ANOTHER LOOK AT THE INDIANAPOLIS FERTILITY DATA

DAVID GOLDBERG*

IN every study of urban differential fertility, measures of socioeconomic status have emerged as the primary determinant of fertility behavior. For the overwhelming majority of these studies the relationship between status variables and fertility has been inverse. Although some minor exceptions to the inverse fertility pattern have been observed, such as at the higher status levels, there have been only two instances in which the inverse relationship was conspicuously absent—Stockholm in the post World War I period[1] and a select group of "number and spacing planned" couples from the Indianapolis Study.[2] Clearly, the task of the analyst is to make use of socioeconomic differences in fertility as the base of any further inquiry into the matter. As Kiser and Whelpton have suggested, "The Indianapolis Study presents a challenge to learn the reasons for the overriding influence of socioeconomic status. There is good reason to believe that it is not socioeconomic status *per se* but rather the underlying attitudes and psychological characteristics of these classes that account for the fertility behavior."[3] Although the key to the puzzle need not necessarily be located among the psychological variables, describing differential fertility as it is related to status variables

* The University of Michigan.

I am indebted to the Committee on Social and Psychological Factors Affecting Fertility and in particular to Clyde V. Kiser and the Milbank Memorial Fund for permission to make use of materials from the Indianapolis Study. I also wish to thank T. R. Balakrishnan who assisted in the analysis. The research was carried out through the facilities of the Program for Research in Population and Human Ecology.

[1] Edin, K. and Hutchinson, E.: STUDIES OF DIFFERENTIAL FERTILITY IN SWEDEN. London, 1935.

[2] Kiser, C. and Whelpton, P.: Social and Psychological Factors Affecting Fertility: IX. Fertility Planning and Fertility Rates by Socioeconomic Status. *Milbank Memorial Fund Quarterly*. April, 1949, XXVII No. 2, pp. 188–244.

[3] Kiser, C. and Whelpton, P.: Resume of the Indianapolis Study of Social and Psychological Factors Affecting Fertility. *Population Studies*, 1953, VII, pp. 95–110.

certainly leaves us with a large interpretive gap between independent and dependent variables. Thus, the purpose of this paper is to specify the nature of the relationships between socioeconomic variables and fertility among couples who come from various types of social structures and to speculate about the interpretation or explanation of the relationships that emerge.

One of the problems in any study of urban fertility differentials results from the presence of rural elements in the population. A sample of almost any urban place in the United States will include at least a large minority of first or second generation farm migrants. About one-third of all adults living in nonfarm places in the United States are first generation farm migrants. Therefore, most studies of urban fertility differentials are far removed from describing the differentials that exist within the indigenous urban population.

It is entirely possible that the inverse fertility pattern so frequently reported to exist in urban areas results largely or entirely from the fertility behavior of the farm migrants rather than from the behavior of the indigenous urban population. In a study previously reported by the author, data from six probability samples of Metropolitan Detroit, covering the period 1952–1958, were used to test this proposition.[4] Respondents in that study consisted of married couples in which the wife was 40 or older. Younger couples were excluded because the relationship between socioeconomic variables and fertility has been subject to considerable change among the younger generations. Therefore, the study was geared to the cohorts in which the inverse pattern was most pronounced.

When the couples were classified by the occupation of the husbands' fathers in order to distinguish between the couples whose families had spent at least two generations in the urban setting and those who were first or second generation farm migrants, the following results were obtained:

1. Socioeconomic differences in completed family size among

[4] Goldberg, D.: The Fertility of Two Generation Urbanites. *Population Studies.* 1959, XII, pp. 214–222.

two generation urbanites were small and inconsistent. There was no distinct inverse or direct pattern.

2. Farm migrants exhibited a sharp inverse fertility pattern.

3. Farm migrants, on the average, had a larger number of children than two generation urbanites.

4. Farm migrants were disproportionately selected into the lower socioeconomic groups after their arrival in the urban area.

5. Findings 2, 3, and 4 produced the usual inverse fertility pattern for the total sample of metropolitan Detroit.

In general, the fertility differences observed among the "pure" urban types in Detroit were found to be statistically insignificant and small in the absolute sense. Since previous studies usually showed a pronounced inverse pattern, the Detroit data suggested that in the past we may have actually been looking at urban-rural differences when we were attempting to examine socioeconomic differences in fertility.

The suggestion that the inverse relationship between socioeconomic variables and fertility was confounded by a third variable, urban-rural background, has rather broad implications not only for fertility research but for general stratification research as well. One of the first questions to be raised before one begins to interpret the results is, would we get the same results in other urban places?

An opportunity to answer this question for another urban sample became possible when data from the Indianapolis Study were made available. Although the Indianapolis sample was restricted to couples who spent most of their married life in a large city, more than 38 per cent of the couples had some experience with farm life. In some respects the Indianapolis data provide a better test of the relationship observed in Detroit because there was more extensive coverage of the independent variables and the relationship between status variables and fertility could be observed with controls for the fertility planning status of the couples.

The 1,444 "relatively fecund" couples in the Indianapolis sample were classified according to the occupations of both the

husband's and wife's father. If both the husband's and wife's fathers had urban occupations, the couple had experienced an urban mode of life for at least two generations. The remaining couples were grouped into the categories "both parents farmers" and "one parent farmer." This classification could be carried out with 1,287 of the 1,444 fecund couples.[5]

Six indicators of socioeconomic status are used in the analysis—average annual earnings, net worth, husband's and wife's education, rent, and Chapin scale score. Table 1 shows the zero-order correlations between the status indicators and live births for each of the three farm-urban types constructed on the basis of the parents' occupations.

One difference between the data presented here and the data from the Detroit sample is the fact that the Indianapolis farm migrants (FF and FU) do not have a larger number of children than the two generation urbanites (UU). This finding probably results from a difference in the way eligible respondents were defined in the two studies. The Detroit sample included *any* farm migrant couples as long as the wife was 40 or older. This meant that the childbearing period could have taken place before or after migration to the urban environment. Eligible respondents in the Indianapolis Study were restricted to white Protestants who had spent most of their married life in a large city and had completed at least eight years of school. The educational restriction as well as the racial, religious, and residence restrictions eliminated the highest fertility group among the farm migrants to Indianapolis. A study done by Kiser in the 1930's with data from Syracuse and Columbus also showed that the fertility level of farm migrants who spent all of their married life in cities was no greater than the city born couples.[6]

[5] There were 860 "relatively fecund" couples actually interviewed at the time of the study. These 860 cases were inflated to 1,444 cases in order to yield a representative distribution by fertility. Of the 1,444 cases in the inflated sample, 157 had to be eliminated in this report because either the husband or wife did not report father's occupation.

[6] Kiser, C. V.: Birth Rates Among Rural Migrants in Cities. *Milbank Memorial Fund Quarterly*. October, 1938, XVI, No. 4, pp. 369–381.

If the average number of children among farm migrants is about equal to that of the urbanites, it does not necessarily follow that the differential fertility patterns of the migrants will be identical with or even similar to those of the urbanites. In Indianapolis we find that family size is the same for urbanites and couples with some farm background, but that within each of these groups there is a contrasting relationship between socioeconomic variables and fertility. The data collected in Detroit indicated a relatively strong inverse relationship between socioeconomic variables and fertility among the farm migrants and the absence of this relationship among the urbanites. It is clear from the data presented in Table 1 that the same situation existed in Indianapolis.

The contrast in the relationship between the status variables and fertility among the farm migrant couples and the two generation urbanites is most pronounced. Where both parents come from the farm setting (FF) each of the six status variables exhibits a relatively strong negative relationship to number of children. Among the pure urban types (UU) these relationships are very weak. In fact, the multiple correlation shown

Table 1. Correlations of socioeconomic variables with live births: Indianapolis study.

Socioeconomic Variables	All Couples			Excess Fertility Couples Eliminated			Number and Spacing Planned		
	FF[1]	FU[2]	UU[3]	FF	FU	UU	FF	FU	UU
2. Average Earnings	−.343	−.156	−.049	−.388	−.019	+.077	+.117	+.288	+.340
3. Net Worth	−.310	−.145	−.021	−.356	−.048	+.052	−.018	+.192	+.245
4. Husband's Education	−.314	−.149	−.116	−.218	−.006	+.010	−.158	+.145	+.276
5. Wife's Education	−.375	−.218	−.143	−.314	−.059	−.021	−.133	−.004	+.151
6. Rent	−.437	−.345	−.196	−.467	−.256	−.048	−.075	−.071	+.262
7. Chapin Scale	−.505	−.372	−.256	−.443	−.223	−.076	−.115	−.036	+.202
Average Number of Children	1.85	2.07	2.02	1.57	1.76	1.71	1.20	1.10	1.11
$R_{1.234567}$	.533	.406	.294	.491	.332	.174	.381	.412	.385
Number of Cases	115	378	794	87	280	584	35	99	229

[1] Both parents from farm.
[2] One set of parents from farm, other urban.
[3] Both parents urban.

in Table 1 indicates that the combined predictive power of the six status variables on fertility for the urbanites is less than the predictive power of any *one* of the six variables among the pure farm migrant types (FF). The combination of average earnings, net worth, husband's and wife's education account for only two per cent of the variance in fertility among the two generation urbanites. All six status variables account for less than nine per cent of the variance in their fertility. The negative relationship between the socioeconomic variables and fertility among the couples whose background is partially urban and partially farm (FU) may be described as moderate, located between the extremes in this relationship found among the pure urban and pure farm types.

When the excess fertility couples are eliminated from the analysis, the same type of pattern appears in an even more pronounced form. The pure farm types again exhibit a strong inverse pattern while for the urbanites there is no relationship between the status variables and fertility. For the latter group the correlations have the appearance of coming from a table of random numbers.

One of the most striking results to come out of the Indianapolis Study was the finding that within the "number and spacing planned" group there was a slight positive relationship between the status variables and size of family. If the results of this study are consistent with the direct relationship previously observed in the "number and spacing planned" group, it is to be expected that the pure urban types will display the strongest positive relationship between the status variables and fertility within this planning status category, whereas the farm migrants can be expected to lean toward a negative relationship. And this seems to be the pattern that is found in the data. There are 36 ordered comparisons that can be made between the correlation coefficients found among the farm-urban types for the three planning status categories used in this report. All of them are in the expected direction. Thus Indianapolis represents another instance in which the inverse pattern

for the total urban population results primarily from the fertility pattern of its farm migrants.

Now that these gross differences in the fertility patterns of farm migrant and urbanites have been shown, what does it mean? Why should couples coming from a farm background have smaller families the greater their economic success in the urban world while the indigenous urban population does not behave in this manner and may even have a tendency to behave in the opposite direction by having more children with greater success?

I shall not pretend to have an answer to this question, but the results merit a bit of speculation. Let us suggest that the differences in the fertility patterns of urbanites and farm migrants result from differences in the types of family structure that exist in these groups. First, I shall argue that the factors at work influencing family size decisions are different for husbands and wives. Secondly, I shall argue that among farm families, the family size decision is more likely to be made by the wife while among urban couples this decision is more likely to be shared. In combination these factors result in an inverse fertility pattern among farm migrant couples and the absence of this relationship among urban couples.

Some data have already been collected which suggest the possibility of there being distinctly different sets of conditions which influence men and women in their family size decisions. A recent study showed that for women, fertility norms and behavior seem to be directly related to the extent of their participation in the kinship network and home centered leisure whereas among males, status conditions are directly related to the number of children expected or desired.[7] High status frequently results in the wife being exposed to consumption patterns which shift the balance of roles away from home and family. Thus for any given status level husband and wife may have conflicting family size desires.

[7] Goldberg, D.: Family Role Structure and Fertility. Paper presented at the meeting of the Population Association of America, 1958.

Notice in Table 1 that the correlation between wife's education and number of children is always more negative or less positive than the comparable correlation between husband's education and number of children. To be somewhat more specific about this matter, on the basis of previous findings, it would be predicted that where husband and wife have a different amount of education, those cases in which the husband has more education than the wife will result in a larger family than in those cases where the wife has more education than the husband. Using data from the Indianapolis Study again, Table 2 gives the average number of children for six educational levels in which there are enough cases (at least 15) for a comparison to be made between situations in which husband has more education than wife or *vice versa.* For the total sample, five of the six comparisons are in the predicted direction and when the excess fertility couples are eliminated all six of the comparisons are in the expected direction. With the various fragments of evidence that are beginning to accumulate in this area we must begin to consider the obvious possibility that social status variables may not have the same effect on men and women with respect to their family size preferences.

If these differences exist, then it becomes important to know which marriage partner has the greater influence in the fertility decision if we are to understand something about the meaning

Table 2. Live births by educational level of husband and wife: Indianapolis study.

Educational Level	All Couples				Excess Fertility Couples Eliminated			
	Husb. > Wife		Wife > Husb.		Husb. > Wife		Wife > Husb.	
	$\bar{X}$	N	$\bar{X}$	N	$\bar{X}$	N	$\bar{X}$	N
Grade, H.S.1–3	2.59	(95)	2.36	(160)	2.00	(61)	1.84	(104)
Grade, H.S. 4	2.26	(27)	1.93	(83)	2.04	(23)	1.61	(62)
H.S.1–3, H.S. 4	1.94	(72)	1.96	(109)	1.90	(48)	1.71	(80)
H.S.1–3, Col.1–3	1.78	(36)	1.29	(28)	1.65	(31)	1.31	(26)
H.S. 4, Col.1–3	1.72	(65)	1.41	(29)	1.48	(44)	1.16	(25)
Col.1–3, Col. 4	1.68	(57)	1.50	(18)	1.70	(46)	1.40	(15)

of the direction of the relationship between socioeconomic variables and family size.

The traditional family type has usually been associated with conditions in the rural setting. This type of family is described as one in which there exists a very sharp differentiation of sex roles. The performance of household and child-rearing functions is clearly the task of the wife. Most studies of urban and rural families have shown that city husbands are much more likely to participate in various household activities than are farm husbands.[8] In the urban community it would seem that the traditional sex roles are becoming increasingly more difficult to distinguish. In general terms we would probably argue that the family size decision, like other decisions, is usually the property of the person having the most extensive involvement in the particular area under consideration. Therefore, if farm wives perform a larger share of household and child-care functions than urban wives, it would follow that the farm wives may have greater influence in the fertility decision than urban wives. The participation of men in household activities has probably resulted in males having a greater influence in the traditionally feminine decisions as well.

On first reading, the suggestion that farm wives have greater influence in the decision concerning number of children than their urban counterparts may seem blasphemous if not ridiculous. The traditional family is considered patriarchal, the modern family, equalitarian. But as the family has shifted in power from patriarchal to equalitarian, it has also changed in structure, from a clear-cut division of sex roles to one in which these distinctions have become blurred. There is good reason to believe that where the functions of family members are sharply divided, power or influence is also divided. In the past, the family labeled as patriarchal could well have been one in which the husband had complete dominance in the economic sphere but had little to say or did not care about some other areas.

[8] For example, see: Blood, R.: The Division of Labor in City and Farm Families. *Marriage and Family Living*. 1958, xx, pp. 170–174.

In effect, the suggestion being made here is that the family has changed in two dimensions, power and division of labor and that any interpretation suggesting a unilateral shift in power within the family is grossly over-simplified. Indeed, the husband may have gained power in a number of areas as his role has changed through time. Which of the marital partners has the greater influence concerning family size in the so-called traditional and modern families remains as an empirical question.

It would be extremely difficult to ask couples to evaluate their relative influence in the fertility decision. Influence usually means the ability to implement desires in behavior. This suggests one way of operationalizing relative influence. There should be a strong correlation between desired number of children and actual number of children when influence is present and a weak correlation when influence is absent. Both husbands and wives were interviewed in the Indianapolis Study and each was asked about desired number of children.

If our assumption about family structure in the farm and urban families have been reasonably accurate up to this point, then we should expect to find that the correlation between live births and desired number of children is stronger for wives among the farm migrant couples where the inverse relationship is most pronounced. As the relationship shifts away from the inverse pattern toward the direct pattern, it should be expected that the husband has relatively more influence in the fertility

Table 3. Correlations of live births with husband's and wife's desired number of children: Indianapolis study.

	All Couples			Excess Fertility Couples Eliminated			Number and Spacing Planned		
	FF[1]	FU[2]	UU[3]	FF	FU	UU	FF	FU	UU
Wife's Desired No. of Children	+.513	+.329	+.270	+.338	+.405	+.312	+.567	+.399	+.171
Husband's Desired No. of Children	+.410	+.359	+.374	+.418	+.314	+.414	+.347	+.325	+.355

[1] Both parents from farm.
[2] One set of parents from farm, other urban.
[3] Both parents urban.

decision, indicated by his desired family size being more closely correlated with live births in the urban setting than in the farm setting.

Table 3 presents these data on influence. For the total sample and for the number and spacing planned couples, the correlation of live births with desires is stronger for the wives among the pure farm types (FF) and stronger for husbands among the two generation urbanites. This is as it should be if we are to make some sense out of the inverse relationship among farm migrants and the shift toward the direct relationship among the urbanites. However, the prediction breaks down in the group categorized as "excess fertility couples eliminated." Interestingly, the husband's influence remains relatively constant in all the farm-urban groups whereas the wife's power seems to decline between the pure farm and pure urban types. On the basis of greater husband participation in household activities among urban couples it might have been predicted that wife's influence would remain relatively stable or decline, while husband's influence would show an increase between farm and urban couples. Although these data do not conform precisely to our expectations, it does seem clear that husbands may have a greater influence in the fertility decision among urbanites.

The simultaneous operation of a negative relationship between status indicators and fertility for females and a positive relationship for males together with the tendency for the fertility decision to be primarily female in the rural setting and either shared or primarily male in the urban setting provides us with one possible interpretation of the data presented here. We need considerably more data before we can invest in this particular explanation rather than some alternative model.

Certainly, there are other interpretative schemes that can be used to account for the differences in the fertility patterns of urbanites and farm migrants. One such possibility would be a modification of the mobility hypothesis. For some time now, sociologists and demographers have argued that the inverse fertility pattern was a function of the differences between the

social classes in their adherence to the mobility ethic.[9] It has been suggested that the process of moving upward in the social hierarchy, whether desired or actual, is usually accompanied by a sacrifice in family values. Children use up the time, energy, and money that could otherwise be devoted to upward mobility. Thus, large families and mobility are incompatible with one another. Middle class persons are said to be more concerned with upward mobility than lower class persons. Therefore, we get an inverse fertility pattern.

In these data, an inverse fertility pattern is observed only among the farm migrants. As an explanation the mobility hypothesis would have to be modified to read that the significance of mobility is quite different from farm migrants and two generation urbanites. Actually, this is not an unreasonable assumption to make. Large cities are the centers of occupational mobility. Persons raised in these centers are equipped with many of the skills necessary to realize mobility opportunities. Some data have already demonstrated that persons reared in urban places have a distinct advantage over farm migrants in the mobility process.[10] This relative advantage also shows up in the Indianapolis materials. In data not shown here, it was found that urbanites are more likely to have non-manual occupations and enjoy a 15–20 per cent advantage in average earnings and net worth. The fact that urbanites hold higher socioeconomic positions in the Indianapolis sample is even more striking when it is considered that the farm migrants have achieved nearly the same level of education.[11]

If urbanites have a *de facto* advantage in mobility it could

[9] See: Westoff, C.: The Changing Focus of Differential Fertility Research: The Social Mobility Hypothesis. *Milbank Memorial Fund Quarterly,* January, 1953, XXXI, pp 24–38.

[10] A review of some of these data is given in: Lipset, S. and Bendix, R.: SOCIAL MOBILITY IN INDUSTRIAL SOCIETY. Berkeley and Los Angeles, 1959. Chapter VIII.

[11] Generally, there would be gross differences in the educational levels of farm and nonfarm reared persons in urban communities. However, the restrictions of Indianapolis sample forced a similarity in educational patterns. There is no difference in the proportion of persons who have completed high school among the farm migrants and two generation urbanites and only a slight difference in the average number of school years completed by the two groups, 10.8 and 11.2 years respectively.

be argued that the mobility expectations and orientations of urbanites are different from those of the farm migrants. It seems entirely possible that upward mobility is part of the expected life process for urbanites. Thus, the movement upward in the social system does not have to involve great discontinuities in lifeways and in particular, a sacrifice of family values. For the farm migrant, presumably beginning at a disadvantage, the mobility process may closely resemble the process as it has usually been described in the literature—a great struggle, involving sacrifice of almost all other values to the work-mobility ethic. Unpublished data from the Detroit Area Study, collected in 1955, indicate that the path to upward mobility is perceived differently by farm migrants and urbanites. A greater proportion of the urbanites expect to move up in the occupational hierarchy. Moreover, the urbanites feel that they have a greater probability of success in achieving their mobility desires. Among persons who want to move up occupationally, 69 per cent of the urbanites and 52 per cent of the farm migrants feel that they have a least a "fair" chance of realizing their mobility ambitions. This can be interpreted either as a difference in perception of the ability of the social system to accommodate desires or as a perceived difference in the extent to which the environment can be manipulated to one's advantage. Whichever interpretation one chooses, these data suggest that the achievement of mobility goals may involve fewer difficulties and adjustments (actual or perceived) for the urbanites.

Although a great deal of research has focused on mobility, the data have been inadequate for a full evaluation of the mobility hypothesis. One of the most glaring gaps in our knowledge involves the timing of relevant events. When do births occur relative to mobility? For those who achieve mobility early in the life cycle, the impact on fertility may be reduced considerably. Our knowledge of changes in the pattern of family activities that accompany the mobility process is also limited. We shall need data on changes in life style associated

with upward and downward movement before we can accurately describe the relationship between mobility and fertility.

In summary, I have tried to demonstrate that a relationship which was assumed to operate almost uniformly throughout the social structure does not, in fact, do so—that the inverse fertility pattern derived its existence from the behavior of farm migrants. As farm migrants become a smaller and smaller part of the urban population it is to be expected that the inverse relationship between socioeconomic variables and fertility will continue to contract. The meaning of this changing relationship is not at all clear. Two possible interpretations of the shifting fertility patterns have been presented. Neither of these interpretations can be fully substantiated on the basis of the data currently available. However, it does seem clear that the process of pursuing an explanation of fertility behavior will also yield a number of byproducts that may be of considerable importance in the fields of family structure and stratification.