/housewife dimension. Congruence in occupational choice has been found for fathers and sons.

Other considerations include a measure of self-esteem as a predictor in the employment-fertility relationship. Korman (1966, 1967) suggested that low self-esteem individuals will be less apt to choose occupations which they see as likely to fulfill their specific needs.

A fairly new statistical technique, Probit, which has been specifically developed for use with multiple independent variables predicting to a dichotomous dependent variable may have resulted in a high proportion of the variance explained in occupation.

The results of this investigation indicate that employment in a nurturant occupation as defined here does not predict to lower parity in this sample of working wives. However the relationship between roles and needs of women manifested both at home and at work requires much future research.

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APPENDIX A

CONTENT OF VARIABLES

OCCUPATION

PROFESSIONAL, TECHNICAL, AND KINDRED WORKERS

10. Physicians (medical & osteopathic), Dentists
11. Other Medical and Paramedical: chiropractors, optometrists, pharmacists, veterinarians, nurses, therapists, healers, dieticians (except medical and dental technicians, see 16)
12. Accountants and Auditors
13. Teachers, Primary and Secondary Schools (including NA type)
14. Teachers, College; Social Scientists; Librarians; Archivists
15. Architects; Chemists; Engineers; Physical and Biological Scientists
16. Technicians: Airplane pilots and navigators, designers, draftsmen, foresters and conservationists, embalmers, photographers, radio operators, surveyors, technicians (medical, dental, testing, n.e.c.)
17. Public Advisors: Clergymen, editors and reporters, farm and home management advisors, personnel and labor relations workers, public relations persons, publicity workers, religious, social and welfare workers
18. Judges; Lawyers
19. Professional, technical and kindred workers not listed above

MANAGERS, OFFICIALS, AND PROPRIETORS (EXCEPT FARM)

20. Not self-employed
31. Self-employed (unincorporated businesses)

CLERICAL AND KINDRED WORKERS

- 40. Secretaries, stenographers, typists
- 41. Other Clerical Workers: agents (n.e.c.), library assistants and attendants, bank tellers, cashiers, bill collectors, ticket, station and express agents, etc., receptionists

SALES WORKERS

- 45. Retail store salesmen and sales clerks, newsboys, hucksters, peddlers, travelling salesmen, advertising agents and salesmen, insurance agents, brokers, and salesmen, etc.

CRAFTSMEN, FOREMEN, AND KINDRED WORKERS

- 50. Foreman, n.e.c.
- 51. Other craftsmen and kindred workers
- 52. Government protective service workers: firemen, police, marshals, and constables
- 55. Members of armed forces

OPERATIVES AND KINDRED WORKERS

- 61. Transport equipment operatives
- 62. Operatives, except transport

LABORERS

- 70. Unskilled laborers--nonfarm
- 71. Farm laborers and foremen

SERVICE WORKERS

- 73. Private household workers
- 75. Other service workers: barbers, beauticians, manicurists, bartenders, boarding and lodging housekeepers, counter and fountain workers, housekeepers and stewards, waiters, cooks, midwives, practical nurses, babysitters, attendants in physicians' and dentists' offices

NOTE: For government protective service workers (firemen, police, etc.), see code 52.

FARM AND FARM MANAGERS

80. Farmers (owners and tenants) and managers (except code 71)

NA; DK

00. Inap; unemployed; retired; permanently disabled; housewife; student; V541 = 3-8

Agriculture, Forestry, and Fishing

11.

Mining and Extraction

21.

Manufacturing Durables

- 30. metal industries
- 31. machinery, including electrical
- 32. motor vehicles and other transportation equipment
- 33. other durables
- 34. durables, NA what

Manufacturing Nondurables

- 40. food and kindred products
- 41. tobacco manufacturing
- 42. textile mill products, apparel and other fabricated textile products, shoes
- 43. paper and allied products
- 44. chemical and allied products, petroleum and coal products, rubber and miscellaneous plastic products
- 45. other nondurables
- 46. nondurables, NA what

49. manufacturing, NA whether durable or nondurable

Construction

51.

Transportation

55.

Communication

56.

Other Public Utilities

57.

Retail Trade

61.

Wholesale Trade

62.

Trade, NA whether wholesale or retail
69.

Finance, Insurance, and Real Estate
71.

Repair Service
81.

Business Services
82.

Personal Services
83.

Amusement, Recreation, and Related Services
84.

Printing, Publishing, and Allied Services
85.

Medical and Dental and Health Services, whether public or private
86.

Educational Services, whether public or private
87.

Professional and Related Services other than medical or educational
88.

Armed Services
91.

Government, other than medical or educational services;
NA whether other
92.

99. NA; DK

00. Inap; unemployed; retired; permanently disabled,
housewife; student; V541 = 3-8

DEMOGRAPHIC VARIABLES

Is your religious preference Protestant, Catholic, or Jewish, or what? What denomination is that?

1. Baptist
2. Methodist (including African Methodist)
3. Episcopalian
4. Presbyterian
5. Lutheran
6. Bahai; Christian Church;
Congregationalist; Disciples of Christ;
Dutch Reformed or Evangelical and Reformed;
Christian Reformed; Quaker or Society of
Latter Day Saints or Mormon; Friends (Friends);
Unitarian or Universalist; United Church of Christ
7. Other Protestant denominations not included above;
Protestant but NA; DK denomination
8. Catholic
9. Jewish
0. NA; DK religious preference; other (Greek Orthodox,
Moslem . . .); None

RACE

1. White
2. Black
3. Spanish-American
4. Other
9. N.A.

AGE OF WIFE

- xx Actual age of wife
99. NA; don't know
00. Inappropriate; no wife

RURAL BACKGROUND

1. Farm; rural area; country
2. Small town
3. Large city
4. Other

Number of Children in Family Unit (FU) Aged 0-17

XX Actual number of children
00 None

Age of Youngest Child

01. 23 months or under
17. Seventeen
00. Inappropriate; no children

K1. How many grades of school did you (wife) finish?

00. None
01. One
02. Two
03. Three
04. Four
05. Five
06. Six
07. Seven
08. Eight
09. Nine
10. Ten
11. Eleven
12. Twelve
13. Thirteen
14. Fourteen
15. Fifteen
16. Sixteen
17. Seventeen or more

99. NA; DK

APPENDIX B

CATEGORIZATION OF OCCUPATIONAL VARIABLES

Please rank the following occupations according to the structural opportunities for providing nurturance (helping and caring for others) and affiliation (developing relationships with others). The occupation which provides the most opportunities to nurture and affiliate would be ranked number one, the next would be number two and continue until all six occupations are ranked. On each card appears an occupational label, sort these cards until the most nurturant and affiliative occupation appears on the top of the deck and the least nurturant and affiliative appears on the bottom of the deck.

(The cards are randomly shuffled before each ranking.)

CARDS

Educational Occupations--people who work in public and private schools.

Health Occupations--people who work in any health related service.

Personal Service--baby sitters, housekeepers, beauticians, etc.

Sales Occupations--sales clerks, sales representatives.

Clerical Occupations--secretaries, tellers, clerks.

Manufacturing Occupations--factory work, workers and management.

Appendix B (cont.)

RESPONDENTS

	A	B	C	D	E	F	G	H	I	
<u>Education</u>	3	1	1	3	1	1	1	2	4	17
<u>Health</u>	1	3	2	2	2	2	2	1	1	16
<u>Personal service</u>	2	2	3	1	4	3	3	3	2	23
<u>Sales</u>	5	4	4	6	3	5	4	4	3	38
<u>Clerical</u>	4	5	5	4	5	4	5	5	5	42
<u>Manufacturing</u>	6	6	6	5	6	6	6	6	6	53