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WHICH COUPLES AT GIVEN PARITIES EXPECT TO HAVE ADDITIONAL BIRTHS? AN EXERCISE IN DISCRIMINANT ANALYSIS

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Abstract—Do couples at given parities who expect to have additional births differ on selected characteristics from their counterparts who do not expect to have any more children? This question is examined herein focusing attention on the wife's age, age at marriage, religion, and education and the husband's education and income. The method used is the discriminant-function analysis. The data are from the 1965 U. S. National Fertility Study. The combined discriminatory power of the social and economic background characteristics examined herein has been found to be greater at higher parities than at lower ones, while the opposite is true of demographic characteristics.

1. Introduction

A number of demographers have suggested that family-growth dynamics be viewed as a sequence of events, each of which concerns the transition of the couple from one parity to the next. For example, Mishler and Westoff (1955, pp. 124–125) in their working paper prepared in connection with the Princeton Fertility Study reasoned thus:

> Each birth occurs in and is influenced by a different set of circumstances. These circumstances reflect and are composed of changes in the family as a group, in its members, and in the social situation of the family. . . . Each birth is assumed to alter the family's situation and so affects the probability and timing of future births. An important and immediate implication of this assumption is that each of the steps in the sequence requires separate analysis and study.

Goldberg (1960, p. 138) put the same view in these words:

> Completed size of family represents the cumulation of a series of births, each of which may be affected by a different set of variables.

A diagrammatic representation of the above view is given in Figure 7 in Namboodiri (1972b). This author has argued elsewhere (Namboodiri, 1972b) that the treatment of completed family size as the decision problem in the economic analysis of fertility may amount to violating one of the fundamental assumptions of the theory underlying the analysis. On common-sense grounds one may also argue against treating completed family size as the decision problem in fertility analysis:

> While any couple may even at the time of marriage have some idea about how many children to have altogether, it is unlikely that a firm decision will be made once and for all immediately after marriage. It seems more logical to assume that decisions would be made sequentially, each step dealing with the addition of a (another) child to the family (Namboodiri, 1972b, p. 198).

While there have thus been a number of attempts to advocate the need to analyze family-growth dynamics as a sequential process, very few empirical studies of fertility have adopted this strategy. This paper proposes to take a look at some of the 1965 U. S. National Fertility Study data from this perspective. More specifically, this paper proposes to examine a number of variables from the point of view of their power to discriminate women at specific parities who "expect" to have additional children from their counterparts who do not.

2. The Data

For details of the 1965 U. S. National Fertility Study (NFS) data reference may be made to the monograph *Reproduction in the United States, 1965* by Ryder and Westoff (1971). For the present purpose it is probably enough to note the following: The 1965 NFS was based on a national probability sample of currently married women born since July 1, 1910, who were living with their husbands. Of the total sample of 5,617 women, 4,416 were whites and the rest nonwhites. The analysis reported herein is based on a subsample consisting of white women who reported that they are physically capable of having additional children if they want them.

The expected family size question used in the 1965 NFS was worded as follows:

"We have now asked you questions about the number of children you would like to have and the number you intend to have, about your physical ability to have children, and questions on family planning. Taking all this into account, how many more children do you expect to have (in addition to those you already have)?"

For our present purpose women at each parity (parity group) were classified into Group 0 and Group 1 according as they expected no more children or one or more children.

It is worth emphasizing that, to test the proposition that different factors come into prominence at different parities in determining the chances for further growth in the family, one should have access to longitudinal data—data that reveal expectations concerning additions to the family after reaching each parity and the subsequent actual fertility behavior. The data set used in this study does not provide this type of information. What has been done herein is to compare women at different parities in terms of the influence of different factors on whether any (more) additions to the family are expected. This is not the same as studying factors affecting fertility decisions of the same cohort of women at different stages in their family growth.

3. The Method

The method employed herein is the discriminant-function analysis. This method helps to examine whether two or more groups of individuals differ markedly or only negligibly on a given set of characteristics. In the two-group case the analysis can be carried out using the routine for multiple regression analysis, treating as the dependent variable the group membership defined as a dummy variable (e.g., 0 for all women in Group 0 and 1 for all women in Group 1). The resulting partial regression coefficients will be a constant multiple of the discriminant-function coefficients obtained in the traditional manner, that is, by solving the matrix equation

$$\left\{\begin{matrix}\text{Pooled dispersion}\\ \text{matrix of the}\\ \text{"independent"}\\ \text{variables}\end{matrix}\right\}\left\{\begin{matrix}\text{Column vector of}\\ \text{the discriminant}\\ \text{function}\\ \text{coefficients}\end{matrix}\right\} = \left\{\begin{matrix}\text{Column vector of}\\ \text{Group 0 vs. Group 1}\\ \text{differences in means}\\ \text{of the independent}\\ \text{variables}\end{matrix}\right\}.$$

For an algebraic proof of the equivalence of the dummy-dependent-variable approach and the traditional approach, see Cramer (1967).

The square of the multiple correlation coefficient obtained via the dummy-dependent-variable approach can be shown to be related in the following way to the Mahalanobis D^2, the statistic traditionally employed in the discriminant analysis:

$$R^2 = \frac{\phi}{1+\phi},$$

where

$$\phi = \frac{n_1 n_2}{(n_1 + n_2)(n_1 + n_2 - 2)} D^2,$$

n_1 and n_2 being the sizes of the two groups in question.

Excellent statistical expositions of the discriminant-function analysis are available in Anderson (1958), Cooley and Lohnes (1971), and Rao (1952). Reference may also be made to Hope (1969) for a less technical exposition. Kurczynski (1970) and Gower (1972), among others, examine the applicability of the discriminant-function analysis to discrete variables.

It should be noted that the theory underlying the discriminant function analysis assumes that the data set at hand can be regarded as a random sample, that the joint distribution of the variables considered is multivariate normal, and that the dispersion matrices of the population groups are identical. None of these assumptions may be tenable in the case of data sets such as the one taken for analysis herein. Fortunately, moderate departures from normality and equality of dispersion matrices may not drastically affect the inferences drawn from discriminant functions (see Hope, 1969, p. 117). The impact of complex sample designs, however, remains unknown; I am not aware of any study that has examined the design effect on the validity of inferences based on discriminant functions. No attempt will be made below to test the significance of measures calculated from the discriminant function analysis. Attention will be focused on discernible patterns. If these patterns were to be repeated in other data sets, then that in itself is sufficient invitation to attach substantive significance to the patterns.

Before concluding this section, it is perhaps pertinent to point out that an alternative method of analyzing factors associated with the propensity to belong to one group rather than to another is the following: Regard the membership in one group as a "success" and the membership in the other group as a "failure." The observed proportions of successes can then be subjected to the familiar multiple-classification analysis using either one of the following strategies: (1) the weighted least-squares procedure, expounded in detail, for example, by Grizzle, Starmer, and Koch (1969), or (2) the maximum-likelihood method, expounded, for example, by Goodman (1968, 1970, 1972). Both these strategies require that there be moderately large numbers of cases in all the subclasses of the multiple classification. In our present case this requirement cannot be met in view of the fact that when the sample is subdivided by parity we are left with only a few hundreds of cases in each category, and consequently many cells of the multiple classification become empty when the independent variables of interest (namely, age, age at marriage, education and religious affiliation of the wife and education and current income of the husband) are simultaneously taken into account.

As far as I am aware, the behavior in "small" samples of tests based on the approaches developed by Grizzle et al. (1969) and Goodman (1968, 1970, 1972) remains unknown. To avoid misunderstanding, it should be pointed out that the "small" sample situation just referred to concerns data sets in which many cell frequencies are very small. Such situations are to be distinguished from (a) the case in which an occasional cell is empty, while most cells have moderately large numbers of observations, and (b) the case in which some of the cells are known *a priori* to have zero probability of occurrence. Procedures have been suggested to deal with both these latter types of situations. Refer to Grizzle et al. (1969) and Goodman (1970) for procedures to handle Situation (a), and Goodman (1968) and Bishop and Fienberg (1969) for methods to handle Situation (b).

4. The Results

As already mentioned, the problem chosen for analysis here concerns the discriminatory power of a selected set of variables in a two-group case: Group 0 consisting of those who expect to have no more children and Group 1 consisting of those who expect to have one or more additional children. The variables selected for examination are described in Table 1.

Let us first examine whether Group 0 women differ at all from Group 1 women with respect to any of the selected characteristics (age, age at marriage, education and religious affiliation of the wife and education and income of the husband) taken one at a time. The data required for this comparison are shown in Table 2. For numerical data such as age, age at marriage, education and in-

Table 1.—Variables Selected for Inclusion in One or More Discriminatory Analyses

Variable	Code	Description
1. Wife's age	In single years	
2. Wife's age at marriage	In single years	
3. Wife's education	In single years of schooling completed by the wife	
4. Husband's education	In single years of schooling completed by the husband	
5. Husband's income	Husband's income from all sources in 1965:	
	0.0	No income
	2.5	$ 2,000 to 2,999
	3.5	$ 3,000 to 3,999
	4.5	$ 4,000 to 4,999
	5.5	$ 5,000 to 5,999
	6.5	$ 6,000 to 6,999
	7.5	$ 7,000 to 7,999
	8.5	$ 8,000 to 8,999
	9.5	$ 9,000 to 9,999
	11.0	$10,000 to 11,999
	13.5	$13,000 to 14,999
	16.5	$15,000 or more
6. Wife's religion	1	Catholic
	0	Non-Catholic

TABLE 2.—Mean Values of Selected Characteristics and Percent Catholic among White Women Classified by Expectancy of Additional Births, Duration of Marriage and Parity

		Women Married Less Than 5 Years				Women Married 5 or More Years			
		Parity				Parity			
Characteristic	Group[a]	0 and 1	2	3	4+	0 and 1	2	3	4+
1. Wife's age	0	27.0	23.1	--	--	39.6	37.3	36.7	38.0
	1	22.6	23.7	--	--	29.6	29.3	29.5	31.6
Difference (d_1)		4.4	- 0.6	--	--	10.0	8.0	7.2	6.4
2. Wife's age	0	24.5	19.3	--	--	22.7	21.3	20.6	20.0
at marriage	1	20.5	19.9	--	--	20.8	20.6	19.6	20.0
Difference (d_2)		4.0	0.6	--	--	1.9	0.7	1.0	0.0
3. Wife's	0	12.8	11.4	--	--	11.4	12.1	11.7	11.2
education	1	12.2	11.8	--	--	12.3	12.0	11.6	10.6
Difference (d_3)		0.6	- 0.4	--	--	- 0.9	0.1	0.1	0.6
4. Husband's	0	12.0	11.8	--	--	11.7	11.9	11.9	10.9
education	1	12.6	12.2	--	--	12.8	12.4	11.6	11.5
Difference (d_4)		- 0.6	- 0.4	--	--	- 1.1	- 0.5	0.3	- 0.6
5. Husband's	0	5.2	5.8	--	--	7.8	8.2	8.2	7.6
income	1	5.8	6.9	--	--	7.4	8.0	7.5	7.4
Difference (d_5)		- 0.6	- 1.1	--	--	0.4	0.2	0.7	0.2
6. Wife's	0	10	19	--	--	24	21	22	37
religion	1	31	41	--	--	17	34	46	62
Difference (d_6)		-21	-22	--	--	7	-13	-24	-25

a- Group 0 = those expecting no additional births.
Group 1 = those expecting one or more additional births.
Note: The analyses were performed on a subsample (of the 1965 NFS sample) consisting of white women who reported that they were physically capable of having (additional) children.
Source: The 1965 NFS data tape was obtained at cost from Professor Larry Bumpass, Center for Demography and Ecology, University of Wisconsin, Madison, Wisconsin.

come the mean scores are shown for each group, and for the wife's religious affiliation the percent Catholic is shown for each group at each parity. The differences d = mean (percent) for Group 0 minus the corresponding value for Group 1 are also shown in Table 2.

The patterns by parity of the differences d are shown in Figure 1 for those married five or more years.

As is clear from Table 2 and Figure 1, among those married five or more years Group 0 women differ markedly from Group 1 women in several respects:

(1) Group 0 women at each parity are on the average older than their counterparts in Group 1. The difference between the two groups in this respect diminishes with parity. See Figure 1a.

(2) Group 0 women at each parity had married somewhat later than their counterparts in Group 1. The only exception to this general pattern is found among those in parity 4+, where both groups have the same average age at marriage.

(3) In parity group (0 + 1) Group 1 women are better educated than their counterparts in Group 0. The reverse is the case in higher parities. The difference, d_3, between Group 0 and Group 1 consistently increases with parity. See Figure 1b.

(4) At all parities, except 3, women in Group 1 are married to men with relatively higher education than are women in Group 0. The difference, d_4 = Group 0–Group 1, first increases with parity and then declines. See Figure 1b.

(5) Group 0 women at each parity are married to men who make more money on the average than are women in Group 1. The difference, d_5 = Group 0–Group 1, does not show any consistent pattern with parity.

(6) Proportionately more Group 1

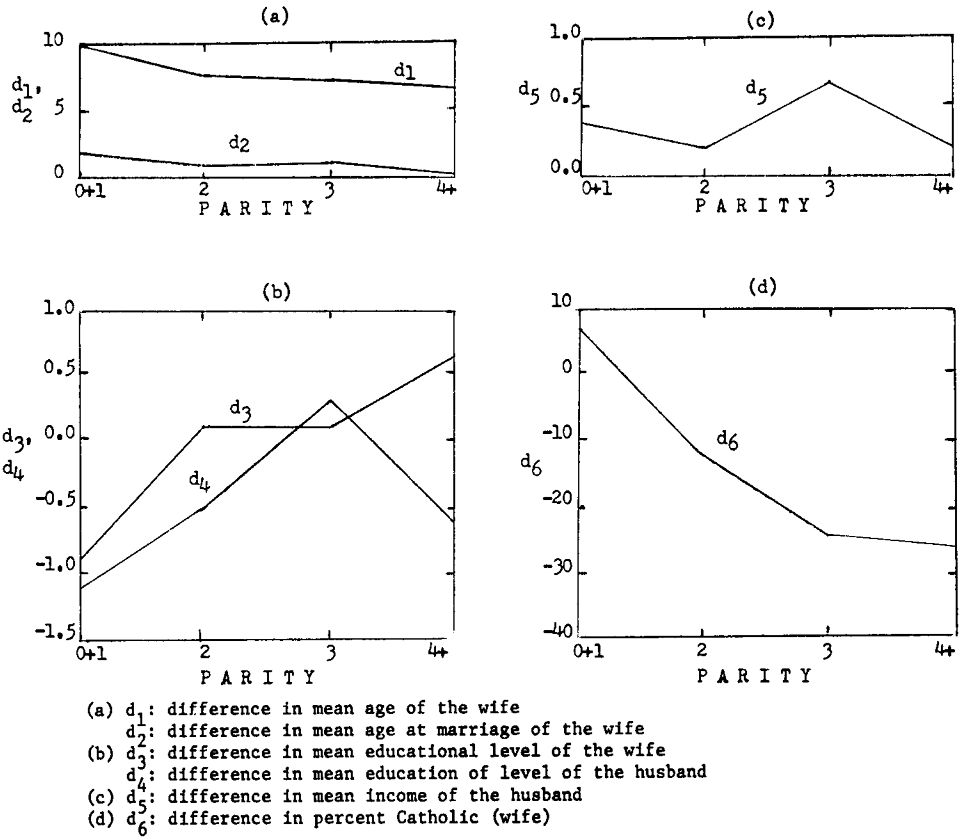

FIGURE 1.—Patterns of Group Differences in Means or Percentages of Selected Characteristics by Parity: Women Married Five or More Years

women are Catholic than Group 0 women at all parities, except (0 + 1). The distance between the two groups becomes progressively greater with parity. See Figure 1d.

With few exceptions the patterns described above apply also to women married less than five years. Unfortunately, for this marriage-duration category we do not have enough cases in higher parities to make it possible to study the parity-wise trend in the differences *d*. In what follows marriage duration will be ignored.

We now turn to the results of discriminant-function analysis. Table 3 presents the results of a number of analyses.

For easy reference the variables included in the six analyses are listed below:

Analysis	Variable(s) included (see Table 1)
1	1
2	1, 2
3	1, 2, 3
4	1, 2, 3, 4
5	1, 2, 3, 4, 5
6	1, 2, 3, 4, 5, 6

There is no intrinsic reason for entering the variables in successive analyses in the particular order just described. The main patterns noted below would not be different if the variables were entered in some other order.

Each analysis was done separately for women at individual parities, 0, 1, ··· , 5, and parity group 6 and above. Only one figure, R^2, is reported in Table 3 for each analysis. It is easy to calculate the corresponding D^2 values from the reported R^2 values and the group sizes. For our present purposes such calculations are not essential. The discriminatory power of each set of variables can be seen from the magnitude of R^2. By subtracting the R^2 values observed in one analysis from the corresponding values observed in a subsequent analysis we can get a measure of the additional discriminatory power attributable to the variables added in the latter analysis.

Several points are worth emphasizing with respect to the patterns exhibited in Table 3.

(1) The R^2 values do not remain constant from one parity to another. This supports the notion that the propensity to let the family grow is influenced by different sets of variables at different parities.

(2) Even with the use of all six variables, the R^2 values remain considerably lower than one. This means (a) that we have failed to identify some of the major factors that determine the probability of an additional birth after reaching a given parity and/or (b) that we have not perhaps specified properly the way in which different variables are functionally related to the probability in question. It is possible that the linearity assumption implied in the discriminant function analysis may be untenable in the case of certain variables. It may also be that since family growth is a sequential process, events that happen early in the married life of the couple may have a carry-over effect on the probability of adding births later on in the family-growth process. See in this connection Namboodiri (1972a, 1972b, 1972c, 1972d). The way in which we have analyzed the data set at hand does not permit taking

TABLE 3.—R^2 Values[a] in Analyses 1–6

Analysis and Sample Size	Parity						
	0	1	2	3	4	5	6+
Analysis							
1	0.42	0.50	0.26	0.23	0.18	0.17	0.05
2	0.45	0.53	0.29	0.25	0.21	0.21	0.08
3	0.45	0.54	0.29	0.25	0.24	0.24	0.08
4	0.45	0.54	0.29	0.25	0.25	0.24	0.09
5	0.45	0.55	0.29	0.25	0.26	0.26	0.10
6	0.45	0.55	0.31	0.29	0.28	0.27	0.12
Sample size							
Group 0	36	95	472	397	238	110	124
Group 1	238	319	233	141	72	27	23

a- R^2 is defined as the ratio of the between sum of squares to the total sum of squares of the linear compound scores yielded by the discriminant function.

Note: The analyses were performed on a subsample (of the 1965 NFS sample) consisting of white women who reported that they were physically capable of having (additional) children.

Source: The 1965 NFS data tape was obtained at cost from Professor Larry Bumpass, Center for Demography and Ecology, University of Wisconsin, Madison, Wisconsin.

into account such carry-over effects. In order to take into account such effects we need a more complete history of changes in the family's situation of each couple than is available in the data set at hand.

(3) The combined discriminatory power of the socioeconomic-background variables (the wife's education, the husband's education and income, and the wife's religion) over and beyond that of the demographic variables (the wife's

TABLE 4.—Partial Standardized Regression Coefficients[a] in Analyses 1–6 Using Membership in Group 0 and Group 1 as a Dummy Dependent Variable

		Parity						
Variable	Analysis	0	1	2	3	4	5	6+
1. Wife's age	1	-0.65	-0.71	-0.51	-0.48	-0.43	-0.42	-0.22
	2	-0.83	-0.82	-0.60	-0.54	-0.51	-0.48	-0.26
	3	-0.83	-0.79	-0.61	-0.55	-0.51	-0.50	-0.27
	4	-0.82	-0.79	-0.60	-0.55	-0.49	-0.50	-0.27
	5	-0.82	-0.81	-0.61	-0.54	-0.49	-0.50	-0.27
	6	-0.82	-0.80	-0.59	-0.51	-0.46	-0.48	-0.23
2. Wife's age at marriage	2	0.25	0.20	0.18	0.13	0.17	0.21	0.17
	3	0.26	0.16	0.20	0.14	0.23	0.28	0.20
	4	0.24	0.16	0.19	0.14	0.20	0.28	0.19
	5	0.24	0.16	0.20	0.13	0.22	0.29	0.19
	6	0.25	0.15	0.16	0.08	0.16	0.27	0.13
3. Wife's education	3	-0.01	0.12	-0.04	-0.02	-0.18	-0.17	-0.09
	4	-0.05	0.09	-0.05	-0.01	-0.25	-0.19	-0.17
	5	-0.05	0.08	-0.06	-0.01	-0.24	-0.24	-0.18
	6	-0.05	0.09	-0.02	0.02	-0.20	0.25	-0.17
4. Husband's education	4	0.06	0.05	0.03	-0.01	0.13	-0.02	0.14
	5	0.05	0.04	0.01	0.01	0.17	0.01	0.13
	6	0.06	0.03	0.01	0.00	0.16	0.00	0.14
5. Husband's income	5	0.02	0.05	0.04	-0.04	-0.11	0.15	0.03
	6	0.02	0.04	0.03	-0.05	-0.11	0.12	-0.02
6. Wife's religion	6	-0.01	0.05	0.14	0.20	0.15	0.13	0.16

a- These coefficients give the relative values of the discriminant function coefficients if, prior to the discriminant analysis, the original scores were divided by their respective standard deviation in the pooled sample (Group 0 and Group 1 combined).

Note: The analyses were performed on a subsample (of the 1965 NFS sample) consisting of white women who reported that they were physically capable of having (additional) children.

Source: The 1965 NFS data tape was obtained at cost from Professor Larry Bumpass, Center for Demography and Ecology, University of Wisconsin, Madison, Wisconsin.

age and her age at marriage) is relatively greater at higher parities than at lower parities. The difference between the R^2 values in Analysis 6 and Analysis 2 increases consistently from .03 in parity 1 to .10 in parity 5 and then declines to .04 in parity group 6+.

(4) The discriminatory power of the wife's age diminishes drastically with parity. As a consequence the combined discriminatory power of all the variables considered together also diminishes markedly with parity.

We now turn to the discriminant-function coefficients of different variables. Table 4 presents these coefficients separately for each analysis. It should be emphasized that the absolute values of the coefficients are not of interest. Discriminant-function coefficients are unique only up to a constant multiple. We shall therefore be concerned with the relative values of the coefficients. The signs of the coefficients are of some interest. The negative sign may be interpreted as representing a pull toward Group 0 (no further births) and the positive sign as representing a push toward Group 1 (one or more additional births).

It is instructive to examine whether the values of the coefficients for any variable differ from one analysis to the next. If all variables taken for examination are uncorrelated with each other, there should not be any differences in the relative values of the coefficients from one analysis to another. But we know that such a situation seldom obtains in social data sets.

The general impression one gets from Table 4 is that there is a considerable degree of constancy in the coefficients across different analyses. But there is one exception worth noting. Between Analyses 1 and 2 there is some difference in the coefficients of the wife's age. In other words, when the wife's age at marriage is introduced into the analysis, the coefficient of the wife's age alters as compared to when the wife's age alone is used in the analysis. But between Analyses 2, 3, 4, 5, and 6, there is marked constancy in the coefficients of the wife's age and in those of the wife's age at marriage. Similar constancy prevails between different analyses in the coefficients of all other variables taken for examination here. Since there is some degree of constancy from one analysis to another, it is enough that we confine our attention to the coefficients in one analysis in which all the variables have been used simultaneously. In other words, we may infer the relative discriminatory roles of different variables by examining the coefficients in Analysis 6. But perhaps it may be more interesting to examine the results of a modified version of Analysis 6. The modification concerns introducing into the analysis the husband's education and income scores in the form of a joint score presumed to represent the potential income flow through time (or economic status, for short). A simple approach has been adopted for this purpose herein. The husband's educational score was added to his income score, and the sum thus obtained introduced into the analysis. The results of this analysis are presented in Table 5. It can be easily verified that the coefficients of the wife's age, her age at marriage, her education, and her religion are almost identical in Table 4 (Analysis 6) and Table 5 (top half). A note of caution is called for here. Too much importance should not be attached to the patterns in Table 5, since we are dealing with variables that have shown relatively little discriminatory power. Looking at the signs and the relative magnitudes of the coefficients of different variables in Table 5 we discern the following:

(1) At all parities the greater the wife's age, the greater the pull toward no further additions to the family.

(2) At all parities the influence of the wife's age at marriage is opposite to that of the wife's age, when the two variables

TABLE 5.—Partial Standardized Regression Coefficients[a] and Their Relative Values in a Modified Version of Analysis 6 Reported in Table 4

Variable	Parity 0	1	2	3	4	5	6+
	Partial Standardized Regression Coefficients						
1. Wife's age	-0.83	-0.80	-0.59	-0.51	-0.48	-0.46	-0.23
2. Wife's age at marriage	0.25	0.15	0.15	0.09	0.16	0.26	0.13
3. Wife's education	-0.04	0.09	-0.02	0.03	-0.15	-0.26	-0.15
4. Husband's economic status	0.05	0.06	0.04	-0.05	0.00	0.12	0.10
5. Wife's religion	-0.01	0.05	0.14	0.20	0.15	0.14	0.15
	Relative Values of Partial Standardized Regression Coefficients with the Coefficient of the Wife's Age Taken as -1.00						
1. Wife's age	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
2. Wife's age at marriage	0.30	0.19	0.26	0.17	0.34	0.57	0.56
3. Wife's education	-0.04	0.11	-0.04	0.06	-0.32	-0.56	-0.66
4. Husband's economic status	0.06	0.08	0.06	-0.09	0.01	0.26	0.43
5. Wife's religion	-0.01	0.06	0.24	0.40	0.32	0.31	0.65

a- These coefficients give the relative values of the discriminant function coefficients if, prior to the discriminant analysis, the original scores were divided by their respective standard deviation in the pooled sample (Group 0 and Group 1 combined).

Note: The analyses were performed on a subsample (of the 1965 NFS sample) consisting of white women who reported that they were physically capable of having (additional) children.

Source: The 1965 NFS data tape was obtained at cost from Professor Larry Bumpass, Center for Demography and Ecology, University of Wisconsin, Madison, Wisconsin.

are considered together. This is in contrast to the impression one gets from examining the figures in Table 2. In Table 2 it was found that Group 0 women at all parities were on the average older and had married somewhat later than their counterparts in Group 1. When put together in the discriminant function, the direction of the influence of one variable is seen to be the opposite of that of the other.

(3) The influence of the wife's education changes with parity. At lower parities very little influence is apparent for this variable. At higher parities, however, the picture is somewhat different. At parities higher than 3, we notice that the higher the wife's education, the greater the pull toward no more births.

(4) The influence of the husband's "economic status" is negligible at lower parities; it becomes appreciable only

after parity 4. When its influence is appreciable, the tendency is for the husband's economic status to push toward Group 1 (one or more additional births).

(5) The influence of the wife's religion is negligible at lower parities (0 and 1), but becomes pronounced at higher parities (2 and above) where, compared to non-Catholics, Catholics tend to be pushed disproportionately into Group 1 (one or more births).

One may make a general comment concerning the patterns described under (3), (4), and (5) above. These patterns mean that only after the couple reaches a moderately high parity do the social and economic variables examined herein begin to discriminate those who expect to have additional children from those who do not. (See also the corresponding result revealed above in terms of the R^2 values in Table 3.) This partially supports the notion that there is a family size threshold below which very few would want to remain, and that it is after this threshold has been passed that the social- and economic-background characteristics begin to discriminate couples who expect to have additional births from their counterparts who do not.

Another comment worth making in this connection concerns the signs of the discriminant function coefficients of the wife's education and the husband's economic status. We have seen that the coefficients of the former are negative and that those of the latter are positive at higher parities while both sets are of negligible magnitude at lower parities. The signs of the coefficients in question are consistent with the positive economic effect and the negative "opportunity cost" effect much discussed in the recent literature (see Namboodiri, 1970, 1972b, 1972c, and the literature cited therein). Note, however, that what has been observed in this study is that the positive and the negative effects in question begin to appear marked only after the couple has reached a moderately high parity. This possibility has not been recognized by those writing on the subject, since invariably the attention has been confined to the completed family size or its proxy (expected family size, ideal family size, etc.) as the dependent variable.

Judging from the foregoing results, there is little doubt that our knowledge of family growth dynamics would be improved if we were to analyze it as a sequential process. Attention deserves to be focused on how different factors come into prominence at successive parities in determining which couples have another child.

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