

THE RELATIONSHIP BETWEEN FAMILY ROLE STRUCTURE
AND FERTILITY

Dissertation for the Degree of Ph. D.

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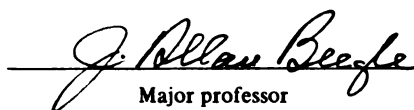
THE RELATIONSHIP BETWEEN FAMILY ROLE
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ABSTRACT

THE RELATIONSHIP BETWEEN FAMILY ROLE STRUCTURE AND FERTILITY

By

William O'Hare

Past research on the relationship between family role structure and fertility suggests that couples who share family and household activities and functions have fewer children than couples who do not share in the performance of family and household functions. This relationship serves as the point of departure for the present study.

The relationship between family role structure and fertility is re-examined by employing three indices of family role structure and two fertility measures. The extent to which recent changes in family role structure are related to recent changes in period fertility rates is also investigated. The study is based on data gathered in 1955 and 1971 in Detroit, Michigan Standard Metropolitan Statistical Area.

Analysis shows that there is a significant negative correlation between the number of children born to a family and the degree of family role integration in task performance, decision making and general family role structure. Couples who share household tasks and decision making generally have fewer children than couples who

do not share task performance and decision making. The relationship between family role structure and actual fertility remains unchanged while controlling for age of the respondent, age at marriage of the wife, and length of marriage, education of wife, and family income. The correlations between desired fertility and family role structure indices were not consistent, therefore no firm conclusions are drawn concerning this relationship.

There are strong indications that the family role structure of the typical American family became less segregated between 1955 and 1971. This change in family role structure is offered as one reason for the decrease in aggregate fertility over the period. There is also a close association between the amount of decrease in family role segregation and the amount of decrease in the fertility level of several sub-groups between 1955 and 1971.

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ROLE STRUCTURE AND FERTILITY

By

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William O'Hare

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TABLE OF CONTENTS

	Page
LIST OF TABLES	iv
 Chapter	
I. INTRODUCTION	1
II. LITERATURE AND THEORY	5
III. METHODOLOGY.	18
The Data	18
The Variables	25
The Hypotheses	41
IV. FINDINGS REGARDING THE RELATIONSHIP BETWEEN FAMILY ROLE STRUCTURE AND FERTILITY	44
V. FINDINGS RELATED TO RECENT CHANGES IN FERTILITY AND FAMILY ROLE STRUCTURE	73
VI. SUMMARY AND CONCLUSIONS	93
APPENDIX A--DISTRIBUTION OF RESPONSES FOR QUESTIONS ON FAMILY ROLE STRUCTURE	106
APPENDIX B--INTER-RELATIONSHIPS AMONG FAMILY ROLE STRUCTURE ITEMS AND INDICES	113
APPENDIX C--FREQUENCY DISTRIBUTION OF MAJOR VARIABLES	119
APPENDIX D--INTER-CORRELATIONS AMONG THE MAJOR VARIABLES	130
APPENDIX E--DESCRIPTION OF SUB-GROUPS USED IN TABLES 15-19	133
REFERENCES	135

LIST OF TABLES

TABLE	Page
1. ZERO-ORDER CORRELATIONS BETWEEN FAMILY ROLE STRUCTURE VARIABLES AND FERTILITY VARIABLES FOR MARRIED WOMEN AGE 21 TO 45 IN 1955	48
2. ZERO-ORDER CORRELATIONS BETWEEN FAMILY ROLE STRUCTURE VARIABLES AND FERTILITY VARIABLES FOR MARRIED WOMEN AGE 21 TO 45 IN 1971	48
3. PARTIAL CORRELATIONS BETWEEN ACTUAL FERTILITY AND FAMILY ROLE STRUCTURE VARIABLES WHILE CONTROLLING FOR SEVERAL EXTRANEIOUS VARIABLES FOR MARRIED WOMEN AGE 21 TO 45 IN 1955	58
4. PARTIAL CORRELATIONS BETWEEN ACTUAL FERTILITY AND FAMILY ROLE STRUCTURE VARIABLES WHILE CONTROLLING FOR SEVERAL EXTRANEIOUS VARIABLES FOR MARRIED WOMEN AGE 21 TO 45 IN 1971	60
5. MULTIPLE CORRELATION ANALYSIS OF ACTUAL FERTILITY AS A DEPENDENT VARIABLE WITH <u>FRSI</u> AND FOUR OTHER INDEPENDENT VARIABLES FOR MARRIED WOMEN AGE 21 TO 45 IN 1955	63
6. MULTIPLE CORRELATION ANALYSIS OF ACTUAL FERTILITY AS A DEPENDENT VARIABLE WITH <u>TDI</u> AND FOUR OTHER INDEPENDENT VARIABLES FOR MARRIED WOMEN AGE 21 TO 45 IN <u>1955</u>	64
7. MULTIPLE CORRELATION ANALYSIS OF ACTUAL FERTILITY AS A DEPENDENT VARIABLE WITH <u>FDMI</u> AND FOUR OTHER INDEPENDENT VARIABLES FOR MARRIED WOMEN AGE 21 TO 45 IN 1955	65
8. MULTIPLE CORRELATION ANALYSIS OF ACTUAL FERTILITY AS A DEPENDENT VARIABLE WITH <u>FRSI</u> AND FOUR OTHER INDEPENDENT VARIABLES FOR MARRIED WOMEN AGE 21 TO 45 IN 1971	66
9. MULTIPLE CORRELATION ANALYSIS OF ACTUAL FERTILITY AS A DEPENDENT VARIABLE WITH <u>TDI</u> AND FOUR OTHER INDEPENDENT VARIABLES FOR MARRIED WOMEN AGE 21 TO 45 IN 1971	67

TABLE

Page

10.	MULTIPLE CORRELATION ANALYSIS OF ACTUAL FERTILITY AS A DEPENDENT VARIABLE WITH FDMI AND FOUR OTHER INDEPENDENT VARIABLES FOR MARRIED WOMEN AGE 21 TO 45 IN 1971	68
11.	MEAN ACTUAL FERTILITY BY FIVE YEAR AGE GROUPS FOR 1955 AND 1971	74
12.	MEAN OF FRSI SCORES BY FIVE YEAR AGE GROUPS FOR 1955 AND 1971	74
13.	MEAN, STANDARD, DEVIATION, AND STANDARD ERROR OF THE MEAN FOR PARITY LEVELS OF MARRIED WOMEN AGE 21 TO 29 IN 1955 AND 1971	79
14.	MEAN, STANDARD DEVIATION, AND STANDARD ERROR OF THE MEAN FOR FAMILY ROLE STRUCTURE VARIABLES FOR MARRIED WOMEN AGE 21 TO 29 IN 1955 AND 1971	82
15.	SUMMARY OF ACTUAL FERTILITY OF MARRIED WOMEN AGE 21 TO 29 IN SELECTED SUB-GROUPS IN 1955 AND 1971	85
16.	SUMMARY OF FRSI SCORES FOR MARRIED WOMEN AGE 21 TO 29 IN SELECTED SUB-GROUPS IN 1955 AND 1971	86
17.	SUMMARY OF FDMI SCORES FOR MARRIED WOMEN AGE 21 TO 29 IN SELECTED SUB-GROUPS IN 1955 AND 1971	87
18.	RANK ORDERINGS OF SUB-GROUPS BASED ON CHANGES IN MEAN OF FRSI SCORES AND MEAN ACTUAL FERTILITY BETWEEN 1955 AND 1971	90
19.	RANK ORDERINGS OF SUB-GROUPS BASED ON CHANGES IN MEAN OF FDMI SCORES AND MEAN ACTUAL FERTILITY BETWEEN 1955 AND 1971	90
20.	SUMMARY OF MAJOR HYPOTHESES TESTED	94

CHAPTER I

INTRODUCTION

Recent fertility trends in the United States have been well documented and are summarized by the U.S. Census Bureau in the following way:

"The record of the Nation's fertility since World War II was one of a rapid rise in the birth rate to a high level that persisted for approximately a dozen years after the end of the war, followed by a decline since the late 1950's. The decline has been especially sharp between December 1970 and November 1973, to levels of fertility which appear to be lower than any previously on record for the United States" (34:1).

This change is reflected in the fact that the crude birth rate for the U.S. was 25.2 in 1957 but dropped to 15.6 by 1972 (32:1). In 1973 and 1974 the crude birth rate was 15.0 (36:1). The drop in the crude birth rate between 1957 and 1974 amounts to a reduction of about 40%. The movement of the general fertility rate in the U.S. followed a similar trend over the past couple of decades. The general fertility rate dropped by about 40% from 123.0 in 1957 to 73.4 in 1972 (32:2).

Despite the substantial changes in the period fertility rates of the U.S. over the past three decades, little has been accomplished by demographers in an effort to determine what social forces may have caused, or contributed to these changes. In a recent article, Ryder commented on the fertility experience of the

of the U.S. since the Second World War and stated that "...the level of fertility has gone up for every sub-group, and then it has gone down for every sub-group, and we are far from an explanation of why that happened and whether it will happen again" (28:505). The recent decline in the period fertility is made more intriguing by the fact that the large birth cohorts of the post war "baby boom" have recently begun entering the prime childbearing ages. Under a constant age-specific fertility schedule this event would result in an increase in the number of births and crude measures of fertility.

The present study, which focuses on the situation outlined above by Ryder, is undertaken with the understanding that a complete explanation of the recent fertility decline is not likely to come from a single study but from numerous studies each of which provides a partial explanation.

A simple model involving family role structure and fertility will be developed and tested as one explanation for the decline in the period fertility rate of the U.S. between the mid 1950's and the early 1970's. The study is undertaken with the idea expressed by Ford and DeJong that, "changes in the birth rate which cannot be attributed to changes in the population structure often provide clues to significant changes in the working of the family system" (10:155).

Although some authors as O'Neill and O'Neill (24), Glick and Norton (12), and Bernard (1) have suggested that family life in America has changed substantially over the past 20 years, there have been few empirical studies relating these changes in family life

to the recent changes in period fertility. The study conducted here will use some survey data gathered in the Detroit, Michigan area in 1955 and 1971 to examine the family role structure-fertility relationship and the relationship between recent changes in family role structure and period fertility.

The analysis of the collected data will involve two distinct stages. First, I will test a model concerning family role structure and fertility which has already received some empirical support from other research. The model will be tested with data collected at two different points in time. In addition to testing the model as it has been used in previous studies, I will be examining the concept of family role structure in more detail than has been the case in past studies.

The second stage of the analysis will employ the family role structure-fertility model to help explain the decline in period fertility between the mid 1950's and the early 1970's. I will show that there have been changes in the internal structure of the typical American family which would lead one to expect the period fertility decline which has been observed. Changes in period fertility between the mid 1950's and the early 1970's will be further analyzed by examining the relationship between changes in family role structure and fertility in selected sub-groups of the total population.

In the following chapters of this thesis, I review relevant literature and theory, describe the source of the data used, explain how the key variables of family role structure and fertility are operationalized, state the major hypotheses of the study, present

the analysis and findings, and conclude with a summary of major findings and conclusions.

CHAPTER II

LITERATURE AND THEORY

Many studies have examined the relationships between various characteristics of families and the fertility of those families. Since most of these studies found that one or more dimensions of family life are closely related to fertility, it is reasonable to suspect that changes in the typical family unit in a society are likely to be associated with, and perhaps cause, changes in the level of fertility of the society.

Of the fertility studies that incorporate the concept of family, only a few are directly related to the study conducted here. The studies which focus on the interaction between the spouses in a family will be examined closely while other studies which examine dimensions of the family in relation to fertility will be references only briefly in developing the theoretical background for the present study.

In several studies, researchers have conceptualized the family as a distinct unit within the social structure. This approach was used by Blake (2) in her study of fertility in Jamaica, Freedman and Takeshita (11) in their study of family planning in Taiwan, and by Yaukey (40) in his study of population in Lebanon. These researchers examined the predominant type of family unit in

in the society and considered its relationship to the fertility level of the society. While these studies demonstrate that the type of family unit present in a society has a direct bearing on the fertility level of the society, none involved analysis related to the internal structure of the family roles.

Another set of studies focus on the relationship between certain characteristics or experiences of one spouse in the family and the fertility of the family. Goldberg (13), Ryder and Westoff (27), Westoff (37) and Kupinsky (18), among others, have examined the work experience of the wife in relation to her childbearing. Generally wives who work outside the home have fewer children than wives who do not work outside the home. Ryder and Westoff summarize the relationship this way:

"Women who are working or who have worked expect (and to a lesser extent want) fewer children than those who have never worked. Those who are working because they 'like to work' expect the smallest families of all" (27:90).

Kupinsky (18) suggests that working outside the home may increase fertility by weakening the extent to which the woman identifies with the wife-mother role, and increase the extent to which the women's self-concept is based on a non-familial role. Through Kupinsky's argument, a good deal of research on fertility and the work experience of the wife can be tied to the wife-mother role which is a role that is instrumental in the present study.

Michel and Fayerabend (21) as well as Kiser and Whelpton (16) found that marital satisfaction and marital adjustment of the wife are related to fertility. Families where the wife is satisfied

and adjusts well to married life have fewer children than families where the wife is unsatisfied and does not adjust well. Although norms associated with the wife-mother role were used to measure the satisfaction and adjustment of the wife, the extent to which family role interaction contributed to the satisfaction or adjustment of the wife was not discussed in these studies.

It has also been shown that the value structure of one spouse may affect the childbearing of the couple. Clifford (8) found that the general value orientation of the wife is associated with the number of children the wife desires and actually bears. A person who is oriented towards the future and who believes that mankind has a good deal of control over nature is categorized as having a "modern value orientation" and a person who is oriented toward the present and believes that mankind has little control over nature is categorized as having a "traditional value orientation." Clifford found that women with a "modern value orientation" desired and have fewer children than women who have a "traditional value orientation."

The studies mentioned thus far have shown that many aspects of family life are associated with fertility, but none has dealt directly with interaction between the spouses in a family. The extent of marital role interaction in family life will be a crucial concept in this study, and it is the focus of the studies described next.

Hill's (14) study of family and fertility in Puerto Rico and Rainwater's (25,26) studies of poor families in the U.S. examined communication patterns between spouses and the couples

contraceptive effectiveness. Both authors conclude that couples who do not communicate well with each other usually do not experience effective contraception. The authors suggest that communication is better between spouses who share family activities and responsibilities than spouses who do not share family and household functions. The sharing of thoughts and feelings through communication may be seen as one indicator of the general sharing of family and household activities.

Kiser and Whelpton (16) conclude that couples who share the responsibility for controlling births are more successful in controlling the number and spacing of their children than couples who do not share this responsibility. This seems reasonable since the probability of both spouses simultaneously neglecting the responsibility for using contraceptives is likely to be lower than the probability of a single spouse neglecting the responsibility for using a contraceptive. It is also plausible that the extent to which the responsibility for contraception is shared may be a mediating variable in the communication-fertility relationship noted by Hill (14) and Rainwater (25,26).

The studies just cited show that the extent to which spouses share household and family duties and activities, particularly communication, is important in determining the contraceptive efficacy and consequently the fertility of the couple. The extent to which the husband and wife share the tasks and activities required to maintain a household and family is an important component of the theoretical framework proposed by Bott (5). Since the

conceptualization of the family used in the present study is taken directly from Bott, a short discussion of Bott's ideas are in order.

Bott's theory, derived from her observational study of several English families, is centered on the social roles and role-relationships in the nuclear family and the network of family relationships. A role is described as "behavior that is expected of any individual occupying a particular social position" (5:3), and a "role-relationship is defined as those aspects of a relationship that consist of reciprocal role expectations of each person concerning the other" (5:3). Bott's theoretical approach is derived from Lewin's (19,20) theory that behavior of an individual in a social situation is a product of the social environment of the situation and the personality characteristics brought to the situation by the individual. Bott, however, is concerned only with the behavior that is representative of a family role rather than the behavior that may be idiosyncratic or attributable to the personality of the person who happens to be occupying the role. Likewise, in analyzing role-relationships within the family, Bott attempts to focus on the behavior related to the roles themselves rather than behavior tied to the personality of the individuals occupying the roles.

In analyzing the roles and role-relationships within the nuclear family, Bott concludes that:

"There was considerable variation in the way husbands and wives performed their conjugal roles. At one extreme was a family in which the husband and wife carried out as many tasks as possible separately and independently of each other. . . at the other extreme was a family in which the husband and wife shared as many activities and spent as much time together as possible" (5:52).

Based on these observations, Bott developed two labels to describe the types of role-relationships found in families. According to Bott:

"...a highly segregated conjugal role-relationship is defined as one in which husband and wife have a relatively large proportion of complementary and independent activities and a relatively small proportion of joint activities. In a joint conjugal role-relationship the proportion of complementary and independent activities is relatively small and the proportion of joint activities is relatively large" (5:55).

The type of role-relationship between spouses in a family is referred to as family role structure.

Bott's theoretical orientation is consistent with a fundamental assumption of sociology which holds that patterns of interaction, often referred to as social structure, emerge in any group which persists over any length of time. While sociology is generally oriented toward large groups, studies show that members of a small group also develop patterns of behavior and interaction which can be described as a group structure.

In examining a particular type of small group, a marital dyad, Bott focuses on the patterns of role behavior and role interaction exhibited by members of the dyad and constructs a typology based on the type of role interaction observed. The typology developed by Bott will be altered slightly in the present study, but Bott's fundamental framework will be the basis for developing a measure of family role structure in the present study.

Although Bott generally speaks in terms of a family having either a "joint" or a "segregated" family role structure, one can

easily use Bott's idea of conjugal role-relationships to measure family role structure on a continuum of role segregation rather than the simple dichotomy used by Bott. This idea will be developed further in the next chapter. The studies described next directly examine the relationship between family role structure, as defined by Bott, and fertility.

The three stage study generally referred to as the "Princeton Study," or Family Growth in Metropolitan America (38, 37, 6) examined several areas of family life including the extent to which power in decision making was shared by the husband and the wife. Although the authors of the Princeton Study found no support for a family role structure-fertility relationship, and conclude that "there seems to be little point to further investigation in these areas of family relationships and fertility" (37:197), there are a couple of factors which should be considered when assessing the outcome of the Princeton Study.

First, the authors are not clear in describing exactly how family interaction was measured. It is possible that the instrument used to measure family interaction was inadequate. The second factor which may have affected the outcome of the study is the sample. All the respondents in the study were from very large cities and the respondents were homogeneous on many other important characteristics. Considering the outcome of other studies which use dimensions of family role structure, it seems likely that one or more of the factors mentioned above influenced the study in such a

way that the predicted relationship between family role structure and fertility was not adequately tested.

A recent study of fertility in Metropolitan Latin America (7) used the concept of family role structure as independent variable. The extent to which the spouses in a nuclear family shared power and authority in the family is the dimension of family role structure used in the study. Although there was little amplification of their finding, the authors conclude that "the greater the male authority, the greater the desire for more children" (7:88). This suggests that families where the power is shared by both spouses desire fewer children than families where the power rests primarily in one spouse, the male. More generally, it supports the idea that the less interwoven the marital roles are, the more children the couple will desire and have.

The study which is most relevant to the study being conducted here was done by Stokes (30). Stokes, who builds on the theoretical insights of Bott, operationalized the concept of family role structure by asking wives how much they and their spouses share several specific duties and activities involving the family and household. The 17 specific items used to derive an index of family role segregation included questions on decisions as well as activities.

Stokes showed that as role segregation increased, desired and expected fertility increased; moreover, an inverse relationship was also found between role integration and actual fertility. Although in a path model, family role structure was not found to be an

intervening variable between socio-economic status and fertility, Stokes' findings are provocative and demonstrate the utility of using Bott's conceptualization in further studies of the relationship between the interaction of family members and fertility.

Summary of Literature and Theory

Rainwater (25,26) and Stokes (30) specifically cited Bott's conceptualization of the family in their fertility studies which showed that joint role-relationship families have fewer children than segregated role-relationship families. The study by Hill (14) and the study conducted by CELADE (7) also suggest that joint role-relationship families have lower fertility than segregated role-relationship families, although Bott's framework was not specifically mentioned in either of these studies. All the studies cited above support Rainwaters' contention that:

"...the more interwoven are the interests and concerns of the husband and wife the more likely the wife is to want a small or medium-sized family; the more separate are their interests and concerns, the less they see their marital roles as interpenetrating, the more likely the wife is to want a large family" (26:193).

The idea expressed by Rainwater will serve as the underlying hypothesis for the expectations concerning family role structure and fertility in this study.

A couple of other points regarding the theoretical base of this study need clarification. Although the association between family role structure and fertility has been observed in several studies, the direction of the causal link between these two variables has seldom been questioned. One can easily imagine

particular situations where the family role structure of a couple affects the couples' childbearing, and one can also imagine a situation where the addition of a child, particularly the first child, affects the interaction of the couple. In short, either variable could be the causal variable in a particular situation. The problem is one of determining which variable is typically the causal variable when a large number of cases are considered, or in other words, the causal variable in the aggregate situation.

The determination of which variable is the major causal variable cannot be fully assessed in this study. In a determination of causality it must be shown that the independent variable occurs prior in time to the dependent variable. In the present study, both variables are measured at the same point in time, the time of the survey, consequently, the temporal sequence of occurrence cannot be adequately demonstrated from the data in this study, the direction of causality which will be assumed in the model is not derived from any empirical analysis.

The assumed direction of causality used in the present study is based on the following argument. Couples seldom have children in the first nine months of marriage. In one major study, only 5% of the couples studied had their first birth during the first 8 months of marriage, and only 29% of the couples experienced their first birth during the first 11 months of marriage (38:117). Therefore, most couples have an opportunity to develop patterns of interaction or role-relationships free from the effects of actual fertility. Since the role-relationship is developed

prior to any actual childbearing, the initial family role structure of a couple cannot be caused by actual fertility. Additionally, marital role behavior and the role-relationship between the husband and the wife are shaped by a long process of socialization which occurs prior to marriage, and long before any actual childbearing. On the basis of this temporal sequence, it is assumed that family role structure is the major causal variable in the family role structure-fertility relationship.

Two more points regarding the theoretical base of this study demand comment. The first point concerns the larger social context surrounding the family role structure-fertility relationship. Some thought should be given to the factors which influence family role structure and those variables affected by changing fertility levels. An empirical analysis of the larger social context surrounding the family role structure-fertility relationship is beyond the scope of the present study. However, a short discussion on some aspects of this topic is included in Chapter VI.

The second point demanding comment concerns the intervening variables which constitute the causal link or links between family role structure and fertility. In other words, specification of the variables which explain how differences in family role structure cause differences in fertility. The survey data used for the present study were not intended to investigate the family role structure-fertility relationship and consequently it is not surprising that the data do not include adequate measures for examining the details of the causal path between family role structure

and fertility. Although this topic is not subjected to empirical investigation, a short discussion regarding some possible intervening variables is included in Chapter VI.

It may be useful to add a few comments here about the broader context of this research. It is widely held in sociology and demography that changes in aggregate fertility are the result of changes in the social structure of a society, and that fertility differences at the family level are related to the social structural environment surrounding the family. In the present study we will be examining the institutions of family and marriage as one aspect of social structure. Although it is assumed that changes in the family system and differences in family life are likely to be related to fertility, it is by no means assumed that these are the only factors affecting fertility. There are a number of factors which not only have a direct bearing on fertility, but are inter-related with the family system to create a social structural environment in which fertility behavior occurs.

Within this context, I believe family role structure is likely to act as an intervening mechanism between many macro-level social structural variables and fertility. At the aggregate level it has been suggested, primarily through the demographic transition model, that changes in the family unit is a mechanism by which socio-economic development resulted in lower fertility rates. By tying differences in family role structure to broader structural variables, the present research may serve to fill the conceptual gap between macro-level sociological variables and fertility

behavior. At the micro-level the relationship between family role structure and fertility may serve as a link tying structural characteristics such as religion, race, and socio-economic status to fertility behavior of couples. Although the present research will focus on the family role structure-fertility relationship, there will be some evidence presented regarding the relationship between family role structure and some other sociological variables. It is hoped that the present research can be combined with future research to provide a fuller understanding of socio-cultural context of fertility behavior.

In summary, the relationship between family role structure and fertility derived from the cited studies will serve as the point of departure for the present study. The relationship between family role structure and fertility will be re-examined, then changes in family role structure will be measured and analyzed in the search for some explanation of the decline in the U.S. period fertility rate from the mid 1950's to the early 1970's.

CHAPTER III

METHODOLOGY

The Data

The data used in this study are taken from two surveys of the Detroit, Michigan area conducted by the Survey Research Center of the University of Michigan. One survey, conducted in 1955, will be referred to as the 1955 DAS (Detroit Area Study). The second survey, conducted in 1971 as a partial replication of the 1955 DAS, will be referred to as the 1971 DAS.

Respondents in the 1955 survey were selected in the following way. The sampling area was established as those parts of the Detroit SMSA which were used as census tracts in the 1950 U.S. Census of Population. Briefly, the selection procedure for the 1955 DAS involved the random selection of primary sampling units in the form of census tracts, the random selection of sample blocks within the selected tracts, the complete listing of all dwelling units in the selected blocks, and a random selection of dwelling units from the block lists. Ultimately, nearly 900 dwelling units were selected from about 300 different blocks. A cluster of three or four blocks was selected from each census tract selected in the initial sampling stage.

In each selected dwelling unit the wife of the husband-wife household was asked selected questions regarding fertility and

family interaction. Although households which did not include a husband and wife were included in the 1955 DAS sample, the data from these households will not be included in the analysis conducted in the present study. A more detailed description of the sampling procedure is given by Takeshita (31).

The 1971 study was conducted to replicate parts of nine different studies conducted by the Detroit Area Study group from 1953 to 1959 and in 1968 and 1969. An important concern of the 1971 DAS study was identifying a sampling area which would be comparable to the sampling area used in the studies done in the 1950's. In an effort to make the sampling area of the 1971 DAS comparable to the sampling area of the studies done in the 1950's, several areas north of Detroit were added to the sampling area used in the 1950's studies.

The geographic area used in the 1971 DAS included about 85.3 percent of the 1970 population of Wayne, Oakland and Macomb counties. These three counties comprised the Detroit SMSA at the time of the 1970 Census. Although the Survey Research Center in the University of Michigan feels that the 85.3 percent of the 1970 population of the Detroit SMSA used in the 1971 DAS is very similar to the portion of the Detroit area population used in the 1955 DAS, it should be recognized that the two studies employed slightly different sampling areas.

Respondents in the 1971 DAS survey were selected in the following way. Census tracts in the sampling area were stratified into four strata based on their racial composition in 1960 and were

selected with probabilities proportional to size at the time of the 1960 Census. Within each selected tract, blocks were selected with probabilities proportional to size at the time of the 1960 Census. Within each selected block, all dwelling units were divided into clusters of approximately 6 dwelling units each and two such clusters were randomly selected from each block. Ultimately, nearly 2400 dwelling units were selected from 204 different blocks. In each selected dwelling unit, all adults (persons over 21 years of age) were eligible subjects. One adults per household was randomly selected from all adults in the household to be a respondent.. A more detailed description of the sampling procedure is given by Fisher (9).

Note that only the wife in a selected family was asked the questions about family relationships in the 1955 study but either the husband or the wife was asked the same questions in 1971. Although Safalios-Rothschild (29) has pointed out that one spouses' perception of the situation in a family may differ considerably from the perception of the other spouse and both may differ from some independent description of the situation, unfortunately we cannot return to the middle 1950's, when the country was experiencing high levels of fertility to ask both husbands and wives about family interaction. Since the 1955 DAS used only married females to record interaction of family members, only the married females perception of family interaction in the 1971 DAS will be used in the analysis. It should be kept in mind that references to family

role structure in this study refer to the wife's perception of family role structure.

Since family role structure is being measured exclusively through the wife's perception, factors that may affect the wife's perception of the family situation should be considered. Two such factors, among others, are the desires and expectations about family relationships which the wife brings into the family situation. Although there is little that can be done to measure the effect of these and other such factors in the present study, the two factors mentioned above will be discussed briefly in Chapter VI.

Let me also add that from the perspective of the wife, the perceived situation is the real situation. In terms of the effect of family role structure on fertility, the wife's perception of family role structure is probably more important than some independent measure of family role structure, for it is the perceived situation that the wife will react to or base her behavior on.

Only women who reported that they were presently married to their first husband will be included in the analysis. Women who do not have a spouse present could not answer the questions about family role structure which will be important for this study. Understandably, the dissolution of a marriage is likely to have an affect on fertility, and since fertility is a major variable in the study, women who have been married more than once cannot be used in the analysis. Since the 1971 DAS sample included only those persons over age 21, all respondents in the 1955 DAS sample who are under age 21 will be excluded from the analysis.

Because fertility is a major variable in the study, the analysis will include only those women in their childbearing ages. Since very few women have children after age 45, and women below 21 have already been eliminated from the analysis in order to make the two samples comparable, the analysis will include only those women who were age 21 to 45 at the time of the survey.

It should be noted that the sampling procedures used to gather data for the present study do not match the requirements of a simple random sample model. The sampling design for the two surveys employed in this study involved the use of a technique known as cluster sampling. In short, this means that respondents were selected from dwelling units that were located in small geographical clusters. It has been pointed out that people who live in the same geographical area, particularly an area as small as a block, tend to share many characteristics. The degree to which the respondents in a cluster share a common characteristic is often referred to as the inter-class correlation, or the rate of homogeneity (ρ_h).

Most estimates of sampling error which are used in tests of significance are based on the simple random sample model. Since the sampling designs used to gather data for the present study deviate from the simple random sample model, there is some question about the extent to which it is appropriate to use error estimates and subsequent tests of significance which are based on a simple random sample model. From a theoretical perspective, the most appropriate course would involve calculation of the rate of

homogeneity for each variable for each survey. However, from a practical perspective these calculations would be exceedingly time consuming and costly, with little hope of much payoff based on Kish's statement that "in practical survey clusters, ρ_h tends to be greater than zero, sometimes by much often, by little"(17:163). The fact that the number of clusters used was large and the size of each cluster was relatively small are factors that would lead one to expect little effect from the interclass correlation.

If the calculation of ρ_h is ruled out for the reasons cited above, we are left with two options; (1) not to incorporate any tests of significance in the analysis, or (2) to use tests of significance based on a simple random sample model. The first option means that the reader would have little guidance in determining which statistics or differences are likely to be important and which are easily due to chance. The second option means that the results of significance tests should be viewed more cautiously than usual. I have selected the second option outlined above, that is, I have included standard tests of significance which are based on a simple random sample model. Since the level of significance used in tests of significance is a somewhat arbitrary choice to begin with, small errors introduced by the clustering effect should not be crucial in interpreting the results of the analysis. In summary, the reader is advised that the tests of significance used in the analysis sections are based on a sampling model which is slightly different than sampling model employed in this study. The exact impact of those differences will remain unknown in this study.

Since the phenomena that instigated this study and one for which I hope to give a partial explanation is the period decline in fertility at the national level, it may be worth considering the extent to which the data used here are representative of the national population. The population of the Detroit area is certainly very similar to the national population on some characteristics and probably dissimilar on other characteristics. It will be shown later in this paper that women in the Detroit Standard Metropolitan Statistical Area have had fertility experience similar to the fertility experience of the national population in recent years. The extent to which the pattern of family role structure in the Detroit area families is representative of family role structure in the U.S. population is unknown. Although there is no reason to expect wide disparities between family role structure in the Detroit area families and family role structure in families in other parts of the country, there are also no assurances of their similarity.

In short, there is only one thing that can be said with any certainty concerning generalizations from the Detroit data to the national population. Hypotheses supported by the Detroit data are worth testing with data known to be representative of the national population. Until such analysis is conducted, generalizing the results of this study to the national population should be undertaken with some caution.

The Variables

Fertility

There are many different ways of measuring fertility, both at the individual level and the aggregate level. The particular measure used in a study generally depends on the nature of the study and the data available. When a questionnaire is designed for a specific study, the questions can be designed to build very detailed and pointed measures. However, when a study involves a secondary analysis of previously collected data, which is the case in the present study, one must use whatever measures can be derived from the data.

In order to test the hypotheses of the study, it will be necessary to measure fertility for individual units as well as for selected groups of families. In addition to examining fertility at the individual and the aggregate level, two distinct dimensions of fertility will be used. One dimension is the actual number of children the woman wants or feels is ideal. The number of children a family wants or feels is ideal will be labeled "desired" fertility, for lack of a better term, and the number of children born to a family will be called "actual" fertility.

Unfortunately, questions concerning desired fertility are not identical for both surveys used in this study. While Ryder and Westoff (27) have shown that the way a question about desired fertility is phrased may affect the response received, this should not produce a serious problem in this study because the responses

to the two forms of the questions dealing with desired fertility will not be directly compared.

Respondents in the 1955 DAS sample were asked how many children they "wanted" to have by the time they were 45 years old. Respondents in the 1971 DAS sample were asked what would be the "ideal" number of children for a young couple with a standard of living similar to the respondent's standard of living. The responses to these two questions will serve as the measure of desired fertility for each family.

The relationship between family role structure and desired fertility will be examined at both points in time, 1955 and 1971, but I will not use desired fertility as a variable in analyzing changes in fertility and family role structure over time. Both questions on desired fertility tap the respondent's desired fertility, but not exactly the same aspect of desired fertility. Consequently, analysis of the changes in desired fertility over time would be confounded by the lack of uniformity in the questions used to measure desired fertility. In short, it would be impossible to determine if any changes in the measured level of desired fertility between 1955 and 1971 should be attributed to actual changes in the desired fertility of the population, or to the phrasing of the questions.

Unfortunately, the data required for calculating age-specific fertility rates is unavailable. However, the measurement of the actual fertility of a family or a group of families is very simple and straightforward in this study. The number of live

births experienced by a woman will serve as the measure of fertility at the individual family level. The total number of births experienced by a group of women divided by the number of women in the group will serve as the measure of actual fertility at the aggregate level. The measure of actual fertility at the aggregate level can be described as the mean number of births per woman, or mean parity level.

Actual fertility measured at the individual level will be used to examine the relationship between family role structure and fertility at both survey dates, that is, 1955 and 1971. Each survey will serve as a separate test of predicted relationship between family role structure and fertility. Although the measures of fertility used in this study are dictated by the data available, the measures are adequate to test the major hypotheses of the study.

The movement of the period fertility rates for the population of the entire country was presented in the introduction of this paper. Changes in the period fertility level of the Detroit SMSA have been similar to changes in the U.S. fertility rates. The 1955 crude birth rate of the Detroit SMSA was 27.0,¹ and the crude

¹This crude birth rate was derived by dividing the estimated total population of Macomb, Oakland and Wayne counties into the total births for these three counties. Both the population figure and the birth figure are taken from the Michigan Department of Health (22).

birth rate of the Detroit SMSA in 1971 was 17.9.² The change in the crude birth rate amounts to a drop of about 34 percent over the 16 year period.

If the fertility of the two samples, the 1955 DAS sample and the 1971 DAS sample, is representative of the people of the Detroit area during those years, then the actual fertility of the 1971 DAS respondents should be lower than the actual fertility of the 1955 DAS respondents. The above statement is a simplification of the problem because the fertility of the population is based only on births occurring in 1955 or 1971 while the fertility of the sample includes all births occurring to women in the sample, however, the data shows that the young married woman in the 1971 DAS sample have lower actual fertility than the young married women in the 1955 DAS sample.

Family Role Structure

As mentioned earlier, the conceptualization of family role structure used in this study is derived from Bott. The main tenet of Bott's orientation is that families vary on the extent to which individuals occupying the husband-father role and the wife-mother role interact. In some families the husband and wife share many activities and duties while in other families the spouses do not share many activities and household duties.

²This crude birth rate was derived by taking the number of live births in the three counties of the SMSA given by the Michigan Center for Health Statistics (23) and dividing by the estimated population of the three counties which was taken from the Bureau of the Census (33).

Although Bott labels families as either joint conjugal role families, if they share activities and duties, or segregated conjugal role families if the duties and activities are not shared, the extent of segregation in the family roles can be measured more precisely than Bott's simple dichotomy. Rather than assigning families into one of two classes of families, the extent of role segregation can be measured along a continuum varying from no role interaction or sharing by the spouses, to total interaction and complete sharing of activities and duties.

In the present study, family role structure will be measured along a continuum from no role interaction to total role interaction by the spouses. The end point of the continuum characterized by no role interaction between the spouses will be described as family role segregation and the other end of the continuum, characterized by complete sharing of family roles, will be defined as family role integration. Intermediate points on the continuum can be referenced in terms of the degree of family role segregation or family role integration.

The operationalization of family role structure used in the present study is patterned after the measure of family role structure employed by Stokes (30). Stokes' measure is based on responses to 17 items asking wives the extent to which certain family and household functions are shared by herself and her spouse. The questions used by Stokes included items involving decision making as well as items pertaining to the actual performance of

household tasks. The responses to the 17 items were averaged to derive a general measure of family role structure.

In the present study family role structure is measured using wives' responses to twelve specific questions about how family and household functions are performed. The twelve questions used are listed below.

Twelve Family Role Structure Items

1. Who does the grocery shopping?
2. Who gets your husband's breakfast on workdays?
3. Who does the evening dishes?
4. Who straightens the living room when company is coming?
5. Who repairs things around the house?
6. Who keeps track of the money and the bills?
7. Who usually makes the final decision about what car to get?
8. Who usually makes the final decision about whether or not to buy some Life Insurance?
9. Who usually makes the final decision about what house or apartment to take?
10. Who usually makes the final decision about what job your husband should take?
11. Who usually makes the final decision about whether or not you (wife) should go to work or quit work?
12. Who usually makes the final decision about how much money your family can afford to spend per week on food?

For each of these questions the respondents were offered the five response choices listed in Scale 1.

Scale 1

1. Husband always.
2. Husband more than wife.
3. Husband and wife exactly the same
4. Wife more than husband.
5. Wife always.

A frequency distribution of responses to the twelve items for the subjects included in the present analysis is given in Appendix A, Tables A1 to A12. It should be noted that the questions and response possibilities were identical for the 1955 sample and the 1971 sample.

Scale 1 as it is presently structured is designed for measuring which spouse performs a task or makes a decision rather than the extent to which household activities are shared by the spouses. The extent to which one spouse usually makes household decisions, often referred to as dominance, has been used in other fertility studies with little success. In the Princeton Study (38) dominance measured in three areas of family life, was not found to be related to any of the fertility variables used in the study. The Indianapolis study (16) and Hill's study (14) found little evidence of a relationship between male dominance in the household and fertility. Blood and Wolfe (4:130) found little difference in the fertility of families with different dominance patterns.

Since there has been little success in relating measures of family dominance to fertility, and in view of the fact that Stokes, whose operationalization of family role structure was based

on Bott's concepts, did find a relationship between family role structure and fertility, the responses to Scale 1 will be recoded to construct an index of family role structure similar to the one used by Stokes.

In joint role relationship families, the spouses share most of the household tasks and decisions. Therefore, joint role families, or families with an integrated family role structure, will be identified by many responses that fall near the middle of Scale 1. In contrast, families with a segregated family role structure will be identified by many responses which fall at or near the end points of Scale 1.

For measuring family role structure as it has been defined here, it is not important which spouse makes a decision or performs a task, but rather whether the task is generally performed or the decision generally made by one spouse more than the other, or shared about equally by both spouses. Therefore, Scale 1 will be transformed into a three point scale to measure family role structure as it will be used in this study.

In constructing the new scale, response number 5 of Scale 1 is recoded to a "1" in the new scale, and response number 1 on Scale 1 is unchanged. This means that a "1" in the new scale indicates that the decision is always made or the task is always performed by the same spouse, without specifying which spouse. Response number 4 of Scale 1 is recoded as a "2" in the new scale, and a 2 in Scale 1 is unchanged. Therefore a "2" in the new scale indicates a specific task is usually performed or a decision usually

made by one spouse more than the other, but may occasionally be undertaken by the other spouse. Response number 3 of Scale 1 remains unchanged and indicates that a task is performed or a decision made equally by both spouses. The new scale, labeled Scale 1A is given below.

Scale 1A

1. A task or decision is never shared by the spouses.
2. A task or decision is sometimes shared by the spouses.
3. A task or decision is always shared by the spouses.

The twelve questions used here are obviously only a small sample of possible questions regarding the sharing of family activity. Consequently the measure of family role structure derived from these questions will be only a crude measure of the actual family structure of a couple. However, the particular questions used here involve tasks and decisions that are relatively important and common to all families, and examining the extent to which these twelve tasks and decisions are shared should give a good indication of the general extent of role segregation in the family.

Since the questions used to develop a measure of family role structure in this study are dictated by the data available, only questions on decision making and task performance are included here. However, future studies may find it useful to measure family role structure in other areas of family life such as child-rearing activities and income producing activities.

In general, there are two bases for combining single items into broader indices. One method is based on an examination of the content of the items. Items which appear to be measuring the same general concept or dimension are combined to construct an index or measure of the concept. The second method involves the use of quantitative analysis. The statistical relationships among the items are studied by examining inter-correlation matrices, performing factor analyses or other similar techniques. Both of these approaches are used in building measures of family role structure to be used in the present study.

Although each of the twelve questions listed as family role structure items focus on a specific event or situation, they all share a common dimension by the fact that they all examine the performance of household functions. More specifically, they examine who generally performs the functions. Since all twelve questions have a common focus, it seems reasonable from this analysis of their content to combine the twelve items into a single index designed to measure the extent to which the performance of household functions are shared.

In order to examine the inter-relationships of the responses to the twelve items, correlations were calculated and inter-correlation matrices were constructed. Tables B1 and B2 in Appendix B show the inter-correlation matrices involving the twelve family role structure items, all recoded to Scale 1A. Table B1 is based on 1955 data and Table B2 is based on 1971 data. Although many of the correlations in Tables B1 and B2 are small, nearly all the

correlations in both tables are positive. The few correlations that are negative are all small and there is no correlation that is negative in both tables. The fact that nearly all the correlations in both matrices are positive suggests that spouses who share in the performance of one family function share in the performance of many other family functions, and conversely, those spouses who do not share in the performance of a particular family function are likely not to share in the performance of other family and household functions. This in turn suggests that all twelve items share a common dimension, and at least to some extent are measuring the same concept.

Since the twelve family role structure items appear to be measuring the same dimension of family life, and due to the fact that they are all positively correlated, it seems reasonable to combine the twelve items into a single index to measure family role structure.

Once the response for each of the twelve questions has been recoded into the three point scale denoted as Scale 1A, the responses to all twelve questions can be combined to build a general index of family role structure for each family. A score representing the extent to which tasks and decisions are undertaken jointly is derived by calculating the simple unweighted average of the responses to all twelve items. This average will be referred to as the Family Role Structure Index, or FRSI. The possible values of FRSI range from 1.0 to 3.0 with a FRSI score of 1.0 meaning that the spouses share none of the twelve tasks and decisions. An FRSI

score of 1.0 is indicative of extreme family role segregation. An FRSI score of 3.0 on the other hand, means that the spouses completely shared all twelve tasks and decisions, which is indicative of families with extreme family role integration. In general, the higher the FRSI score, the less role segregation there is in the family, or stated conversely, the higher the FRSI score the more role integration in the family. The Family Role Structure Index, FRSI, will be used as the principle measure of family role structure in this study.

The reader might also note the first six questions in the list of family role structure items are six of the eight questions used by Blood and Wolfe (4:29) to build a measure of the division of labor in the family. Questions 7 through 12 in the family role structure items are six of the eight questions used by Blood and Wolfe (4:19) to construct a measure of decision making or the power structure of the family. The six questions on decision making and task performance used here are the only questions on these two topics that were used in the 1955 DAS and repeated in the 1971 DAS. In other words, two questions on decision making and two questions on division of labor which appeared on the questionnaire for the 1955 survey were eliminated from the questionnaire for the 1971 survey.

It is clear that the first six items of the twelve family role structure items all pertain to the performance of household tasks while the last six items of the twelve items ask questions about decision making in the family. From this observation, it

seems logical to construct separate indices using the first six items for one index and the last six items for another index, as was done by Blood and Wolfe. However, it may be useful to quantitatively analyze the responses to each set of questions.

Visual inspection of the inter-correlations among the items given in Tables B1 and B2 show that items 7 through 12 have relatively higher inter-correlations with each other than with items 1 through 6. This suggests that items 7 through 12 may be measuring something not being measured by items 1 through 6. The appropriateness of separating items 7 through 12 into a cluster or subgroup is shown more clearly by the results of a principal component oblique rotation factor analysis performed on the twelve items. The results of the factor analyses are given in Tables B3 and B4 in Appendix B. Both tables contain the results of the principal factor solution as well as the factor structure matrix after the oblique rotation. The oblique rotation factor structure matrix is best suited for determining the clustering of variables, for the factor loadings describe the relationship between each factor and each item. Those items which load high on one factor can be clustered into a more global index representing that factor. Tables B3 and B4 show that items 7 through 11 all load highest on the first factor extracted by the factor analysis. Item 12 loads highest on the second factor, but it also loads relatively high on the first factor. Further analysis showed that the correlation between an index composed of family structure items 7 through 11 and index composed of family role structure items 7 through 12 was

.95 using the 1955 data and .96 using the 1971 data. The extremely high correlation between these two indices indicates that one could expect to get nearly the same results using the six item index which is suggested by the analysis of the content of the six items as one would using the five item index suggested by the factor analysis. The evidence justifies the construction of a single index from the six items.

The responses to the family role structure items 7 through 12 will be used to construct an index to reflect family decision making. The index will be the simple unweighted average of family role structure items 7 through 12 and will be referred to as the Family Decision Making Index, or FDMI. Scores on FDMI range from 1.0 to 3.0 with a score of 1.0 signifying no family role integration and a score of 3.0 indicating complete family role integration.

We now turn our attention to family role structure items 1 through 6 which were used by Blood and Wolfe to measure division of labor in the family. Examination of the face content of all six items reveals that they all pertain to the performance of household tasks, as one would expect. Tables B1 and B2 show that the inter-correlations among items 1 through 6 are nearly all positive, but generally they are lower than the inter-correlations between items 7 through 12. Examination of the factor analysis results in Tables B3 and B4 show that items 1 through 6 do not have consistently high loadings on any one single factor as did items 7 through 12. The case is further complicated by the fact that there is some inconsistency between the results using the 1955 data

and the results using the 1971 data in terms of which items load highest on which factors.

The evidence regarding the unidimensionality of family role structure items 1 through 6 is somewhat contradictory. Analysis of the content of the six family role structure items suggests they are all measuring the same concept while results of the factor analysis suggests that there are several underlying dimensions running through the items. In light of this problem, the six items were used to construct several indices based on the results of the factor analysis. When these indices were correlated with the major dependent variable in this study, fertility, none of the indices derived from the factor analysis correlated more highly than an index based on all six items used collectively. Consequently, it was decided to use all six items to build a single measure of family role structure in the area of task performance.

The index used to measure family role structure in the area of task performance, will consist of the simple unweighted average of family role structure items 1 through 6. This measure will be labeled the Task Differentiation Index, or TDI. TDI may take on values between 1.0 and 3.0 with a score of 1.0 indicating a segregated family role structure and a score of 3.0 indicating an integrated family role structure.

Before leaving this section, it may be informative to examine the relationships among the three indices of family role structure which have been created. Table B5 in Appendix B shows the correlations among the three measures of family role structure

for both 1955 and 1971 data. Perhaps the most striking observation is the stability of the correlations over time. The difference between the 1955 correlations and the corresponding 1971 correlation for any given pair of variables is very small. If the true relationships among the three variables remained constant between 1955 and 1971, the evidence presented in Table B5 suggests that the three measures of family role structure used here are very reliable.

The strength and direction of the correlations presented in Table B5 are as one would expect. There is a moderate amount of association between the two indices TDI and FDMI, and high correlations between the principle index, FRSI, and the two secondary measures TDI and FDMI. Since TDI and FDMI share a common dimension and each includes a unique dimension, one would expect to find some correlation between them due to their common dimension, but not a high correlation since they each measure a dimension not shared by the other index. TDI and FDMI should correlate highly with FRSI since FRSI is simply a composite of TDI and FDMI.

Although it is hoped that the measurement of family role structure can be improved for future studies, the measures developed here will be adequate for testing the hypotheses in the present study. Since the present study was developed with the intention of employing the variable of family role structure as it has been used successfully in past studies, further efforts to develop more refined measures of family role structure go beyond the intent of the current study.

Hypotheses

Two sets of hypotheses will be tested in this study. The first set of hypotheses deals with the nature of the relationship between family role structure and fertility. These hypotheses are actually a further and more detailed test of the relationship between family role structure and fertility that has been observed in past research. In addition to examining the general association, both family role structure and fertility will be examined in more detail than has been the case in previous studies. The two dimensions of family role structure, denoted as TDI and FDMI, will be used separately, and actual fertility as well as desired fertility will be used as two distinct dimensions of fertility.

Hypothesis 1

The more segregated the family role structure of a couple the greater the number of children the couple will desire and will have. This will be reflected in a negative correlation between FRSI scores and the number of children born, as well as, FRSI scores and the number of children desired.

To further investigate the relationship between family role structure and fertility hypotheses 1A and 1B, given below, will be tested.

Hypothesis 1A

Families that segregate the task performance in the household will have higher desired and actual fertility than families where spouses share the task performance. This will be reflected in a negative correlation between TDI scores and both the actual number of children born to the family and the number of children desired.

Hypothesis 1B

Families where the spouses segregate the decision making in the household will have higher actual and desired fertility

than families where household decision making is shared by the spouses. This will be reflected in a negative correlation between FDMI scores and both dimensions of fertility measured in this study.

The relationship between family role structure and fertility will be further analyzed by calculating partial correlations between family role structure variables and fertility variables while controlling several other variables known to be associated with differential fertility. Multiple correlation analysis will also be used to examine the relationship between the family role structure and fertility while controlling the collective effects of several extraneous variables. The variables controlled are the age at marriage of the wife, the total family income, education level of the wife, length of marriage, and the age of the wife.

The second set of hypotheses examined in this study deals with changes in family role structure and the period fertility rate between the mid 1950's and the early 1970's. These hypotheses are based on the idea that some of the decline in period fertility between the mid 1950's and the early 1970's can be attributed to changes in the family role structure of the typical American married couple. If hypotheses 1, 1A and 1B are correct then an integrated family role structure is associated with lower fertility and consequently a temporal shift in the average family role structure in the direction of more integrated family role structure would result in a lower aggregate fertility rate, since the proportion of families having an integrated family role structure would increase. This general idea is investigated in the second set of hypotheses labeled 2 and 2A.

Hypothesis 2

The decline in the period fertility rate between the mid 1950's and the early 1970's can be attributed, in part, to a change in the family role structure of married couples, from more segregated to less segregated role-relationships in the marital dyad. This will be reflected in higher mean scores for the three family role structure variables in 1971 than in 1955.

To further examine the relationship between aggregate changes in family role structure and fertility, hypothesis 2A will also be tested.

Hypothesis 2A

There will be a close association between the amount of change from 1955 to 1971 in family role structure and actual fertility in selected sub-groups of the population. This will be reflected in very similar rank orderings of the sub-groups based on the amount of change in family role structure, and the amount of change in the actual fertility of the sub-groups as well as a high correlation between the amount of increase in the mean FRSI scores and the amount of decrease in the mean actual fertility of the sub-groups.

CHAPTER IV

FINDINGS REGARDING THE RELATIONSHIP BETWEEN FAMILY ROLE STRUCTURE AND FERTILITY

There are two groups of hypotheses being examined in this study. Hypotheses 1, 1A and 1B concern the basic relationship between fertility and family role structure. Hypotheses 2 and 2A deal with recent changes in family role structure and fertility in the United States. The first group of hypotheses, 1, 1A and 1B, will be thoroughly examined before giving consideration to the second set of hypotheses.

Since hypotheses 1, 1A and 1B will be tested using simple correlations, a few comments about correlation coefficients are in order. There are essentially three important components of any correlation coefficient. Those components are (1) the direction of the association, that is, positive or negative, (2) the magnitude of the correlation, varying from 0.0 to 1.0 and (3) the significance of the correlation, which may take any value between 0.0 and 1.0. While the hypotheses tested here make no specific prediction concerning the size of any of the correlations, the size is implicitly considered when looking at significance, since the significance of a correlation coefficient is dependent on the strength of the coefficient and the number of observations used in calculating the coefficient. The reader is reminded that the significance tests used here are based

on a random sample model even though the sampling procedures did not meet the criteria of a simple random sample. I might add that the analysis presented here is based solely on a search for linear relationships. Although no specific analysis is used in testing for curvilinear relationships, preliminary inspection of the contingency tables did not reveal any evidence that suggest such relationships.

Preliminary consideration of hypotheses 1, 1A and 1B will involve the use of simple correlation coefficients. Once the hypotheses have been tested using zero-order correlations, the correlations will be re-examined while controlling selected third variables known to be associated with differential fertility. The extraneous variables will be controlled separately using partial correlations and then the extraneous variables will be controlled collectively through the use of multiple correlation analysis. Examination of the zero-order correlations will be sufficient to test all the hypotheses of the first group. Partial and multiple correlation are used to assess the effect of selected extraneous variables on the family role structure-fertility relationship.

Table C1 and C2 in Appendix C show that there were 416 qualified respondents questioned in 1955 and 255 qualified respondents questioned in 1971. Other tables in Appendix C also show that in 1955 approximately 60 of the 416 families did not supply appropriate data on task differentiation and about 60 families did not supply appropriate data on family decision making. Consequently there are 108 cases where an FRSI score could not be computed in the 1955 sample.

Of the 255 cases meeting the initial criteria for inclusion in the 1971 sample, 9 cases did not contain responses on task differentiation, and 11 cases did not contain responses on family decision making. Eliminating cases with missing data for actual fertility, task differentiation, or family decision making left 237 cases where an FRSI score was calculated.

Findings Regarding the Relationship Between
Fertility and an Index of General
Family Role Structure

The first major hypothesis to be tested concerns the relationship between fertility and a general measure of family role structure. This hypothesis is examined by observing the degree of covariance between both measures of fertility and the Family Role Structure Index, FRSI, which represents a general measure of family role structure. Recall that FRSI was constructed so that the higher the FRSI score, the less the segregation in family roles.

Hypothesis 1 states that the more segregated the family role structure of a couple, the greater the number of children born and the greater the number of children desired. Since an increase in FRSI represents a decrease in role segregation in a family, hypothesis 1 will be supported if significant negative correlations between the two fertility variables and FRSI scores are observed in the data.

The term significant is used here in a statistical sense. Use of the term significant in this study can be interpreted as

meaning beyond the .05 level of significance. In other words, if the results are labeled significant, it means the observed results would occur less than one time in twenty by chance.

Table 1, which is based on 1955 data, shows the correlations between the two measures of fertility and the family role structure variables. In each cell of the correlation matrix there are three items. The top figure is the zero-order correlation coefficient (r), the figure immediately below the correlation coefficient is the number of observations used in calculating the correlation coefficient. The bottom figure in each cell is the level of significance for the correlation coefficient. The level of significance can be interpreted as the likelihood of getting the observed correlation coefficient if there is actually no linear association between the two variables. Since the hypotheses predict the direction of the correlation, the significance level given here is one-tailed measure of significance.

Table 1 shows the correlation between actual fertility and FRSI scores is $-.21$ which is significant at the .001 level of significance. This negative correlation indicates that couples who have high FRSI scores tend to have fewer children than couples who have low FRSI scores. In other words, the more segregated the family role structure, the more children the couple have.

Table 1 also shows that the correlation between desired fertility and FRSI scores is $-.15$ which is significant at the .001 level of significance. This negative correlation means that couples who have low FRSI scores tend to desire more children than couples

TABLE 1.--Zero-Order Correlations Between Family Role Structure Variables and Fertility Variables for Married Women Age 21 to 45 in 1955.

	Family Role Structure Variables		
	FRSI Scores	TDI Scores	FDMI Scores
Actual Fertility	r = 0.21 N = 308 p = .001	r = -.16 N = 353 p = .001	r = 0.12 N = 356 p = .001
Desired Fertility	r = -.15 N = 308 p = .001	r = -.08 N = 353 p = .063	r = -.13 N = 356 p = .007

r = Pearson Product-Moment correlations coefficient

N = Number of cases used in calculating the correlations coefficient

p = The level of significance of the correlation coefficient.

TABLE 2.--Zero-Order Correlations Between Family Role Structure Variables and Fertility Variables for Married Women Age 21 to 45 in 1971.

	Family Role Structure Variables		
	FRSI Scores	TDI Scores	FDMI Scores
Actual Fertility	r = -.21 N = 237 p = .001	r = -.19 N = 246 p = .001	r = -.15 N = 244 p = .008
Desired Fertility	r = -.02 N = 234 p = .388	r = -.00 N = 234 p = .480	r = -.02 N = 240 p = .390

r = Pearson Product-Moment correlation coefficient

N = Number of cases used in calculating the correlation coefficient

p = The level of significance of the correlation coefficient.

who have high FRSI scores, which is to say that couples who share household tasks and decisions tend to desire fewer children than couples who do not share these tasks and decisions.

Table 2, which is based on 1971 data, contains the correlations between the two fertility measures and the family role structure variables. The three figures in each cell of Table 2 correspond to the correlation coefficient, number of observations, and level of significance described in Table 1.

The correlation between actual fertility and FRSI scores in 1971 is $-.21$ which is significant at the $.001$ level of significance. This indicates that families with high FRSI scores have relatively fewer children than families with low FRSI scores. Since a high FRSI score represents an integrated family role structure, there is an association between sharing family functions and having a small family.

Table 2 also shows that the correlation between number of children desired and FRSI scores in 1971 is $-.02$. The significance level associated with this correlation coefficient indicates that we could expect a coefficient of this magnitude approximately 40% of the time by chance alone. While this correlation is in the predicted direction, it does not meet the criteria for concluding significance.

As expected, there is a significant negative correlation between actual fertility and FRSI scores at both points in time. The correlation between desired fertility and FRSI scores calculated from the 1955 data was negative and significant, as

hypothesized, however, when the same correlation was calculated from the 1971 data, the correlation was not significant at the established level.

In summary, hypothesis 1 is only partially supported. There is a significant negative correlation between actual fertility and FRSI scores, but the evidence pertaining to the relationship between desired fertility and FRSI scores is mixed. A significant negative correlation between desired fertility and FRSI scores was found in 1955, but the same correlation calculated from the 1971 data was weak and not significant.

Findings Regarding the Relationship Between
Fertility and Family Role Structure
in the Area of Task Performance

Hypothesis 1A examines the relationship between fertility and the extent to which household task performance is segregated by sex. The Task Differentiation Index, TDI, described earlier, measures the extent of family role segregation in task performance, and is constructed such that high scores on TDI indicate that spouses share task performance. A low TDI score indicates that the performance of tasks is segregated by family role.

Hypothesis 1A states, families where the spouses segregate the performance of household tasks will have higher actual and desired fertility than families where the performance of household tasks is shared by the spouses. Hypothesis 1A will be supported if significant negative correlations between measures of fertility and TDI scores are observed in the data.

Table 1 shows that in 1955 the correlation between actual fertility and TDI scores was $-.16$, which is significant at the .001 level. This negative correlation indicates that couples who have high TDI scores generally tend to have lower fertility than couples who have low TDI scores.

The correlation between desired fertility and TDI scores, calculated from the 1955 data, is $-.08$, which is significant at the .063 level. Although the correlation is in the predicted direction, it does not meet the criteria established for conclusion of significance.

In 1971 the correlation between actual fertility and TDI scores was $-.19$, which is significant at the .001 level of significance. Table 2 also shows the correlation between desired fertility and TDI scores, calculated from the 1971 data, is .00. This correlation coefficient is obviously not significant.

In summary, Hypothesis 1A is only partially supported. There is a significant negative correlation between actual fertility and the extent to which the spouses share the performance of household tasks, however, the nature of the association between desired fertility and family role segregation in the performance of household tasks is unclear. No significant correlation was found in 1955 or 1971, although the correlation coefficient calculated from the 1955 data was negative, as hypothesized.

Findings Regarding the Relationship Between
Fertility and Family Role Structure
In the Area of Decision Making

The third hypothesis regarding the relationship between fertility and family role structure is labeled hypothesis 1B. Treatment of this hypothesis will involve analysis of the relationship between the extent to which couples share family decision making, and the childbearing of the couple. Recall that decision making patterns are measured by the Family Decision Making Index, labeled FDMI. The higher the FDMI score of a family, the less role segregation in the family decision making.

Hypothesis 1B states, families that segregate decision making in the family will have higher desired and actual fertility than families that share family decision making. Hypothesis 1B will be supported if significant negative correlations between fertility measures and FDMI scores are observed in the data.

Table 1 shows that the correlation between actual fertility and FDMI scores calculated from the 1955 data is $-.12$, which is significant at the $.011$ level of significance. This indicates that the more role segregation there is in family decision making, the higher the actual fertility of the family.

The correlation between desired fertility and FDMI scores in 1955, also taken from Table 1, is $-.13$, which is significant at the $.007$ level. Indicating the more segregation there is in the family decision making, the higher the desired fertility.

Table 2 shows the corresponding correlation coefficients derived from the 1971 data. The correlation between actual fertility

and FDMI scores is $-.15$, which is significant at the $.008$ level of significance. The correlation between desired fertility and FDMI scores is $-.02$, which is significant at the $.390$ level of significance.

In summary, hypothesis 1B is only partially supported. There is a significant negative correlation between actual fertility and FDMI scores, but the existence of a correlation between desired fertility and FDMI scores has not been demonstrated. In 1955 there was a significant negative correlation between desired fertility and FDMI scores, but in 1971 the significance level of the same correlation did not meet the criteria established for concluding significance.

It should be noted at this point that actual fertility is more closely associated with the family role structure variables than desired fertility. All correlations between actual fertility and the family role structure variables are negative and significant, while four of the six correlations between desired fertility and the family role structure variables are not significant.

In searching for an explanation of why the correlations between actual fertility and family role structure variables are stronger than the correlations between desired fertility and family role structure variables, it is useful to look at the correlation between actual fertility and desired fertility. In 1955 the correlation between these two measures of fertility was $.20$. The same correlation was $.29$ in 1971.

The disparity between various measures of fertility has been noted in other research. Ryder and Westoff (26:281), for example, found that women in their sample had a mean current parity of 2.76 and a mean desired parity of 3.29. Since desired fertility generally refers to future fertility intentions while actual fertility generally refers to past fertility experience, it is not altogether surprising that these two measures of fertility are not highly correlated. Additionally, it is not surprising that some third variable may be correlated with one of these measures of fertility and not the other.

The reader is also reminded of the particular questions employed to measure desired fertility for the two samples used in this study. Recall that desired fertility in 1971 was measured by asking the respondents about the appropriate fertility level for a hypothetical family similar to the respondents family on one dimension, standard of living. The question used to measure desired fertility in the 1955 sample asks specifically about the future fertility of the respondent's family. Also note that two out of three correlations involving desired fertility and family role structure variables calculated from the 1955 data were significant, while all three correlations involving desired fertility and the family role structure variables calculated from the 1971 data were not significant. Given the fact that the measurement of family role structure for each family is based on interaction within that family, rather than a hypothetical one, one would expect these measures of family role structure to correlate

more highly with measures of desired fertility regarding the respondent's family, the 1955 measure, than they do with measures of desired fertility regarding a hypothetical family, the 1971 measure. In retrospect, it appears that the desired fertility of the 1971 respondents was not measured adequately. This line of reasoning is particularly useful in explaining why there was no significant correlation between desired fertility and the family role structure variables in 1971, but two out of three correlations in 1955 were significant.

Tables 1 and 2 also show that the correlation between actual fertility and FRSI scores are higher than the correlations between actual fertility and TDI scores which in turn are higher than the correlations between actual fertility and FDMI scores. The fact that the rank order and the relative magnitude of the correlations are stable for both time periods examined is striking, however, statistical tests described by Blalock (3:405) show that the three correlations in each table are not statistically different from one another at any critical level of significance. Therefore, any attempt to provide a detailed theoretical explanation for the observed rank order of the correlations is likely to be futile since there is a strong probability that the observed rank orders are due solely to random chance.

The examination of hypotheses 1, 1A and 1B, has shown that there is a significant negative correlation between actual fertility and three variables representing family role structure. The relationship between the three measures of family role structure

and actual fertility will be investigated further by examining partial correlation coefficients and standardized regression coefficients. The partial correlation coefficients will reveal the effect of each extraneous variable on the basic relationship between actual fertility and family role structure. Examination of the standardized regression coefficients associated with each family role structure variable will show the collective effect of all selected extraneous variables on the family role structure-fertility relationship.

While partial and multiple correlation could be used to develop a complex causal path model involving family role structure, fertility and the five extraneous variables described below, the development of such a path model is not the intent of this study. The sole purpose for employing the partial and multiple correlation techniques will be to determine if the extraneous variables taken separately, or all five used collectively alter the family role structure-fertility relationship observed in the zero-order situation. Using this perspective, we will be comparing each partial correlation and each standardized regression coefficient associated with a family role structure variable to the corresponding zero-order correlation coefficient. Only those situations which produce coefficients which are not negative and significant will be discussed.

Since the relationships between desired fertility and family role structure variables are unclear, partial and multiple correlations involving desired fertility are not presented or discussed here.

Two of the primary dimensions of socio-economic status, income and education, are among the variables controlled in this study. By using income and education as distinct dimensions of the general concept of socio-economic status, we hope to gain better insight into the effect of socio-economic status on the relationship between family role structure and actual fertility. Dissaggregation of this type has been informative in other studies.

Three other variables, which can all be described as demographic variables, will also be controlled. These variables are, the age at marriage of the wife, the length of marriage, and the age of the wife at the time of the interview. It is reasonable to expect, and other research has shown, that these variables are associated with differential fertility. These three variables along with the two variables representing socio-economic status will be referred to as the extraneous variables.

Table 3 shows that all partial correlations calculated from the 1955 data remain negative and significant while controlling for each of the five extraneous variables. This indicates that none of the five extraneous variables has any substantial effect on the family role structure-fertility relationship observed in the zero-order situation.

Table 4 shows that the partial correlations while controlling for education of the wife, family income, age at marriage, and age of the wife, calculated from the 1971 data are negative and significant. None of the partial correlations between actual fertility and the family role structure variables while controlling

TABLE 3.--Partial Correlations Between Actual Fertility and Family Role Structure Variables while Controlling for Several Extraneous Variables for Married Women Age 20 to 45 in 1955.

Variable Being Controlled	Family Role Structure Variable		
	FRSI Scores	TDI Scores	FDMI Scores
Education of the Wife (N = 307)	r = -.19 p = .001	r = -.19 p = .001	r = -.12 p = .016
Family Income (N = 297)	r = -.22 p = .001	r = -.22 p = .001	r = -.14 p = .008
Age at Marriage (N = 307)	r = -.19 p = .001	r = -.19 p = .001	r = -.12 p = .016
Length of Marriage (N = 307)	r = -.19 p = .001	r = -.18 p = .001	r = -.12 p = .015
Age of Wife (N = 307)	r = -.20 p = .001	r = -.20 p = .001	r = -.14 p = .009

r = Pearson Product-Moment Correlation Coefficient

p = The level of significance of the correlation coefficient.

Note - A list-wise deletion of cases with missing data was used for each set of partial correlations calculated. This means that all partial correlations in a given set are calculated on exactly the same group of observations. The number of cases included in each set of partial correlations follows the specification of the control variable in the table.

for length of marriage are significant at the .05 level. This indicates that the length of marriage does have an effect on the relationship between family role structure and actual fertility, for the couples in the 1971 sample.

The reason the 1971 partial correlations between family role structure variables and actual fertility while controlling for length of marriage are not significant rests with the strength of the correlation between length of marriage and actual fertility. Tables in Appendix D show that the correlation between length of marriage and actual fertility is .52 in 1971, but only .29 in 1955. Also note that the correlations between length of marriage and the family role structure variables are stronger in the 1971 data, and that all these correlations are negative.

The numerator of a partial correlation is equal to the zero-order correlation between the two initial variables minus the cross-product of the correlation between the control variable and one initial variable times the correlation between the control variable and the other initial variable. When the cross-product is large and has the same sign as the zero-order correlation, the partial correlation will be substantially smaller than the zero-order correlation. Of course, there is an adjustment factor in the denominator of the partial correlation which may also affect the final value of a given partial correlation coefficient, but this has little impact in the present situation.

In the present discussion, actual fertility and family role structure variables are the initial variables and length of marriage

TABLE 4.--Partial Correlations Between Actual Fertility and Family Role Structure Variables while Controlling for Several Extraneous Variables for Married Women Age 21 to 45 in 1971.

Controlled Variable	Family Role Structure Variable		
	FRSI Scores	TDI Scores	FDMI Scores
Education of the Wife (N = 233)	r = -.18 p = .003	r = -.19 p = .002	r = -.12 p = .035
Family Income (N = 220)	r = -.20 p = .001	r = -.19 p = .002	r = -.15 p = .014
Age at Marriage (N = 233)	r = -.18 p = .003	r = -.17 p = .006	r = -.13 p = .024
Length of Marriage (N = 233)	r = -.10 p = .059	r = -.08 p = .124	r = -.09 p = .093
Age of Wife (N = 233)	r = -.16 p = .008	r = -.14 p = .017	r = -.12 p = .034

r = Pearson Product-Moment Correlation Coefficient.

p = The level of significance of the correlation coefficient.

Note - A list-wise deletion of cases with missing data was used for each set of partial correlations calculated. This means that all partial correlations in a given set are calculated on exactly the same group of observations. The number of cases included in each set of partial correlations follows the specification of the control variable in the table.

is the control variable. Since the correlations between length of marriage and actual fertility as well as the correlations between length of marriage and the family role structure variables are higher in 1971 than in 1955, their cross-products will also be larger. Also notice that these cross-products will have the same sign as the zero-order correlation between family role structure variables and actual fertility. In 1971 these cross-products were sufficiently large to reduce the partial correlations to a size which is not significantly different from zero at the .05 level of significance.

While one would normally expect to find a strong positive correlation between actual fertility and the length of marriage, there is a good reason why this was not observed in the 1955 data. Women who were in the older age cohorts in 1955, particularly age 35 to 44, were women who experienced their prime childbearing years during the decade of the 1930's, a decade of low period fertility. Much of the childbearing postponed by these women during the 1930's and early 1940's was never made up. Decisions to delay childbearing became decisions to forego additional childbearing. Consequently, by 1955 older women, who are presumably women who have been married longer, had only slightly higher actual fertility than younger women, who had been experiencing their prime childbearing years during the post war "baby boom." This idea is supported by the fact that the correlation between age of wife and actual fertility was only .08 in 1955. In contrast, the correlation between age of wife and actual fertility was .37 in 1971. The topic of cohort fertility will be discussed further in the next chapter.

As stated earlier, multiple correlation will be used in this study to examine the relationship between a given independent variable and the dependent variable while all other independent variables are controlled. A standardized regression coefficient for a given independent variable can be interpreted as a partial correlation between the independent variable and the dependent variable while controlling the effects of all other independent variables in the equation. In the multiple correlation analysis used here, we will focus on the standardized regression coefficient for each family role structure variable.

For each time period, 1955 and 1971, three multiple correlation analyses were conducted. Problems of multi-collinearity precluded the use of all three family role structure variables as independent variables in the same equation. Another problem precluded the use of the three variables, age at marriage, length of marriage and age of wife as independent variables in the same equation. If one knows any two of these three variables, the third can be derived. Therefore, the age of wife was eliminated as an independent variable in the multiple correlation analyses. In each multiple correlation analysis one family role structure variable was added to the four remaining extraneous variables to create a set of independent variables while actual fertility remained as the dependent variable for all the analyses. The standardized regression coefficient, the unstandardized regression coefficient, the standard error of the unstandardized regression coefficient and the significance of each regression coefficient for each of the six analyses are given in Tables 5 to 10.

TABLE 5.--Multiple Correlation Analysis of Actual Fertility as a Dependent Variable with FRSI and Four Other Independent Variables for Married Women Age 21 to 45 in 1955.

Variable	Standardized Regression Coefficient	Unstandardized Regression Coefficient (B)	Standard Error of B	Significance of the Regression Coefficient
FRSI	-.172	-.076	.024	.002
Family Income	-.134	-.093	.040	.021
Age at Marriage of the Wife	-.225	-.093	.023	.000
Education of Wife	-.019	-.023	.071	.749
Length of Marriage	.189	.048	.015	.002
Constant		5.488	.743	.000

$$R^2 = .177$$

$$N = 298$$

TABLE 6.--Multiple Correlation Analysis of Actual Fertility as a Dependent Variable with TDI and Four Other Independent Variables for Married Women Age 21 to 45 in 1955.

Independent Variable	Standardized Regression Coefficient	Unstandardized Regression Coefficient (B)	Standard Error of B	Significance of the Regression Coefficient
TDI	-.182	-.073	.022	.001
Family Income	-.157	-.108	.040	.008
Age at Marriage of the Wife	-.225	-.094	.023	.000
Education of Wife	-.014	-.018	.071	.806
Length of Marriage	.192	.048	.015	.001
Constant		5.401	.723	.000

$$R^2 = .180$$

$$N = 298$$

TABLE 7.--Multiple Correlation Analysis of Actual Fertility as a
Dependent Variable with FDMI and Four Other Independent
Variables for Married Women Age 21 to 45 in 1955.

Independent Variable	Standardized Regression Coefficient	Unstandardized Regression Coefficient (B)	Standard Error of B	Significance of the Regression Coefficient
FDMI	-.103	-.033	.017	.057
Family Income	-.119	-.082	.040	.042
Age at Marriage of the Wife	-.233	-.097	.024	.000
Education of Wife	-.031	-.037	.072	.599
Length of Marriage	.192	.049	.015	.002
Constant		4.889	.715	.000

$$R^2 = .159$$

$$N = 298$$

TABLE 8.--Multiple Correlation Analysis of Actual Fertility as a Dependent Variable with FRSI and Four Other Independent Variables for Married Women Age 21 to 45 in 1971.

Independent Variable	Standardized Regression Coefficient	Unstandardized Regression Coefficient (B)	Standard Error of B	Significance of the Regression Coefficient
FRSI	-.053	-.029	.031	.356
Family Income	.020	.016	.052	.758
Age at Marriage of the Wife	-.169	-.094	.034	.006
Education of the Wife	-.146	-.141	.061	.022
Length of Marriage	.460	.127	.017	.000
Constant		5.020	1.019	.000

$$R^2 = .344$$

$$N = 221$$

TABLE 9.--Multiple Correlation Analysis of Actual Fertility as a Dependent Variable with TDI and Four Other Independent Variables for Married Women Age 21 to 45 in 1971.

Independent Variable	Standardized Regression Coefficient	Unstandardized Regression Coefficient (B)	Standard Error of B	Significance of the Regression Coefficient
TDI	-.035	-.020	.032	.544
Family Income	.019	.015	.052	.776
Age at Marriage of the Wife	-.169	-.095	.034	.006
Education of the Wife	-.149	-.143	.061	.020
Length of Marriage	.464	.128	.017	.000
Constant		4.878	1.026	.000

$$R^2 = .342$$

$$N = 221$$

TABLE 10.--Multiple Correlation Analysis of Actual Fertility as a Dependent Variable with FDMI and Four Other Independent Variables for Married Women Age 21 to 45 in 1971.

Independent Variable	Standardized Regression Coefficient	Unstandardized Regression Coefficient (B)	Standard Error of B	Significance of the Regression Coefficient
FDMI	-.047	-.017	.021	.405
Family Income	.023	.019	.051	.716
Age at Marriage of the Wife	-.172	-.096	.034	.005
Education of the Wife	-.147	-.142	.061	.022
Length of Marriage	.465	.129	.017	.000
Constant		4.843	.955	.000

$$R^2 = .344$$

$$N = 221$$

Tables 5, 6 and 7, which are based on 1955 data, show that the standardized regression coefficients for FRSI, TDI and FDMI are all negative and significant. This indicates that even when the collective effects of all five extraneous variables are controlled, the relationships between family role structure variables and actual fertility remain similar to the relationship observed in the zero-order situation.

Tables 8, 9 and 10, which are based on 1971 data, show that the standardized regression coefficient for each family role structure variable is negative, but none are significant at the .05 level of significance. This indicates that collectively controlling the five extraneous variables does alter the statistical relationship between the family role structure variables and actual fertility.

The reader may also note that the regression coefficient for family income was significant in 1955 but not in 1971. This finding is consistent with the notion of a diffusion model of contraceptive methods which holds that knowledge about and use of effective modern contraceptive technique is initially more accessible to the wealthy but over time becomes accessible to people of all income levels. In 1955 when access to modern contraception was limited to the wealthy, there was a relationship between family income and fertility. By 1971, partly through government programs contraceptive methods were nearly as accessible to poor people as to wealthy people and therefore the relationship between family income and actual fertility was diminished.

The regression coefficient for education of the wife was not significant in 1955, but was significant in 1971. This situation may be explained by looking at the relationship between opportunities to work outside the home, education level, and actual fertility. In 1971 there were more attractive non-familial roles and activity available to women than there was in 1955. However, the availability of many of these non-familial roles and activities was related to education level. The more education a woman had, the more attractive alternatives she had to childbearing and childrearing activities. In 1955 there were few acceptable alternatives to the mother-wife role regardless of education. Since these non-familial roles competed with childbearing activity, the group of women who participated most in the non-familial roles are likely to have lower fertility. Since education of the wife is related to opportunities outside the home in 1971, it is also related to actual fertility.

The regression coefficient for both age at marriage and length of marriage were significant in 1955 and 1971. These findings support a widely held belief that these two variables are major factors in differential fertility. The earlier couples get married, the longer the period they spend at risk of pregnancy, consequently the more children they are likely to have. Obviously length of marriage is a very direct measure of the amount of time spent at risk of pregnancy. While it is easy to see the direct effect of these variables on fertility, the reader is reminded that age at marriage and length of marriage are often related to

many social structural variables and therefore may act as an indirect link between social structure and fertility.

The reason the regression coefficient for family role structure variables were not significant in 1971 can be traced to the zero order correlations. Tables in Appendix D show that the correlation of marriage and actual fertility was .52 in 1971 but only .29 in 1955. Appendix D also shows that the correlation between length of marriage and the family role structure variables was much higher in 1971 than in 1955. The higher the correlation in 1971 acted to diminish the size of the regression coefficient for the family role structure variables to a size not significant at the .05 level. The relationship between length of marriage and actual fertility is somewhat accentuated in 1971 due to the fact that older women who had been married longer, had experienced their prime childbearing years during the post World War II baby boom, while the younger women had experienced their prime childbearing years during the late 1960's and earlier 1970's when the period fertility level was low. Consequently, older women had much higher fertility than younger women.

The relationship between family role structure and fertility observed in 1971 is partly due to the fact that there is a strong relationship between family role structure and length of marriage as well as a strong relationship between length of marriage and fertility. In 1971 when length of marriage was closely associated with fertility, variations of family role structure added little to the explanation of fertility levels. However, in 1955 when

length of marriage was less closely related to fertility, family role structure differences did help explain fertility differences.

In 1971 those women who had been married the longest also had the most segregated family role structure and also had the highest fertility. However, in this three variable relationship, it appears that length of marriage is closely related to fertility and that the relationship between family role structure and fertility is somewhat dependent on the relationship between family role structure and length of marriage. The inter-relationship among these three variables was not as strong in 1955.

This concludes the analysis generated by hypotheses 1, 1A and 1B, involving the basic relationship between family role structure and fertility. It has been shown that there is a significant negative correlation between the actual fertility of a couple and the extent to which the couple share household task performance and decision making. This relationship will be employed in the next chapter which examines recent changes in family role structure and actual fertility in the U.S.

CHAPTER V

FINDINGS RELATED TO RECENT CHANGES IN FERTILITY AND FAMILY ROLE STRUCTURE

In the previous chapter, it was shown that there is a significant association between actual fertility and family role structure, namely, that the more spouses share family functions, the fewer children the couple have.

In this section, recent period changes in fertility and family role structure are examined. Essentially, hypotheses 2 predicts that the recent decline in period fertility rates can be attributed to changes in the family role structure of the typical American family. A more general underlying assumption is that changes in the family role structure of a group are closely associated with, and causally linked to, changes in aggregate level fertility of the group.

Hypothesis 2 will be investigated by noting the direction and significance of recent shifts in measures of family role structure and fertility. Testing hypothesis 2A will involve an analysis of the extent of concomitant variation in recent changes in fertility and family role structure for several selected subgroups of the population.

One of the problems in examining hypothesis 2 and 2A concerns the relationship between period fertility rates and the

TABLE 11.--Mean Actual Fertility by Five Year Age Groups for 1955 and 1971.

Age Group	Mean Actual Fertility in 1955	Mean Actual Fertility in 1971
21 - 24	1.69 (N = 65)	1.24 (N = 38)
25 - 29	2.11 (N = 88)	1.93 (N = 53)
30 - 34	2.52 (N = 104)	3.00 (N = 55)
35 - 39	2.00 (N = 100)	3.35 (N = 49)
40 - 44	2.19 (N = 59)	3.18 (N = 60)

TABLE 12.--Mean of FRSI Scores by Five Year Age Groups for 1955 and 1971.

Age Group	Mean Actual Fertility in 1955	Mean Actual Fertility in 1971
21 - 24	1.69	1.78
25 - 29	1.62	1.65
30 - 34	1.69	1.61
35 - 39	1.63	1.55
40 - 44	1.61	1.60

measure of fertility used in this study. The aggregate period fertility changes presented earlier in the paper are based on the fertility that occurs in a single year, while the variable of actual fertility, the measurement of fertility for the respondents in this study, incorporates all the fertility experienced by the respondent during her entire marriage. This issue will be clarified by examining some age-specific measures of fertility.

Table 11 shows the mean actual fertility by five year age cohorts for the 1955 and 1971 samples. Note that some of the older cohorts in 1955, age 35-39 and 40-44, have lower mean actual fertility than some younger cohorts, such as, age 25-29 and 30-34. This can be explained by the fact that the older age cohorts, age 35-44, experienced their prime childbearing years during the 1930's, a decade of low fertility, while the younger cohorts experienced their prime childbearing years in the decade following World War II, a period labeled the "baby boom" due to high period fertility rates. The major point here is that there is little variation in the mean actual fertility of the five age cohorts in 1955 and no discernable pattern.

In contrast, the mean actual fertility of the age cohorts in 1971 increases systematically as one moves up the age scale from 21-24 to 35-39. The mean actual fertility of the 40-44 age cohort is slightly lower than the 35-39 age cohort, but higher than all other cohorts. This pattern is explained by the fact that those women in the older cohorts in 1971 experienced their prime childbearing years during the post war "baby boom" era, while the women

in the younger age cohorts experienced their prime childbearing years during the late 1960's and early 1970's when period fertility does appear to be related to the age of the cohort, that is, the older the cohort, the higher the actual fertility.

Although the 1971 period fertility rate is lower than the 1955 period fertility rate, comparison of the 1971 age-specific figures with the 1955 age-specific figures show it is only in the two youngest age cohorts, age 21-24 and 25-29, that the mean actual fertility is lower in 1971. The difference between the changes in period fertility rates and the age-specific figures is reconciled by the fact that most childbearing in any given year occurs to women in their twenties. Therefore, even though three out of the five age cohorts have higher mean actual fertility in 1971 than they did in 1955, the cohorts that were instrumental in producing the period fertility rates had lower mean actual fertility in 1971 than they did in 1955.

Since this chapter is based on recent changes in period fertility, the women most closely responsible for those changes should be employed in the analysis. The data presented here show that if the women age 25-29 in 1955 and 1971 have childbearing patterns similar to older cohorts, they will have completed most of their total childbearing by age 29. For example, in 1955 the women age 25 to 29 already have had an average of 2.11 births while the women age 40 to 44, who have nearly completed their childbearing, only have an average of 2.19 births per woman. In 1971 women age 25 to 29 have averaged 1.92 births compared to the

3.18 births per woman experienced by the women age 40 to 44. Other research (30) has also shown that it is married women in their twenties who have experienced the majority of all childbearing for any year in the past 25 years. Therefore analysis in this section will involve only married women age 21 to 29.

Before moving on to a test of hypothesis 2, it will be informative to examine age-specific family role structure measures in comparison to age-specific fertility measures. Table 12 shows the mean of FRSI scores for five age cohorts in 1955 and 1971. Note that the age-specific FRSI figures for 1955 show little variation among the age groups, much like the age-specific mean actual fertility of the same age groups. In contrast, the mean of FRSI scores for the age cohorts in 1971 decrease systematically as one moves up the age scale from 21-24 to 35-39. The mean FRSI score for the 40-44 age cohort is slightly higher than the mean FRSI score for the 35-39 age cohort.

From this description of age-specific mean actual fertility figures and mean FRSI scores, a striking pattern emerges. In 1955 where there is little distinction among the mean actual fertility figures of the age cohorts, there is little distinction among the mean of FRSI scores of the age cohorts. In 1971, where the mean actual fertility showed a marked progression over the age cohorts, the mean of FRSI scores show a similar pattern with changes occurring in the opposite direction of the changes in mean actual fertility. Additionally, in each age cohort where fertility figures were lower in 1971 than 1955, the mean of FRSI

scores was higher, and in each age cohort where the fertility figure was higher in 1971 than in 1955, the mean FRSI score was lower in 1971 than in 1955. While these observations do not directly test any of the hypotheses of the study, they are noted as one more piece of evidence suggesting an association between family role structure and fertility.

Findings Regarding Recent Changes in Family
Role Structure and Fertility For
the Total Population

The first hypothesis to be tested in this section involves aggregate changes in fertility and family role structure between 1955 and 1971. Hypothesis 2 states, the decline in the period fertility rate between the mid-1950's and the early 1970's can be attributed, in part, to changes in the family role structure of married couples, from more segregated to less segregated role relationships in the marital dyad.

Testing this hypothesis will involve two steps. First it will be necessary to establish the fact that the young married women in the 1955 sample have a higher level of fertility than the young married women in the 1971 sample. This merely insures that the samples are representative of their populations on this important characteristic.

The second step will focus on the family role structure variables measured in 1955 and 1971, and an examination of changes in these variables over the period. Since we are looking for aggregate changes, we will be looking for changes in a measure

TABLE 13.--Mean, Standard Deviation and Standard Error of the
Mean of Actual Fertility for Married Women Age 21 to
29 in 1955 and 1971.

1955 Sample	1971 Sample
Mean = 1.935	Mean = 1.637
Standard Deviation = 1.255	Standard Deviation = 1.234
Standard Error = .101	Standard Error = .129
N = 153	N = 91

of central tendency, the mean. Hypothesis 2 will be accepted if the mean of any of the family role structure measures, FRSI, TDI or FDMI, shows a significant increase between 1955 and 1971. This will indicate that the family role structure was less segregated in 1971 than it was in 1955.

The data regarding actual fertility of young married Detroit women in 1955 is presented in Table 13. Table 13 includes several measures of fertility such as the mean and standard deviation of the distribution, and the standard error of the mean. Since the 1955 data is only a sample of the relevant population, a certain amount of sampling error can be expected. Due to sampling error, it is often preferable to establish a confidence interval around a sample mean to estimate the mean of the population, rather than using the sample mean as a point estimate. The 95% confidence interval for estimating the mean of the actual fertility of young married women in Detroit in 1955, runs from approximately two standard errors below the sample mean to two standard errors above the sample mean. In this situation, the 95% confidence interval for the mean actual fertility in 1955 is 1.734 to 2.135.

Table 13 also shows fertility data from the 1971 sample. Table 13 shows several measures of fertility including the mean and standard deviation of the distribution, and the standard error of the mean. Since the 1971 data is also a sample from a larger population, it will be useful to establish an interval estimate of the mean actual fertility of the relevant population. The 95%

confidence interval for estimating the mean actual fertility of young married women in Detroit in 1971 is 1.380 to 1.894. It is worth noting that the mean actual fertility of the 1971 sample lies outside the 95% confidence interval established for 1955, and the mean actual fertility of the 1955 sample lies outside the 95% confidence interval established for 1971.

A T-test of the difference between the mean actual fertility for 1955 and the mean actual fertility for 1971 shows the difference to be significant at the .03 level of significance. The level of significance is based on a T-statistic of 1.81 and over 120 degrees of freedom.

The fact that the means of the actual fertility of these two samples are significantly different, simply indicates that the samples are representative of their respective populations. We will now see if these two samples, and their populations, have patterns of family role structure that are significantly different from one another.

Table 14 shows the means, standard deviations, and standard error of the mean of family role structure variables in 1955 and 1971. Column 3 of Table 14 shows the difference between the means of the variables for the 1955 sample and the 1971 sample. Column 4 contains the T-statistic for the difference shown in Column 3, and the significance of each T-statistic is given in Column 5. The figures in Column 5 can be interpreted as the probability of getting the observed difference if, in fact, the two samples are random samples from the same population. The T-statistic for the difference

TABLE 14.--Mean, Standard Deviation, and Standard Error of the Mean for Family Role Structure Variables for Married Women Age 21 to 29 in 1955 and 1971.

Family Role Structure Variable	(1) 1955 Sample	(2) 1971 Sample	(3) Difference of Means (1971 - 1955)	(4) T Statistic	(5) Significance of Difference
FRSI Scores	Mean = 1.647 S.D. = .3386 S.E. = .0314 N = 153	Mean = 1.705 S.D. = .3300 S.E. = .0350 N = 91	.058	1.229	.103
TDI Scores	Mean = 1.567 S.D. = .4915 S.E. = .0305 N = 153	Mean = 1.566 S.D. = .3415 S.E. = .0358 N = 91	-.001	-.*	-.*
FDMI Scores	Mean = 1.711 S.D. = .4915 S.E. = .0426 N = 153	Mean = 1.835 S.D. = .4823 S.E. = .0511 N = 91	.124	1.875	.031

* Since the change was not in the predicted direction, the T-statistic and the significance were not calculated for change in the TDI scores.

in mean TDI scores was not calculated because the difference was extremely small and not in the predicted direction.

Recall that an increase in an FRSI, TDI or FDMI score represents a movement toward more family role integration. If the mean FRSI, TDI or FDMI score of a group increases, it signifies the fact that the typical family role structure of the families in that group has become less segregated. The mean of FRSI scores for the young married women in the 1971 samples was .0578 higher than the mean of the FRSI scores for young married women in the 1955 sample. This difference is significant at the .103 level of significance. While this level of significance does not meet the criterion level used in the previous section, it does indicate that a difference of the observed size would occur by random chance alone only about one-tenth of the time. The fact that the difference between the two means is significant at the observed level is strong evidence that the 1955 population and the 1971 population have patterns of family role interaction that are different from one another.

Further analysis of Table 14 shows that the change in mean FRSI scores between 1955 and 1971 is due entirely to changes in FDMI scores. There is very little change in the mean TDI scores between 1955 and 1971. Since the FRSI score is a composite of TDI and FDMI, the change in FRSI scores between 1955 and 1971 cannot be attributed to corresponding changes in TDI scores, and must be attributed to changes in FDMI scores.

The mean of FDMI scores for 1971 is .124 higher than the mean of FDMI scores for 1955. The difference between the mean of FDMI scores in 1955 and the mean of FDMI scores in 1971 is significant at the .031 level of significance. This indicates a substantial and significant shift in family decision making patterns from more segregated family role structure to less segregated family role structure between 1955 and 1971. This change in family decision making patterns provides the principal evidence for accepting hypothesis 2.

While the hypothesis has been supported, two important questions remain unanswered. Why did family role structure change between 1955 and 1971, and why did patterns of family decision making change while patterns of task performance did not? Since these are questions that have been raised by the analysis rather than the questions that the analysis was designed to answer, they will not be pursued here. There will be a short discussion on these topics in the next chapter.

Findings Regarding Recent Changes in Family Role Structure and Fertility in Selected Sub-groups

The association between family role structure and actual fertility will be further analyzed by focusing on temporal changes in selected sub-groups of the population. Hypothesis 2A, which is the last major hypothesis of this study, states, there will be a close association between the amount of change from 1955 to 1971 in family role structure and actual fertility in selected sub-groups of the population.

TABLE 15.--Summary of Actual Fertility of Married Women Age 21 to 29 in Selected Sub-Groups in 1955 and 1971.

(1) Sub-Groups*	(2) Actual Fertility in 1955	(3) Actual Fertility in 1971	(4) Change in Mean of FRSI Scores Between 1955 and 1971
White Families	Mean = 1.744 S.D. = 1.029 N = 121	Mean = 1.675 S.D. = 1.261 N = 77	-.069
Non-White Families	Mean = 2.656 S.D. = 1.715 N = 32	Mean = 1.429 S.D. = 1.089 N = 14	-1.227
Catholic Families	Mean = 1.682 S.D. = 1.055 N = 66	Mean = 1.676 S.D. = 1.307 N = 34	-.006
Non-Catholic Families	Mean = 2.126 S.D. = 1.362 N = 87	Mean = 1.614 S.D. = 1.146 N = 57	-.512
Low Education Families	Mean = 2.274 S.D. = 1.308 N = 62	Mean = 2.200 S.D. = 1.082 N = 15	-.074
High Education Families	Mean = 1.702 S.D. = 1.169 N = 91	Mean = 1.526 S.D. = 1.238 N = 76	-.177
Low Income Families	Mean = 2.172 S.D. = 1.363 N = 99	Mean = 1.717 S.D. = 1.183 N = 53	-.455
High Income Families	Mean = 1.500 S.D. = .885 N = 54	Mean = 1.526 S.D. = 1.310 N = 38	+.026

*These groups are described more completely in Appendix E.

TABLE 16.--Summary of FRSI Scores for Married Women Age 21 to 29
in Selected Sub-Groups in 1955 and 1971.

(1) Sub-Groups*	(2) FRSI Scores from 1955	(3) FRSI Scores from 1971	(4) Change in Mean of FRSI Scores Between 1955 and 1971
White Families	Mean = 1.661 S.D. = .343 N = 121	Mean = 1.707 S.D. = .330 N = 77	+.046
Non-White Families	Mean = 1.587 S.D. = .320 N = 32	Mean = 1.696 S.D. = .339 N = 14	+.109
Catholic Families	Mean = 1.665 S.D. = .365 N = 66	Mean = 1.760 S.D. = .387 N = 34	+.095
Non-Catholic Families	Mean = 1.634 S.D. = .328 N = 87	Mean = 1.671 S.D. = .290 N = 57	+.037
Low Education Families	Mean = 1.587 S.D. = .312 N = 62	Mean = 1.617 S.D. = .327 N = 15	+.030
High Education Families	Mean = 1.680 S.D. = .350 N = 91	Mean = 1.723 S.D. = .330 N = 76	+.043
Low Income Families	Mean = 1.613 S.D. = .320 N = 99	Mean = 1.715 S.D. = .308 N = 53	+.102
High Income Families	Mean = 1.699 S.D. = .363 N = 54	Mean = 1.691 S.D. = .363 N = 38	-.008

*These groups are described more completely in Appendix E.

TABLE 17.--Summary of FDMI Scores for Married Women Age 21 to 29
in Selected Subgroups in 1955 and 1971.

(1) Sub-Groups*	(2) FDMI Scores from 1955	(3) FDMI Scores from 1971	(4) Change in Mean of FDMI Scores Between 1955 and 1971
White Families	Mean = 1.752 S.D. = .49 N = 121	Mean = 1.831 S.D. = .47 N = 77	.079
Non-White Families	Mean = 1.539 S.D. = .46 N = 32	Mean = 1.857 S.D. = .55 N = 14	.318
Catholic Families	Mean = 1.781 S.D. = .53 N = 66	Mean = 1.869 S.D. = .53 N = 34	.088
Non-Catholic Families	Mean = 1.658 S.D. = .46 N = 87	Mean = 1.816 S.D. = .46 N = 34	.158
Low Education Families	Mean = 1.653 S.D. = .52 N = 62	Mean = 1.700 S.D. = .48 N = 15	.047
High Education Families	Mean = 1.744 S.D. = .48	Mean = 1.863 S.D. = .48	.119
Low Income Families	Mean = 1.659 S.D. = .48 N = 99	Mean = 1.846 S.D. = .42 N = 53	.187
High Income Families	Mean = 1.802 S.D. = .50 N = 54	Mean = 1.820 S.T. = .56 N = 38	.018

*These groups are described more completely in Appendix E.

Testing this hypothesis will involve the measurement of changes from 1955 to 1971 in the actual fertility and the family role structure of selected sub-groups. Since TDI scores for the entire sample did not change over the period, TDI will not be used in this analysis. Hypothesis 2A will be supported if there is a significant positive correlation between the amount of decrease in the mean actual fertility of a sub-group and the amount of increase in the means of the family role structure variables.

Table 15 shows fertility data for married women age 21 to 29 in 1955 and 1971 from eight different sub-groups. These sub-groups are based on dichotomies of four major sociological variables, race, religion, income, and education. Measures of actual fertility of women in these sub-groups are presented in Columns 2 and 3 of Table 15. The change from 1955 to 1971 in the mean actual fertility of each sub-group is given in Column 4 of Table 15. The mean actual fertility of women in the group identified as "high income families," increased slightly between 1955 and 1971, but it is the only exception.

It should be pointed out that the number of cases in some of the sub-groups is quite small. Obviously, the analysis would be more reliable if there were many cases in every sub-group. Although the limited number of cases in some sub-groups makes the analysis less reliable than we would like, it is not a prohibitive factor. The analysis will proceed with the understanding that any findings should be interpreted cautiously.

Table 16 and 17 show the family role structure data for women age 21 to 29 in selected sub-groups in 1955 and 1971.

Summary measures of FRSI scores for the sub-groups are given in Columns 2 and 3 of Table 16. Column 4 of Table 16 lists the amount of change from 1955 to 1971 in the mean of FRSI scores of the sub-groups.

Summary measures of FDMI scores for the sub-groups are given in Columns 2 and 3 of Table 17. Column 4 of Table 17 lists the amount of change from 1955 to 1971 in the mean of FDMI scores for the sub-group.

Table 16 shows that the family role structure in most sub-groups became more integrated between 1955 and 1971. The mean of FRSI scores increased for each sub-group except high income families. The mean of FRSI scores for the high income families decreased slightly between 1955 and 1971. Table 17 shows that the family decision making became more of a shared activity for families in every sub-group between 1955 and 1971.

The data which bear most directly on hypothesis 2A are presented in Table 18 and 19. Table 18 contains two lists of the sub-groups used in Tables 15 and 16. Column 1 lists the sub-groups in rank order based on the amount of increase in the mean FRSI over the 1955 to 1971 period. The amount of change is given in parenthesis. Column 2 of Table 18 lists the sub-groups in rank order based on the amount of decrease in the mean actual fertility of the sub-groups between 1955 and 1971. The amount of change is also given in parenthesis.

Table 19 contains two lists of the sub-groups used in Tables 15 and 17. Column 1 lists the sub-groups in rank order based on the amount of increase in the mean FDMI over the 1955 to 1971 period. The

TABLE 18.--Rank Orderings of Sub-Groups Based on Changes in Mean of FRSI Scores and Mean Actual Fertility Between 1955 and 1971.

Rank	(1)		(2)	
	Increase in Mean of FRSI (Amount of Increase)		Decrease in Mean Actual Fertility (Amount of Decrease)	
1	Non-White Families	(.109)	Non-White Families	(1.227)
2	Low Income Families	(.102)	Non-Catholic Families	(.512)
3	Catholic Families	(.095)	Low Income Families	(.455)
4	White Families	(.046)	High Education Families	(.177)
5	High Education Families	(.043)	Low Education Families	(.074)
6	Non-Catholic Families	(.037)	White Families	(.069)
7	Low Education Families	(.030)	Catholic Families	(.006)
8	High Income Families	(-.008)	High Income Families	(-.026)

TABLE 19.--Rank Orderings of Sub-Groups Based on Changes in Mean of FDMI Scores and Mean Actual Fertility Between 1955 and 1971.

Rank	(1)		(2)	
	Increase in Mean of FRSI (Amount of Increase)		Decrease in Mean Actual Fertility (Amount of Decrease)	
1	Non-White Families	(.318)	Non-White Families	(1.227)
2	Low Income Families	(.187)	Non-Catholic Families	(.512)
3	Non-Catholic Families	(.158)	Low Income Families	(.455)
4	High Education Families	(.119)	High Education Families	(.177)
5	Catholic Families	(.088)	Low Education Families	(.074)
6	White Families	(.08)	White Families	(.069)
7	Low Education Families	(.047)	Catholic Families	(.006)
8	High Income Families	(.018)	High Income Families	(-.026)

amount of change is given in parenthesis. Column 2 of Table 19 lists the sub-groups in rank order based on the amount of decrease in the mean actual fertility of the sub-groups between 1955 and 1971. The amount of change is also given in parenthesis.

The product-moment correlation between the amount of increase in the mean FRSI and the amount of decrease in the mean actual fertility of the sub-groups is .58. This correlation coefficient is significant beyond the .05 level of significance. This evidence indicates that there is a close association between the extent to which a sub-groups fertility decreased and the extent to which the general family role structure of the families in the sub-group become less segregated. The reader might also note that the rank orders of the sub-groups are very similar.

The product-moment correlation between the amount of increase in the mean FDMI and the amount of decrease in the mean actual fertility of the sub-groups is .95. This correlation coefficient is significant well beyond the .05 level of significance, which means that we can be very confident about assuming that the correlation observed in the sample is also present in the population. This correlation indicates that there is a close association between the extent to which a sub-groups fertility decreased and the extent to which family decisions became joint responsibilities rather than being the responsibility of a single spouse.

As one would expect, the two rank orders of sub-groups given in Table 19 are very similar.

This evidence provides strong support for hypothesis 2A. It has been shown that there is a very close association between recent changes in family role structure and fertility for several selected sub-groups of the population. It should be stressed again, however, that this analysis has incorporated groups which were represented by an extremely small number of observations. Consequently, the conclusions based on the analysis should be viewed cautiously.

This analysis also raises some questions appropriate for future studies. Although the analysis shows that there is a close association between the extent to which family role structure became more integrated and the amount of decrease in the actual fertility of young married women in sub-groups, it provides no explanation of why certain sub-groups changed more than other sub-groups. Although determination of what caused some sub-groups to change more than others is an interesting question, it goes beyond the scope of the present study.

This concludes the analysis generated by hypotheses 2 and 2A. It has been shown that family role structure has become less segregated between 1955 and 1971, and that there was a close association between the changes in the family role structure of a sub-group and the change in actual fertility.

CHAPTER VI

SUMMARY AND CONCLUSIONS

The correlations between actual fertility and the three family role structure variables were negative and significant for both periods examined. Consequently, it can be concluded that there is a negative association between the extent of family role integration and the number of children born in the family, or in other words, couples who share in the performance of household tasks and family decision making are likely to have fewer children than couples who do not share these household activities.

None of the correlations between desired fertility and the three family role structure variables calculated from the 1971 data were significant at the established level of significance. In 1955, the correlation between desired fertility and FDMI scores, as well as the correlation between desired fertility and FRSI scores were significant beyond the .05 level of significance, but the correlation between desired fertility and TDI scores in the 1955 sample was not significant. Poor measurement of desired fertility was offered as one reason for these inconsistent results.

The observed associations between actual fertility and the three measures of family role structure were hypothesized, but failed to find a consistent significant negative association between desired

TABLE 20.--Summary of Major Hypotheses Tested.

Hypotheses	Predicted Relationship	Support
1	A negative correlation between the extent of integration in family role structure and fertility	Partially Supported
1A	A negative correlation between the extent of role integration in family task performance and fertility	Partially Supported
1B	A negative correlation between the extent of role integration in family decision making and fertility	Partially Supported
2	Family role structure is more integrated in 1971 than in 1955	Fully Supported
2A	A positive correlation between the amount of increase in family role integration and the amount of decrease in actual fertility of sub-groups between 1955 and 1971	Fully Supported

fertility and family role structure weakens the support for hypotheses 1, 1A and 1B. In short, hypotheses 1, 1A and 1B, are only partially supported as shown in Table 20.

Stokes (29) found that the correlation between actual fertility and family role structure was .09 in the zero-order analysis, and .07 when socio-economic status was controlled. Neither correlation coefficient was significant at the .05 level. In the present study, the simple correlation between actual fertility and the general family role structure index is -.21 in 1955 and -.21 in 1971. The change in these correlations when education and income were controlled for was negligible. The direction of the association in both studies is consistent because Stokes' index of family role structure denotes families with segregated roles with low scores.

The major difference between Stokes' findings and the findings in the present study, concerns the strength and significance of the association between actual fertility and family role structure. The inconsistency in these two studies may be the result of differences in the samples used for each study. Stokes' sample was restricted to white, non-farm females in the Lexington, Kentucky area who had a legitimate birth during 1967. Students and families with foreign born wives were also eliminated from the sample. In contrast, the present study is based on two probability samples of the population of the Detroit metropolitan area. The only respondents eliminated from the analysis were those outside the relevant age range, those not married at the time of the survey, and those who had been married more than once.

Given the basic data for the two studies, it appears likely that the Detroit area samples are representative of more heterogeneous groups than the Lexington area sample. The restricted variance of the Lexington sample may have affected the size of the correlation calculated.

It was also shown in this study that there have been changes in family role structure which correspond to recent changes in period fertility rates. Family role structure has become less segregated while the fertility rate has declined. This fact is reflected in full support for hypothesis 2 as indicated in Table 20. These observed changes support the idea that the recent decline in period fertility has been caused, at least in part, by a shift in the typical pattern of family role interaction.

The changes in family role structure over the period examined here occurred primarily in the area of family decision making. In 1971, spouses tended to share the responsibility for making family decisions more than they did in 1955. Since the extent of family role integration in decision making is negatively correlated when the group has shown an increase in family role integration in the area of decision making.

Tables 18 and 19 show that there is a close association between temporal changes in the family role structure and the actual fertility of selected sub-groups. Those sub-groups which experienced the largest increases in the mean of FRSI scores and FDMI scores also experienced the largest decrease in mean actual fertility. This association resulted in full acceptance of hypothesis 2A as shown in

Table 20. It should be repeated here, that several of the sub-groups used here were represented by a very small number of cases, which means that this section of the analysis should be interpreted cautiously.

All sub-groups except the high income families, showed an increase in the amount of family role integration and a decrease in aggregate fertility over the 1955 to 1971 period. The fact that nearly all sub-groups moved in the predicted direction indicates the pervasiveness of the observed trends. Since other writers noted that all major sub-groups have experienced fertility changes consistent with the recent changes in the total population, it is noteworthy to see that the same claim can be made for changes in family role structure.

In summary, the major conclusions of the study can be stated as follows: (1) There is a negative association between the extent of family role integration and the number of children born, and (2) There is strong evidence to support the idea that the recent decline in period fertility can be partially attributed to an aggregate movement toward a more integrated family role structure in the average American family.

Although the analysis has fulfilled its intended purpose, it has raised some pertinent questions regarding family role structure and fertility. While the questions emerging from the present study will not be answered here, it may be useful to present a short discussion specifying what these questions are, and where one might begin to look for answers.

It has been shown that family role structure, particularly in the area of decision making, became less segregated between 1955 and 1971. This finding generates two basic questions. First, why did family role structure become less segregated during the 1955 to 1971 period, and second, why did family decision making patterns change while task performance patterns did not change?

Examination of the first question leads one to look for a social force which was present in 1971 but not present in 1955, and which affected one or both of the marital roles. A very good candidate is the so-called "women's movement" which has emerged in the past ten years. Although this movement encompasses a broad spectrum of views and activities, and it is not easily defined, it is nonetheless a potent social force which has surely influenced the marital expectations and the marital role performance of many young couples. The movement was clearly more powerful in 1971 than it was in 1955.

One of the general goals of the women's movement seems to be an increase in the extent to which wives are involved in activities outside the home and a corresponding increase in the extent to which the husbands are involved in household and childbearing activities. This goal is included in the International Women's Year Plan of Action which states, "All efforts should be made to change social attitudes--based mainly on education--in order to bring about the acceptance of shared responsibilities for home and children by both men and women" (39:16). This goal is synonymous with an integrated family role structure.

It seems very plausible that the women's movement caused the young couples in 1971 to share family and household responsibilities and activities to a greater extent than was the case in 1955. If in fact it has been the women's movement which has caused a decrease in role segregation in the family, it is likely that the women's movement will continue to have a depressing effect on fertility rates for some time to come, for it is difficult to imagine the disappearance of the women's movement in the near future.

There are a number of related factors that should be mentioned here. The increased participation of women in the labor force over the past twenty years is probably related to both the recent rise of the women's movement and the recent changes in fertility. As mentioned earlier, there is a good deal of evidence suggesting that women who work outside the home have fewer children than women who do not work outside the home. Consequently, the increase in labor force participation of women would lead one to expect the recently observed decrease in period fertility. The extent to which labor force participation of women and family role structure are inter-related is unknown. It could be that labor force participation of women is related to fertility through family role structure.

Another idea concerning recently changing sex roles relates to the socializing agents of women who entered their childbearing years in the late 1960's and early 1970's. The mothers of many of these young women were exposed to the labor force and non-familial roles during World War II. Although most of these women left the labor

force and returned to domestic activities at the conclusion of the war, their war time activities had exposed them to some attractive non-familial roles and activities. It is suggested that many of these mothers found labor force activity exciting, and relayed the attractiveness and excitement of these non-familial roles to their daughters. Their daughters began acting on this information as they reached adulthood during the late 1960's and early 1970's.

It has also been suggested that the liberal climate of late 1960's and early 1970's which challenged many of the "system's" institutions and values may have encouraged young couples to question the value of children, and many seem to have concluded that children are not a valuable part of marriage. The questioning of the value of children has raised what some have called an anti-motherhood campaign.

Another factor which has been well researched is the introduction and increased use of modern contraceptive techniques over the past 20 years. It is claimed that modern contraception is available to any woman in America who wishes to use it. Although the increased use of more effective family planning methods may have decreased the amount of unwanted childbearing in recent years, it is doubtful that this factor has had a major effect on fertility. The fact that the U.S. achieved very low fertility rates in the 1930's, in the absence of modern contraceptive methods and the fact that countries like India have been saturated with contraceptive hardware with little change in their fertility level, demonstrate the idea that fertility rates vary widely, independently of the availability of modern contraceptive technology. Consequently, the increased use of new more efficient

contraceptive methods should not receive much emphasis in analyzing recent fertility changes.

Turning to the second question raised by the study, the fact that decision making patterns changed between 1955 and 1971 while task performance patterns did not, is puzzling. Although I cannot find a completely satisfying answer for this question, one thought does come to mind.

Although it has been noted by Kelly (15) and others that perception is often influenced by expectations and desires of an individual, the extent to which perception is altered by desires and expectations is itself affected by the objective reality of the situation. In short, those situations where the interpretation of events is most subjective are the situations where expectations and desires are most influential in perceptions.

In the present study, one set of questions used to measure family role structure concerns who performs household tasks while another set of questions concerns who makes family decisions. Task performance is behavior which is directly observable and decision making is a cognitive process which cannot be directly observed. In many situations it is probably difficult to make a sound judgment on the relative input one has in the decision making process in a family. Since the decision making cannot be directly observed, judgments about decision making tend to more subjective than judgments about task performance, and consequently the perception of decision making is more likely to be influenced by desires and expectations.

Recall that only the wife's perception of family decision making and task performance were used in this study, and keep in mind the goal of shared household responsibilities espoused by the women's movement. Assuming that young women in 1971 were influenced by the women's movement and desired or expected a marriage where household responsibilities are shared, these desires and expectations could have influenced their perception of family decision making patterns more than their perception of task performance patterns. Young wives in the 1971 sample may have reported that they shared decision making with their husbands simply because this is what they desired or expected and because there was no objective criteria to indicate otherwise. This would explain why family decision making appeared to become less segregated over the 1955 to 1971 period and family task performance remained unchanged.

Another question emerging from this study concerns the specification of the intervening mechanisms linking family role structure to actual fertility. While this topic deserves more attention than it can be given here, a few comments are included below.

It is reasonable to expect that desired fertility is one major intervening variable between family role structure and fertility. A good measure of desired fertility coupled with a good measure of contraceptive efficacy should produce an accurate estimate of completed fertility. Of course, there are many problems with both the conceptualization and measurement of both desired fertility and contraceptive efficacy. Nonetheless, both desired fertility and contraceptive efficacy should be included in developing a theory of causality linking

family role structure with fertility. However, one must still look for the mechanisms linking family role structure with desired fertility and contraceptive efficacy.

A variable which seems very promising in this regard is the type of personal relationship between the husband and the wife. An integrated family role structure is likely to be symptomatic of a mutually satisfying personal relationship between the spouses, while a segregated family role structure is associated with a poor personal relationship between the spouses. Couples who enjoy a good personal relationship are likely to enjoy sharing activities and will continue to share activities as long as they are a pleasurable experience. On the other hand, couples for whom interaction is not a pleasurable experience are not likely to share many activities.

Rainwater (25) as well as Blood and Wolfe (4) suggest that many women have children in an effort to find a satisfying personal relationship which they do not have with their husbands. Since segregated role structure is associated with poor personal relationships between the spouses, perhaps women in families with segregated role structure have many children in search for a satisfying personal relationship. Women in families with an integrated family role structure are likely to be enjoying a satisfying personal relationship with their husband therefore are not looking for this type of satisfaction through their children. It also seems reasonable that couples who are enjoying a good personal relationship in their marriage would be reluctant to have children, or additional children for fear of disrupting or changing their relationship.

The topics discussed in the last few pages suggest several areas for future research. Hopefully the present study can be used as a point of departure for other studies involving the relationship between family role structure and fertility.

APPENDICES

APPENDIX A

DISTRIBUTIONS OF RESPONSES FOR QUESTIONS
ON FAMILY ROLE STRUCTURE

TABLE A1.--Responses for Married Women Age 21-45 in 1955 and 1971 to Question, "Who Does the Grocery Shopping?"

	1955 Percentage Frequency (N = 416)	1971 Percentage Frequency (N = 225)
Husband Always	6.3	4.7
Husband More Than Wife	7.0	5.9
Husband and Wife Exactly the Same	29.8	17.6
Wife More Than Husband	21.2	22.4
Wife Always	34.4	49.4
Missing Data	1.4	0.0

TABLE A2.--Responses for Married Women Age 21-45 in 1955 and 1971 to Question, "Who Gets Your Husband's Breakfast on Workdays?"

	1955 Percentage Frequency (N = 416)	1971 Percentage Frequency (N = 225)
Husband Always	15.9	31.0
Husband More Than Wife	5.0	5.9
Husband and Wife Exactly the Same	4.6	4.7
Wife More Than Husband	7.9	10.2
Wife Always	64.9	47.5
Missing Data	4.8	.8

TABLE A3.--Responses for Married Women Age 21-45 in 1955 and 1971
to Question, "Who Does the Evening Dishes?"

	1955 Percentage Frequency (N = 416)	1971 Percentage Frequency (N = 255)
Husband Always	1.2	.4
Husband More Than Wife	1.4	.8
Husband and Wife Exactly the Same	13.0	8.6
Wife More Than Husband	11.8	14.5
Wife Always	65.4	72.5
Missing Data	7.2	3.1

TABLE A4.--Responses for Married Women Age 21-45 in 1955 and 1971
to Question, "Who Straightens up the Living Room when
Company is Coming?"

	1955 Percentage Frequency (N = 416)	1971 Percentage Frequency (N = 255)
Husband Always	1.2	1.6
Husband More Than Wife	1.2	.4
Husband and Wife Exactly the Same	20.2	19.6
Wife More Than Husband	16.3	18.8
Wife Always	60.3	59.6
Missing Data	.7	0.0

TABLE A5.--Responses for Married Women Age 21-45 in 1955 and 1971
to Question, "Who Repairs Things Around the House?"

	1955 Percentage Frequency (N = 416)	1971 Percentage Frequency (N = 255)
Husband Always	72.1	59.6
Husband More Than Wife	12.7	17.6
Husband and Wife Exactly the Same	7.0	10.6
Wife More Than Husband	2.9	6.7
Wife Always	2.4	5.1
Missing Data	2.9	.4

TABLE A6.--Responses for Married Women Age 21-45 in 1955 and 1971
to Question, "Who Keeps Track of the Money and Bills?"

	1955 Percentage Frequency (N = 416)	1971 Percentage Frequency (N = 255)
Husband Always	18.5	20.0
Husband More Than Wife	7.7	11.4
Husband and Wife Exactly the Same	36.3	23.9
Wife More Than Husband	10.8	12.9
Wife Always	26.2	31.8
Missing Data	.5	0.0

TABLE A7.--Responses for Married Women Age 21-45 in 1955 and 1971
to Question, "Who Usually Makes the Final Decision About
What Car to Get?"

	1955 Percentage Frequency (N = 416)	1971 Percentage Frequency (N = 255)
Husband Always	57.0	56.5
Husband More Than Wife	13.9	11.4
Husband and Wife Exactly the Same	21.9	26.9
Wife More Than Husband	1.0	2.0
Wife Always	2.4	2.7
Missing Data	3.8	.8

TABLE A8.--Responses for Married Women Age 21-45 in 1955 and 1971
to Question, "Who Usually Makes the Decision About
Whether or Not to Buy Some Life Insurance?"

	1955 Percentage Frequency (N = 416)	1971 Percentage Frequency (N = 255)
Husband Always	34.9	45.5
Husband More Than Wife	13.7	11.8
Husband and Wife Exactly the Same	38.0	34.1
Wife More Than Husband	3.6	3.1
Wife Always	8.2	4.7
Missing Data	1.7	.8

TABLE A9.--Responses for Married Women Age 21-45 in 1955 and 1971 to Question, "Who Usually Makes the Decision About What House or Apartment to Take?"

	1955 Percentage Frequency (N = 416)	1971 Percentage Frequency (N = 255)
Husband Always	13.2	15.7
Husband More Than Wife	5.8	4.7
Husband and Wife Exactly the Same	60.3	64.3
Wife More Than Husband	9.1	8.6
Wife Always	10.6	6.7
Missing Data	1.0	0.0

TABLE A10.--Responses for Married Women Age 21-45 in 1955 and 1971 to Question, "Who Usually Makes the Final Decision About What Job Your Husband Should Take?"

	1955 Percentage Frequency (N = 416)	1971 Percentage Frequency (N = 255)
Husband Always	89.2	82.4
Husband More Than Wife	4.8	9.8
Husband and Wife Exactly the Same	4.1	5.9
Wife More Than Husband	.0	.4
Wife Always	.5	1.2
Missing Data	1.4	.4

TABLE A11.--Responses for Married Women Age 21-45 in 1955 and 1971 to Question, "Who Usually Makes the Final Decision About Whether or Not You (wife) Should Go to Work or Quit Work?"

	1955 Percentage Frequency (N = 416)	1971 Percentage Frequency (N = 255)
Husband Always	29.8	25.5
Husband More Than Wife	4.6	5.5
Husband and Wife Exactly the Same	20.7	27.8
Wife More Than Husband	8.4	11.4
Wife Always	31.3	29.4
Missing Data	5.3	.4

TABLE A12.--Responses for Married Women Age 21-45 in 1955 and 1971 to Question, "Who Usually Decides About How Much Money Your Family Can Afford to Spend Per Week on Food?"

	1955 Percentage Frequency (N = 416)	1971 Percentage Frequency (N = 255)
Husband Always	10.1	14.9
Husband More Than Wife	1.9	4.7
Husband and Wife Exactly the Same	34.4	30.6
Wife More Than Husband	11.1	9.8
Wife Always	38.7	38.0
Missing Data	3.8	2.0

APPENDIX B

INTER-RELATIONSHIPS AMONG FAMILY ROLE
STRUCTURE ITEMS AND INDICES

TABLE B1.--Intercorrelation of Scale Items for Married Women Age 21-45 in 1955.

	1	2	3	4	5	6	7	8	9	10	11	12
1. Grocery Shopping	1.0											
2. Makes Breakfast	.16	1.0										
3. Washes Dishes	.13	.12	1.0									
4. Straightens Living Room	.13	.06	.24	1.0								
5. Repairs Household	-.06	.02	.10	.02	1.0							
6. Handles Money	.26	.11	.00	.04	.02	1.0						
7. Decides on Car	.04	-.03	.12	.14	.04	.08	1.0					
8. Decides on Insurance	.04	.02	.06	.15	.06	.08	.38	1.0				
9. Decides on House	.06	.05	.04	.10	.04	.09	.25	.40	1.0			
10. Decides on Husband's Job	.03	.02	-.10	.02	.01	.03	.15	.13	.04	1.0		
11. Decides Wife's Job	.02	.05	.05	.06	-.01	.07	.13	.21	.24	.27	1.0	
12. Decides on Food	.28	.05	.10	.13	-.02	.29	.15	.15	.16	.15	.22	1.0

TABLE B2.--Intercorrelation of Scale Items for Married Women Age 21-45 in 1971.

	1	2	3	4	5	6	7	8	9	10	11	12
1. Grocery Shopping	1.0											
2. Makes Breakfast	.07	1.0										
3. Washes Dishes	.17	.28	1.0									
4. Straightens Living Room	.11	.07	.20	1.0								
5. Repairs Household	.09	.02	.01	.00	1.0							
6. Handles Money	.24	.01	.01	-.03	-.04	1.0						
7. Decides on Car	.00	.16	.11	.15	.03	-.02	1.0					
8. Decides on Insurance	.05	.06	.10	.09	.10	.00	.47	1.0				
9. Decides on House	.03	.04	.03	.09	.07	-.02	.31	.35	1.0			
10. Decides on Husband's Job	.03	.01	.03	.10	.12	.01	.29	.20	.18	1.0		
11. Decides Wife's Job	.10	.08	.16	.13	.02	.13	.25	.18	.24	.18	1.0	
12. Decides on Food	.34	.14	.21	.11	.06	.17	.24	.22	.19	.18	.26	1.0

TABLE B3.--Results of a Principal Component Oblique Rotation Factor Analysis on the 12 FRSI Items for Married Women Age 21-45 in 1955.

FRSI Items	Factor 1	Factor 2	Factor 3	Factor 4
<u>Principal Factor Matrix*</u>				
1	.44	.55	-.13	-.06
2	.28	.36	-.08	.36
3	.29	.34	.57	.01
4	.39	.13	.49	-.30
5	.06	-.01	.25	.88
6	.38	.48	-.35	.01
7	.50	-.29	.33	-.05
8	.59	-.37	.20	-.03
9	.58	-.27	.05	.01
10	.37	-.44	-.35	.15
11	.52	-.33	-.37	-.01
12	.57	.30	-.26	-.06
Percent of Variance Accounted For	19.4	12.5	10.5	8.6
<u>Oblique Factor Structure Matrix</u>				
1	.05	.69	.22	.01
2	.03	.46	.05	.39
3	.04	.18	.70	.22
4	.24	.12	.66	-.13
5	.05	-.04	.03	.91
6	.04	.70	-.03	.01
7	.57	-.02	.36	.04
8	.69	.03	.25	.01
9	.63	.16	.13	.03
10	.56	.08	-.37	.04
11	.62	.26	-.26	-.10
12	.30	.67	.07	-.04

* Only the first four factors are examined since these are the only factors with eigenvalues greater than 1.0.

TABLE B4.--Results of a Principal Component Oblique Rotation Factor Analysis on the 12 FRSI Items for Married Women Age 21-45 in 1971.

FRSI Items	Factor 1	Factor 2	Factor 3	Factor 4
<u>Principal Factor Matrix*</u>				
1	.29	.67	.28	.09
2	.33	.27	-.54	.24
3	.35	.43	-.54	.06
4	.37	.12	-.35	-.31
5	.16	-.04	.16	.66
6	.14	.42	.58	-.16
7	.67	-.38	-.07	-.05
8	.61	-.33	.09	.13
9	.57	-.34	.12	-.05
10	.44	-.27	.14	.00
11	.54	.00	.08	-.25
12	.60	.37	.22	.00
Percent of Variance Accounted For	20.9	12.3	10.3	8.3
<u>Oblique Factor Structure Matrix</u>				
1	-.01	.74	-.24	.07
2	.10	.03	-.72	.09
3	.06	.17	-.77	-.11
4	.25	.08	-.45	-.41
5	.13	.05	-.08	.87
6	.01	.69	.19	-.08
7	.76	-.01	-.23	-.08
8	.69	.07	-.13	.12
9	.68	.08	-.05	.04
10	.53	.07	-.01	.01
11	.50	.30	-.18	-.27
12	.39	.65	-.30	-.03

* Only the first four factors are examined since these are the only factors with eigenvalues greater than 1.0.

TABLE B5.--Correlations Among the Family Role Structure Indices for Married Women Age 21-45 in 1955 and 1971.

	1955			1971		
	FRSI	TDI	FDMI	FRSI	TDI	FDMI
FRSI	1.0			1.0		
TDI	.74	1.0		.71	1.0	
FDMI	.85	.27	1.0	.88	.29	1.0

APPENDIX C

FREQUENCY DISTRIBUTION OF MAJOR VARIABLES

TABLE C1.--Frequency Distribution, Mean and Standard Deviation of
Actual Fertility for Married Women Age 21 to 45 in 1955.

Number of Children Born	Absolute Frequency	Relative Frequency Distribution	Cumulative Percent Frequency
0	49	11.8	11.8
1	87	20.9	32.7
2	135	32.5	65.1
3	82	19.7	84.9
4	39	9.4	94.2
5	13	3.1	97.4
6	5	1.2	98.6
7	3	.7	99.3
8	<u>3</u>	<u>.7</u>	100.0
TOTAL	416	100.0	

Mean = 2.16

Standard Deviation = 1.47

TABLE C2.--Frequency Distribution, Mean and Standard Deviation of
Actual Fertility for Married Women Age 21 to 45 in 1971.

Number of Children Born	Absolute Frequency	Relative Frequency Distribution	Cumulative Percent Distribution
0	49	11.4	11.4
1	42	16.5	27.8
2	62	24.3	52.2
3	57	22.4	74.5
4	31	12.2	86.7
5	16	6.3	92.9
6	8	3.1	96.1
7	5	2.0	98.0
8	2	.8	98.8
9	2	.8	99.6
11	<u>1</u>	<u>.4</u>	100.0
TOTAL	255	100.0	

Mean = 2.62

Standard Deviation = 1.87

TABLE C3.--Frequency Distribution, Mean and Standard Deviation of
Desired Fertility for Married Women Age 21 to 45 in
1955.

Number of Children Desired	Absolute Frequency	Relative Frequency Adjusted for Missing Data	Cumulative Percent Frequency
0	7	1.7	1.7
1.0	5	1.2	2.9
1.5*	1	.2	3.1
2.0	86	20.7	23.8
2.5*	8	1.9	25.7
3.0	106	25.5	51.2
3.5*	10	2.4	53.6
4.0	146	35.1	88.7
5.0	22	5.3	94.0
6.0	21	5.0	99.0
7.0	2	.5	99.5
12.0	1	.2	99.8
16.5*	<u>1</u>	<u>.2</u>	100.0
TOTAL	416	100.0	

Mean = 3.40

Standard Deviation = 1.41

*Respondents expressing desired fertility in terms such as "two or three" or "three or four," were coded as 2.5 or 3.5, respectively.

TABLE C4.--Frequency Distribution, Mean and Standard Deviation of
Desired Fertility for Married Women Age 21 to 45 in
1971.

Number of Children Desired	Absolute Frequency	Relative Frequency Adjusted for Missing Data	Cumulative Percent Distribution
0	5	2.0	2.0
1.0	16	6.4	8.4
1.5*	1	.4	8.8
2.0	139	55.4	64.1
2.5*	7	2.8	66.9
3.0	51	20.3	87.3
3.5*	3	1.2	88.4
4.0	25	10.0	98.4
5.0	4	1.6	100.0
Missing Values	4	--	--
TOTAL	255	100.0	

Mean = 2.38

Standard Deviation = .886

* Respondents expressing desired fertility in terms such as "two or three" or "three or four" were coded as 2.5 or 3.5, respectively.

TABLE C5.--Frequency Distribution, Mean and Standard Deviation of
FRSI Scores for Married Women Age 21 to 45 in 1955.

FRSI Scores	Absolute Frequency	Relative Frequency Adjusted for Missing Data	Cumulative Percent Frequency
1.00	7	2.3	2.3
1.08	6	1.9	4.2
1.17	19	6.2	10.4
1.26	14	4.5	14.9
1.34	29	9.4	24.4
1.42	21	6.8	31.2
1.51	26	8.4	39.6
1.59	23	7.5	47.1
1.66	31	10.1	57.1
1.75	32	10.4	67.5
1.83	22	7.1	74.7
1.91	16	5.2	79.9
2.00	25	8.1	88.0
2.08	13	4.2	92.2
2.17	6	1.9	94.2
2.26	7	2.3	96.4
2.35	4	1.3	97.7
2.42	3	1.0	98.7
2.51	3	1.0	99.7
2.59	1	.3	100.0
Missing Values	108	--	--
TOTAL	416	100.0	

Mean = 1.650

Standard Deviation = .337

TABLE C6.--Frequency Distribution, Mean and Standard Deviation of
FRSI Scores for Married Women Age 21 to 45 in 1971.

FRSI Score	Absolute Frequency	Relative Frequency Adjusted for Missing Data	Cumulative Percent Frequency
1.00	10	4.2	4.2
1.08	6	2.5	6.8
1.17	11	4.6	11.4
1.26	12	5.1	16.5
1.34	21	8.9	25.3
1.42	17	7.2	32.5
1.51	21	8.9	41.4
1.59	22	9.3	50.6
1.66	17	7.2	57.8
1.75	26	11.0	68.8
1.83	16	6.8	75.5
1.91	12	5.1	80.6
2.00	15	6.3	86.9
2.08	10	4.2	91.1
2.17	8	3.4	94.5
2.26	5	2.1	96.6
2.34	6	2.5	99.2
2.51	2	.8	100.0
Missing Values	18	--	--
TOTAL	255	100.0	

Mean = 1.634

Standard Deviation - .343

TABLE C7.--Frequency Distribution, Mean and Standard Deviation of
TDI Scores for Married Women Age 21 to 45 in 1955.

TDI Scores	Absolute Frequency	Relative Frequency Adjusted for Missing Data	Cumulative Percent Frequency
1.00	36	10.2	10.2
1.17	40	11.3	21.5
1.34	70	19.8	41.4
1.51	58	16.4	57.8
1.68	49	13.9	71.7
1.84	32	9.1	80.7
2.00	39	11.0	91.8
2.17	16	4.5	96.3
2.34	9	2.5	98.9
2.51	2	.6	99.4
2.68	1	.3	99.7
2.84	1	.3	100.0
Missing Values	63	--	--
TOTAL	416	100.0	

Mean = 1.551

Standard Deviation = .368

TABLE C8.--Frequency Distribution, Mean and Standard Deviation of
TDI Scores for Married Women Age 21 to 45 in 1971.

TDI Score	Absolute Frequency	Relative Frequency Adjusted for Missing Data	Cumulative Percent Frequency
1.00	33	13.4	13.4
1.17	25	10.2	23.6
1.34	53	21.5	45.1
1.51	41	16.7	61.8
1.69	37	15.0	76.8
1.83	26	10.6	87.4
2.00	20	8.1	95.5
2.17	5	2.0	97.6
2.24	4	1.6	99.2
2.51	1	.4	99.6
2.69	1	.4	100.0
Missing Values	9	--	--
TOTAL	255	100.0	

Mean = 1.500

Standard Deviation = .343

TABLE C9.--Frequency Distribution, Mean and Standard Deviation of
FDMI Scores for Married Women Age 21 to 45 in 1955.

FDMI Score	Absolute Frequency	Relative Frequency Adjusted for Missing Data	Cumulative Percent Frequency
1.00	32	9.0	9.0
1.17	19	5.3	14.3
1.34	51	14.3	28.7
1.51	24	6.7	35.4
1.68	57	16.0	51.4
1.84	33	9.3	60.7
2.00	59	16.6	77.2
2.17	24	6.7	84.0
2.35	26	7.3	91.3
2.51	11	3.1	94.4
2.68	15	4.2	98.6
2.84	2	.6	99.2
3.00	3	.8	100.0
Missing Values	60	--	--
TOTAL	416	100.0	

Mean = 1.760

Standard Deviation = .469

TABLE C10.--Frequency Distribution, Mean and Standard Deviation of
FDMI Score for Married Women Age 21 to 45 in 1971.

FDMI Score	Absolute Frequency	Relative Frequency Adjusted for Missing Data	Cumulative Percent Frequency
1.00	31	12.7	12.7
1.17	7	2.9	15.6
1.34	35	14.3	29.9
1.51	20	8.2	38.1
1.69	29	11.9	50.0
1.83	20	8.2	58.2
2.00	41	16.8	75.0
2.17	11	4.5	79.5
2.34	23	9.4	88.9
2.51	6	2.5	91.4
2.69	16	6.6	98.0
2.83	4	1.6	99.6
3.00	1	.4	100.0
Missing Values	11	--	--
TOTAL	255	100.0	

Mean = 1.772

Standard Deviation = .508

APPENDIX D

INTER-CORRELATIONS AMONG THE MAJOR VARIABLES

TABLE D1.--Intercorrelation Matrix of Major Variables for Married Women Age 21 to 45 in 1971.

	Actual Fertility	Desired Fertility	FRSI Scores	TDI Scores	FDMI Scores	Education of Wife	Family Income	Age of Wife	Age at Marriage	Length of Marriage
Actual Fertility	1.0									
Desired Fertility	.29	1.0								
FRSI Scores	-.21	-.02	1.0							
TDI Scores	-.19	.00	.71	1.0						
FDMI Scores	-.15	-.02	.88	.29	1.0					
Education of Wife	-.26	-.08	.11	.03	.10	1.0				
Family Income	.01	.16	-.06	-.12	.02	.45	1.0			
Age of Wife	.37	.16	-.16	-.15	-.09	-.02	.31	1.0		
Age at Marriage	-.29	-.04	.14	.15	.09	.26	.25	.27	1.0	
Length of Marriage	.52	.18	-.23	-.22	-.14	-.14	.20	.89	-.21	1.0

TABLE D2.--Intercorrelation Matrix of Major Variables for Married Women Age 21 to 45 in 1955.

	Actual Fertility	Desired Fertility	FRSI Scores	TDI Scores	FDMI Scores	Education of Wife	Family Income	Age of Wife	Age at Marriage	Length of Marriage
Actual Fertility	1.0									
Desired Fertility	.20	1.0								
FRSI Scores	-.21	-.15	1.0							
TDI Scores	-.16	-.08	.74	1.0						
FDMI Scores	-.12	-.13	.85	.27	1.0					
Education of Wife	-.17	-.12	.13	.08	.10	1.0				
Family Income	-.15	-.01	-.03	-.12	.07	.29	1.0			
Age of Wife	.08	.09	-.05	-.03	.01	-.08	.27	1.0		
Age at Marriage	-.34	.06	.08	.07	.10	.26	.20	.35	1.0	
Length of Marriage	.29	.05	-.10	-.07	-.05	-.25	.17	.78	-.28	1.0

APPENDIX E

DESCRIPTION OF SUB-GROUPS USED IN TABLES 15-19

TABLE E1.--Description of Sub-Groups Used in Tables 15, 16, 17, 18, 19 and 20.

Sub-Group	Description
White Families	Families were classified as white families if the wife classified herself as belonging to the white race. The definition of this group was identical in 1955 and 1971.
Non-White Families	Families were classified as non-white families if the wife classified herself as belonging to a race other than the white race. The definition of this group was identical in 1955 and 1971.
Catholic Families	Families were classified as Catholic families if the wife claimed to belong to the Roman Catholic Church. The definition of this group was identical in 1955 and 1971.
Non-Catholic Families	Families were classified as Non-Catholic if the wife claimed to belong to a religious group other than the Roman Catholic Church, or claimed no religious preference. The definition of this group was identical in 1955 and 1971.
Low Income Families	Families were classified as low income families if the total family income fell below an established level. In 1955 the level was \$10,000. In 1971 the level was \$12,000.
High Income Families	Families were classified as high income families if the total family income was above an established level. In 1955 the level was \$10,000. In 1971 the level was \$12,000.
Low Education Families	Families were classified as low education families if the wife had less than a high school education. The definition of this group was identical in 1955 and 1971.
High Education Families	Families were classified as high education families if the wife had at least a high school education. The definition of this group was identical in 1955 and 1971.

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