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SOCIAL MOBILITY AND FERTILITY: TWO EFFECTS IN ONE*

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None of the numerous variants of the social mobility and fertility hypothesis, each of which presumes only one effect of mobility on fertility, has received empirical support. Partitioning mobility into relative (circulation) mobility and mean (structural) mobility reconciles some of the contrary predictions. Analysis of the Occupational Changes in a Generation Study data confirms that the relationship between total mobility and fertility is weak and not always significant. However, when total mobility is partitioned into relative mobility and mean mobility, the results suggest that fertility behavior is consistently negatively related to mean mobility and positively related to relative mobility.

A relationship between social mobility and fertility was first advanced around the turn of the century when Dumont drew an analogy between the social movement of couples and the rise in a column of liquid: "just as a column of liquid has to be thin in order to rise under the force of capillarity, so a family must be small in order to rise in the social scale" (cited in Westoff, 1953). Since then, the social mobility and fertility hypothesis has undergone numerous transformations. It has been worded to refer to intergenerational mobility (Blau

and Duncan, 1967), intragenerational mobility (Berent, 1952), and occupational role performance (Hargens et al., 1978). At various times it has predicted that the effects of mobility in one generation are evident in the fertility of the succeeding generation (the Galton-Fisher version), or that the effects are confined to the generation experiencing the mobility (Featherman, 1973). Even the direction of the predicted outcomes has changed. Fertility has been posited to vary inversely with mobility (Blau and Duncan, 1967), directly with mobility (Easterlin, 1973), and inversely with upward mobility and directly with downward mobility (Boyd, 1973).

In spite of the range of variation in the direction and timing of the hypothesized effects of social mobility on fertility, none of these variations has been corroborated. Each of these variations, however, presumes only one effect of mobility on fertility. Mobility experiences, however, are attributable to both structural factors (labor-market conditions, for example)

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and individual characteristics such as aspirations and motivations. These two facets of mobility experiences may therefore have differing effects on family formation. In this paper, I present and test a model of the relationship between social mobility and fertility that reconciles some of the contradictory predictions found in earlier literature by acknowledging the dual nature of mobility experiences.

VARIANTS OF THE SOCIAL MOBILITY AND FERTILITY HYPOTHESIS

Five overlapping perspectives provide a rationale for a possible influence of mobility on fertility.¹ The *socialization* perspective views any differences between the fertility behaviors of mobile and non-mobile couples as due only to socialization in two social classes: the class of origin and the class of destination. "Both [origin and destination] groups exert some influence over mobile individuals, since they have, or have had, social contacts with members of both, being placed by economic circumstances amidst the one, while having been socialized among the other. Hence their behavior is expected to be intermediate between that of the two nonmobile classes" (Blau, 1956:291). Since, in this perspective, origin and destination effects suffice to explain the fertility of mobile couples, it is often considered the "null hypothesis" for the following three perspectives.

The *stress* perspective (the first predicting a "mobility" effect) sees the actual mobility experience as being disruptive. Above and beyond the effects of dual socialization, the family size of mobile couples is restricted in response to the stresses and strains experienced in attempting to maintain social membership in

two classes rather than one, being marginal to both classes, and/or attempting to gain membership in the class of destination if upwardly mobile or attempting to maintain prior class affiliation if downwardly mobile.

The *isolation* perspective springs from the dissociative hypothesis in stratification research (cf. Ellis and Lane, 1963; Sorokin, 1927). Mobile couples are viewed as socially isolated: they have weakened ties to their class of origin but have difficulty establishing full membership in the class of destination. To compensate for their social isolation, mobile couples increase their family size.

The *status-enhancement perspective*, based on research by Westoff (1953), predicts lowered fertility—at least for upwardly mobile couples—but the rationale differs from the stress perspective. Here both lowered fertility and upward mobility are the consequences of a complex of attitudes and aspirations concerning socioeconomic achievement. Since childbearing and rearing consume resources (e.g., time and money) which aid in the realization of aspirations, couples oriented towards upward mobility will restrict their family size.

The *relative economic* perspective views children as consumer durables supplying parents with psychological and psychic satisfaction, but having heavy economic costs attached (Becker, 1960). Here the general prediction is that individuals with higher economic resources, all other factors being equal, have more children. There are several variants of this particular perspective, differing mainly in the economic standard against which individuals are assumed to compare their current level of economic resources. By assuming that the underlying preferences for children and other material goods are formed in the family of origin, Easterlin's work (1975, 1973) emphasizes the comparison between current or permanent (lifetime) earnings and the level of economic resources available in the parental family. Freedman's (1963) work, on the other hand, by assuming that individuals sharing a relatively homogeneous socioeconomic environment have similar tastes for children and other goods, emphasizes

¹ Fertility has also been hypothesized to influence mobility. The "selection" hypothesis, for instance, suggests that upward mobility is impeded by large family sizes and the probability of downward mobility exacerbated (e.g., Fisher, 1929; Blau and Duncan, 1967). However, numerous economic studies have demonstrated little or no effect of family size on husband's employment (but see Lindert, 1978: Appendix B), so this paper concentrates on the possible influence(s) of socioeconomic mobility on fertility.

the contrast between individuals' economic resources and the average or expected income of an individual in a similar social environment. In the first variant then, the comparison reaches backwards to the family of origin, while in the second, the comparison draws on the economic resources of a current socioeconomic peer group. Although the economic perspective is generally used to assess cross-sectional fertility differences, upward socioeconomic mobility presumably yields a higher level of economic resources relative to the family of origin (in the case of intergenerational mobility) or higher economic resources relative to some socioeconomic peer group. Therefore this perspective suggests that upwardly mobile people should have larger family sizes than otherwise, and downwardly mobile people, smaller family sizes.

In general, the empirical literature offers little evidence for the existence of mobility effects predicted by the second, third, or fourth theoretical perspectives. Analyzing the same data, Berent (1952) and Duncan (1966) conclude that the only consequence of mobility regarding fertility lies in dual socialization, although Hope (1971), reanalyzing the same data but specifying a more exact null hypothesis (the "halfway" hypothesis), disagrees. Studies based on professional occupational groups tend to accept the socialization perspective, although the results often show a negative relationship, but one which is not statistically significant (Boggs, 1957; Perucci, 1967; Scott, 1958; Tien, 1961). Blau and Duncan investigate the relationship between fertility and mobility for all possible combinations of inter- and intragenerational mobility using a national sample encompassing all occupational groups. Although their results imply rejection of the socialization hypothesis, they are reluctant to accept any alternative, since the data do not fall into any consistent pattern (1967: 381). Boyd (1973) suggests that the lack of evidence supporting unique mobility effects may lie in the common nature of mobility experiences in industrialized societies that are characterized by fluid stratification systems. But her results, based on data

from five Latin American countries, deem the socialization model adequate. Featherman (1973) tests whether couples who are oriented towards mobility restrict their fertility. His three indices of achievement-related orientations were virtually uncorrelated with childbearing over the study period. Bean and Swicegood's (1979) analysis suggested that downwardly mobile couples limit only the number of unintended births, and not the number of intended.

Switching to the economic perspective, the empirical literature is equivocal. Easterlin has pointed out parallels between the economic positions of cohorts of young men relative to the economic positions of their fathers and lagged fertility rates (1969; 1973; 1975). Studies using individual level data, however, have shown no relationship between family size and economic status relative to family of origin (Olneck and Wolfe, 1978; MacDonald and Rindfuss, 1978). Freedman's (1963) results based on the 1955 Growth of American Families study showed a positive relationship between family size and the contrast between husband's observed and "expected" income: the income predicted by his age, education, and occupation. However, Bernhardt (1972), using Swedish data, found that the relationship was confined to couples at the higher end of the income distribution. She suggested her results differed from Freedman's because her sample was not confined to family planners as was Freedman's sample. Westoff and Ryder (1977:299-302) found little support for Bernhardt's suggestion that only wanted births and relative economic status are positively related: results from the 1970 National Fertility Study showed a negative relationship between husband's relative economic status and both wanted and unwanted fertility.

THE RELATIONSHIP BETWEEN SOCIAL MOBILITY AND FERTILITY: TWO EFFECTS IN ONE

This collection of inconsistent results has led researchers to advise that the search for mobility effects be abandoned (Blau and Duncan, 1967; Boyd, 1973) or at least

suspended until the mobility and fertility hypothesis is better specified regarding the ordering of causal relations and the intervention of factors such as the probability of marriage, timing of marriage, fertility spacing, and the different components of fertility (Bean and Swicegood, 1979; Hargens et al., 1978; Hope, 1971; Perucci, 1967; Scott, 1958; Tien, 1961). Before dismissing the social mobility and fertility hypothesis, however, it seems reasonable to investigate the possibility that the inconsistent results found in previous empirical work resulted from the simultaneous operation of effects proposed by two or more of the theoretical perspectives reviewed above.

Each of the perspectives predicts only one effect of mobility on fertility because each perspective presumes that mobility, as the contrast between an origin and a destination status, is a unitary construct. The total contrast between origin and destination statuses, however, incorporates two different types of mobility experiences, each attributable to a different set of factors. The first component of total mobility, here labeled *mean mobility*, is a function of those factors propelling individuals from certain social origin classes towards a particular social destination. The second component, *relative mobility*, is a function of those factors attributable to the individual's own endeavors, motivations, skill, and/or luck. These two components of total mobility, mean and relative mobility, because they are the product of differing factors, may have differing effects on fertility behavior. The

results of previous empirical research, which demonstrate no consistent relationship between fertility and total (unpartitioned) mobility, suggest that if both relative and mean mobility do influence fertility behavior, the effects differ in sign, since differences in sample composition or the sensitivity of differing analytic techniques would then combine these opposite effects in unique ways to produce the inconsistent results found in the empirical literature.

In Table 1, the predictions of the various perspectives are summarized, but here total mobility is partitioned into relative and mean mobility so that two (or more) mobility effects may exist simultaneously. For example, the isolation and stress perspectives could be combined to yield a positive effect of mean mobility and a negative effect of relative mobility on fertility—although there is no easily apparent rationale for not also hypothesizing the opposite set of effects. The combination of the status-enhancement and relative economic perspectives is more appealing. The status-enhancement perspective predicts that an individual's socioeconomic aspirations depress family size through the devotion of economic and personal resources to career advancement rather than to family building. Thus we would expect only that portion of mobility generated by efforts to realize socioeconomic aspirations—relative mobility—to be negatively related to family size. We would also expect this negative effect to be confined to the years when an individual's family building and career building

Table 1. Summary of Mobility Effects on Fertility

	Perspective				
	Socialization up/down	Stress up/down	Isolation up/down	Status enhancement up/down	Relative economic up/down
A. Origins to first occupation					
Mean mobility	0/0	(-/-)	(+/+)	0/0	+/-
Relative mobility	0/0	-/-	+/+	0/0	+/-
B. Origins to current occupation					
Mean mobility	0/0	(-/-)	(+/+)	0/0	+/-
Relative mobility	0/0	-/-	+/+	-/-	+/-
C. First to current occupation					
Mean mobility	0/0	(-/-)	(+/+)	0/0	+/-
Relative mobility	0/0	-/-	+/+	-/-	+/-

NOTE: Parentheses indicate instances in which the perspective does not explicitly predict an effect, but it seems plausible that one might exist.

would be most likely to conflict. On the other hand, if an individual is upwardly mobile without any undue personal effort—that is, his upward mobility is entirely accounted for by mean mobility—there is no reason to expect a limited family size. In fact, the first variant of the relative economic perspective, which emphasizes the contrast between current economic status and economic status of the parental household, predicts that family size will increase with mean upward mobility, since the added economic resources due to mean mobility allow an individual to fully indulge his tastes for children.

Although Table 1 suggests additional combinations of perspectives that also yield contrary predictions of the effects of relative and mean mobility on fertility, the combination of the status-enhancement and relative economic perspectives is the most appealing for two reasons. First, unlike other possible combinations of perspectives, the relative economic and status-enhancement perspectives predict only one set of effects: a positive effect of mean mobility and a negative effect of relative mobility respectively, and not vice versa, because mean mobility—since it involves no extra effort or “striving” on the part of individuals—cannot be interpreted as exerting a negative effect on family size due to status enhancement. Second, this particular combination offers an explanation of the pattern of results found in the previous empirical literature. If, as suggested, fertility is negatively related to relative mobility and positively related to mean mobility, we would expect to find cohort fertility patterns analogous to those found by Easterlin (1973), since the sum of circulation or relative mobility experiences is constrained to equal zero (see below). We would also expect in this case not to find any consistent relationship between fertility and mobility at the individual level in analyses not separating these two components of mobility, since the predicted effects differ in sign.

THE PARTITIONING OF MOBILITY

Occupational mobility can be partitioned into structural (mean) mobility and circu-

lation (relative) mobility. Structural mobility can be thought of as being due to changes in the distributions of the variables used to define mobility. For instance, the shrinking of the agricultural sector implies fewer farmers in one generation than in the previous; therefore, some individuals in the later generation are “forced” to become nonfarmers. Circulation mobility is the mobility remaining after marginal shifts have been taken into account. Generally, stratification research controls for structural mobility, but fertility research does not.²

Socioeconomic mobility can be partitioned in a similar manner to occupational mobility. The socioeconomic mobility experiences of an origin group of sons reflect both the general shift in the marginals between the origin and destination statuses of the sons and the sum of the individual circulation mobility experiences:

$$S_i - F = (S_i - \bar{S}) + (\bar{S} - F)$$

² In fertility research the effects of structural and circulation mobility are generally confounded. For example, a common statistical formulation of the “socialization” model is:

$$Y_{ij} = \bar{Y} + S_i + F_j + e_{ij}$$

where Y_{ij} = the mean fertility in the cell ij ,
 \bar{Y} = the grand mean,
 S_i = the effect of being in the i th destination class,
 F_j = The effect of being in the j th origin class, and
 e_{ij} = error or the interaction between the effects of origin and destination classes (cf. Duncan, 1966).

Thus the effect of being in row F_1 and column S_1 is a summation of the effects of being in cells 11, 12, 13 . . . 1i. Rearranging terms slightly and still referring to row F_1 ,

$$Y_{1i} = \bar{Y} + [(S_1 - F_1) + (S_2 - F_1) \dots (S_i - F_1)]$$

$$= \bar{Y} + \sum(S_i - F_1)$$

$$= \bar{Y} + \sum[(S_i - \bar{S}) + (\bar{S} - F_1)]$$

Thus the effects ascribed to being in row F_1 and column S_1 confound the effects of the mean mobility of sons from origin $F=1$ (the terms in the second set of parentheses) and the circulation mobility of sons from this origin group (the terms in the first set of parentheses).

Bean and Swicegood (1979) attempt to take into account structural mobility due to the socio-economic upgrading of the labor force over time. Their approach, which consists of using a more stringent criterion for upward mobility than for downward, neglects the fact that structural mobility differs by point of origin (cf. McClendon, 1977).

where S_i = the son's socioeconomic status,
 F = the son's father's socioeconomic status, or the son's origin status, and
 \bar{S} = the mean socioeconomic attainment of sons from the origin group.

Essentially we are looking at one row of an outflow table, or the distribution of the mobility experiences of one socioeconomic origin group of sons. The term $(S_i - \bar{S})$ refers to the mobility experienced by the i th son relative to the mean attainment of sons from the origin group, while $(\bar{S} - F)$ refers to the mean mobility experience of the origin group of sons.

In this separation of total mobility into its two components, mean and relative mobility, mean or expected destination should reflect factors that are beyond an individual's control, e.g., the relative size of his origin group which may lead to labor-market advantages, or the shrinking of the blue-collar segment of the labor force. The factors influencing an origin group's eventual mean socioeconomic placement are of two types: characteristics of the group such as social background, size, and early socioeconomic achievements; and the group's ability to translate these characteristics into later socioeconomic achievements—an ability which is influenced by "structural" factors such as current labor-market conditions (or, in another terminology, "cohort" and "period" effects). Mean mobility is thus the difference between expected or mean socioeconomic destination and origins, where mean or expected destination reflects the factors above. Relative mobility is the contrast between expected or mean destination and the observed destination. It reflects the variance of socioeconomic achievement within the origin groups. Since the factors influencing the group as a whole have been taken into account, the variance within the origin group's social destinations reflects only individual differences in motivations, skills, and efforts.

DATA AND METHODS

The Occupational Changes in a Genera-

tion Study³ offers an opportunity to test whether or not mobility has dual effects on fertility, since the data set includes measures of origin and several destination statuses as well as family size. The analysis is restricted to white males, aged 35–64, in their first marriage. The age restriction ensures that the respondents have had time to be ensconced in their labor-force career as well as ensuring that their families are close to being completed. The Duncan SEI score for the respondent's father's occupation is used as the measure of the respondent's socioeconomic origins (X), while the SEI scores for the respondent's first and current occupations ($Y1$ and $Y2$ respectively) are used as measures of his destination statuses. We could also have considered the respondent's wife's mobility experiences, since they need not be parallel to those of her husband. However, previous research has framed the social mobility–fertility hypotheses with respect to the husband's occupational career. In the effort to suggest that mobility effects can be traced to both structural and individual components, contrary to the implicit assumptions in previous research, and given that many wives are not working, we map only the husband's socioeconomic career.

The two measures of destination status allow the partitioning of total intergenerational mobility from (A) origins to first occupation, and (B) origins to current occupation, as well as the partitioning of total intragenerational mobility, (C) first to current occupation. The differences between the two measures of observed destination and origins ($Y1 - X$ and $Y2 - X$) are the two measures of total intergenerational mobility. For each of these two forms of intergenerational mobility, mean mobility is the difference between expected or mean destination and origins ($\hat{Y}1 - X$; $\hat{Y}2 - X$), while relative mobility is the contrast between the respondent's actual destination and expected or mean destination ($Y1 - \hat{Y}1$; $Y2 - \hat{Y}2$). For both forms of intergenerational mobility, mean or expected destination ($\hat{Y}1$ and $\hat{Y}2$) is defined as a function

³ See Blau and Duncan (1967) for a full description of the study.

of origin status (X), respondent's education measured in completed years (EDH), five-year birth-cohort membership measured with dummy variables (BC_j), and all interaction terms involving birth-cohort membership (see appendix).

Intragenerational mobility ($Y_2 - Y_1$) is partitioned in a similar manner to intergenerational mobility, but here mean mobility ($\hat{Y}_2 - Y_1$) is the difference between expected destination and first occupation, while relative mobility is the difference between actual and expected destination ($Y_2 - \hat{Y}_2$). In this case expected destination is a function of the respondent's first occupational socioeconomic status (Y_1) as well as of education and all interaction terms involving birth-cohort membership.

This method of partitioning the three measures of total mobility has a strong advantage. In each of the three instances, the covariance between the two components of total mobility, relative mobility and mean mobility, is zero.⁴

Following Duncan's (1966) oft-quoted statement about the need to control for both origin and destination effects before beginning the search for mobility effects, measures of both origin and destination statuses are included in all regression models. It is impossible, however, to estimate separate coefficients for each origin and destination status and the two mobility components; the regression model is, then, underidentified. To overcome this difficulty, the effects of origin and destination statuses on fertility are constrained to be equal, a procedure suggested by Hope (1971). This procedure also has the advantage of specifying a null hypothesis

⁴ If Y is a measure of observed destination, X a measure of origins and \hat{Y} is the "expected" or predicted value from the OLS regression of Y on X plus other independent variables (See Appendix) then the covariance of relative mobility ($Y - \hat{Y}$) and mean mobility ($\hat{Y} - X$) is

$$(1) = \text{COV}[(Y - \hat{Y}), (\hat{Y} - X)]$$

$$(2) = \sum_{i=1}^n [(Y_i - \hat{Y}_i) - \frac{\sum_{i=1}^n (Y_i - \hat{Y}_i)}{N}] / N$$

$$[(\hat{Y}_i - X_i) - \frac{\sum_{i=1}^n (\hat{Y}_i - X_i)}{N}] / N$$

By definition $\sum(Y_i - \hat{Y}_i) = 0$ using OLS regression, so expression (2) reduces to zero.

corresponding to the dual socialization perspective in which the fertility of mobile couples is influenced equally by socialization in their class of origin and class of destination.

The first fertility measure used is completed family size. Since there are two transitions in family building of particular interest, the transition from zero to one child and the transition from two to three, the second and third fertility measures used are whether the couple is childless (coded 1 = yes; 0 = no) and whether the couple has three or more children (1 = yes; 0 = no). In the analysis, controls for farm origins of husband and wife ($FARMH$ and $FARMW$), husband's and wife's years of education (EDH and EDW), duration of marriage (DUR), age of wife ($AGEW$), husband's age at marriage ($AGEMARR$), and whether the husband attended a parochial school ($PAROCH$)—an indicator of Catholicism—are introduced. The means and standard deviations for all variables and their correlations with the three measures of fertility are presented in Table 2.

SUMMARY OF RESULTS

In general, hypotheses about the possible effect of mobility on fertility have not been supported empirically. One way to refine hypotheses about social mobility is to acknowledge the dual character of mobility experiences. Table 3 contrasts the results from the regression of fertility on total mobility and the regression of fertility on the two components of total mobility: mean mobility, that component shared by others with similar background characteristics, and relative mobility, that component unique to an individual.⁵ The effect of total mobility on family size is statistically significant at only the .05 level when considering the two forms of intergenerational mobility; when considering intragenerational mobility, the effect is insignificant at any conventional level. When total mobility is partitioned, how-

⁵ Preliminary analysis showed no statistically significant nonlinearities (at the .001 level) in the effects of relative and mean mobility on fertility, so only linear effects are presented.

Table 2. Means, Standard Deviations, and Correlations with Family Size for All Variables

Variable	Mean	Standard deviation	Correlation with family size	Correlation with childlessness	Correlation with large family
Family size	2.615	1.895	1.000	—	—
Childlessness	.113	.316	-.492	1.000	—
Large family	.458	.498	.760	-.328	1.000
Mobility, origins to first occupation					
Relative	-.046	16.949	-.026	.012	-.033
Mean	-.778	15.196	-.006	-.028	-.006
Total	-.824	22.779	-.024	-.010	-.029
Sum of statuses	54.446	35.419	-.121	-.064	-.074
Mobility, origins to current occupation					
Relative	.089	19.125	-.040	-.009	-.040
Mean	13.049	16.424	-.026	-.031	-.012
Total	13.138	25.232	-.047	-.027	-.038
Sum of statuses	68.409	38.310	-.129	-.019	-.013
Mobility, first to current occupation					
Relative	.017	18.761	-.036	-.007	-.003
Mean	13.855	12.784	.001	-.025	.025
Total	13.962	22.780	-.029	-.019	-.013
Sum of statuses	67.585	39.373	-.139	.040	-.091
Control variables					
FARMH	.327	.469	.104	-.043	.070
FARMW	.295	.456	.093	-.016	.056
EDH	10.883	3.382	-.143	.030	-.068
EDW	11.021	2.820	-.158	.029	-.075
PAROCH	.146	.353	.044	.015	.047
DUR	22.033	8.708	.060	-.034	.000
AGEW	44.342	8.650	-.109	.134	-.134
AGEMARR	25.338	5.194	-.229	.233	-.184

Table 3. Effects of Total, Relative, and Mean Mobility on Children Ever Born

Variables in regression model	Metric coefficients	Partial F-value	R ²	F-value for partitioning of total mobility
A. Origins to first job				
1. Sum of statuses	-.006***	117.53	.015	103.11
Total mobility	-.002*	5.25		
2. Sum of statuses	-.013***	220.75	.028	
Relative mobility	.010***	44.57		
Mean mobility	-.018***	97.99		
B. Origins to current job				
1. Sum of statuses	-.006***	121.91	.017	59.35
Total mobility	-.002*	6.16		
2. Sum of statuses	-.009***	181.29	.025	
Relative mobility	.006***	18.29		
Mean mobility	-.011***	58.59		
C. First to current occupation				
1. Sum of statuses	-.007***	148.47	.019	45.21
Total mobility	-.003	.11		
2. Sum of statuses	-.009***	190.99	.025	
Relative mobility	.006***	19.87		
Mean mobility	-.011***	35.32		

* Coefficient significant at .05 level

*** Coefficient significant at .001 level

Table 4. Net Effects of Relative and Mean Mobility on Children Ever Born

Variables	Origins to first occupation	Origins to current occupation	First to current occupation
Relative mobility	.018***	.021	.014
Mean mobility	-.032***	-.036*	-.028*
Sum of statuses	-.020***	-.023	-.016*
FARMH	.229***	.225***	.201***
FARMW	.153**	.147**	.147**
EDH	.120***	.202	.131
EDW	-.064***	-.063**	-.063***
PAROCH	.365***	.367***	.369***
DUR	.066***	.062***	.059***
AGEW	-.077***	-.076***	-.076***
AGEMARR	-.029***	-.344***	-.036***
Constant	5.555	5.843	6.290
R ²	.113	.112	.112

* Coefficient significant at .05 level
 ** Coefficient significant at .01 level
 *** Coefficient significant at .001 level

ever, the F statistics for the partitioning of mobility are well above the criterion values used to assess statistical significance, and the coefficients for relative and mean mobility for all forms of mobility are significant at the .001 level. Moreover, as predicted, the effects of relative and mean mobility on family size differ in sign: in every case, the coefficient for relative mobility is positive, and the coefficient for mean mobility is negative. These relationships, however, are more prominent when considering intergenerational social movement from origins to first occupation when controlling for other factors known to affect family formation (Table 4). When the dependent variables are the probability of being childless and the probability of having three or more

children (rather than family size), the same pattern is observed: the effects of relative and mean mobility are most evident for movement from social origins to first occupation (see Table 5).

DISCUSSION OF RESULTS

Partitioning total mobility substantially aids in the description of the relationship between fertility and social mobility, confirming the impression that there are two components to the relationship between mobility and fertility. Although the amount of variance explained by the mobility components is small, it compares favorably with the explicative power of total mobility found both here and in earlier literature.

Table 5. Net Effects of Relative and Mean Mobility on the Probability of Being Childless and the Probability of Having a Large Family

	Origins to first occupation	Origins to current occupation	First to current occupation
Probability of being childless			
Relative mobility	-.005***	-.005*	-.000
Mean mobility	.006***	.006*	+.000
Sum of statuses	.005***	.005*	+.000
R ²	.092	.089	.087
Probability of having a large family			
Relative mobility	.003*	.006	.003
Mean mobility	-.006**	-.010*	-.006
Sum of statuses	-.004**	-.007*	-.004*
R ²	.073	.072	.071

NOTE: All effects are net of the control variables (see Table 4).
 * Coefficient significant at .05 level
 ** Coefficient significant at .01 level
 *** Coefficient significant at .001 level

The direction of the relationships found between family size and the two mobility components are, however, at first glance surprising: fertility is consistently negatively related to mean mobility and positively related to relative mobility. This is the mirror image of the effects hypothesized by the combination of the relative economic and status-enhancement perspectives. Although we had originally drawn on the relative economic perspective to predict a positive association between family size and mean mobility, we can draw upon this perspective to explain the positive effect of relative mobility on fertility. This positive effect can be explained by merging elements of both variants of the relative economic perspective. The first variant emphasizes the contrast between socioeconomic origins and destination, while the second emphasizes the contrast between observed and expected economic resources where expected level of economic resources is generally defined as the average level of resources enjoyed by the husband's current socioeconomic peers. In this analysis, however, expected destination refers to the mean socioeconomic destination of the husband's socioeconomic *origin* peers. Therefore relative mobility taps the contrast between the husband's observed destination and the mean destination of others sharing certain background characteristics. The positive relationship between relative mobility and family size thus implies that if the comparison between the husband's socioeconomic achievement and the mean achievements of his socioeconomic origin group (i.e., those he "started out with") is a favorable one, then these couples are less hampered by economic considerations in their family building.

This particular explanation of the positive relationship between relative mobility and family size also suggests several reasons why the association is most prominent when considering mobility from origins to first occupation. It seems plausible that this particular comparison group, individuals sharing socioeconomic origin characteristics, might be more salient upon initial entry into the labor force than later, since the passage of time would

probably weaken the ties and contacts with those sharing only background characteristics. On the other hand, perhaps the contrast between an individual's early socioeconomic achievement and the early achievements of his origin group is more telling than later contrasts because early fertility is such a strong determinant of eventual family size (Bumpass and Mburugu, 1977).

The negative association between mean mobility and fertility is more difficult to explain because none of the perspectives outlined in the literature review offers a compelling rationale. For example, although the stress hypothesis predicts a negative relationship between mean mobility and fertility, it does not preclude expecting a similar relationship between relative mobility and fertility, because this perspective assumes that any mobility experience is stressful. However, it has been suggested that upward mobility from class of origin is associated with "overconformity" to the attitudes and behaviors found in the class of destination (e.g., Kessin, 1971; Tumin, 1967). On the whole, the respondents in this sample benefited from the socioeconomic upgrading of the labor force between the time of their father's generation and their own ($\bar{Y}_2 - \bar{X} = 12.95$). There is also a negative relationship between fertility and socioeconomic status. Perhaps the respondents adopted the attitudes and behaviors of their destination classes more than would be expected given the dual socialization hypothesis. That is, rather than being equally responsive to the attitudes and behaviors of both their origin and destination classes, they chose to conform more closely to those of their class of destination. Alternatively, since contraceptive use varies directly with socioeconomic status (Whelpton et al., 1966), the dampening effect of mean mobility on family size could also be a function of the general upward movement into socioeconomic environments in which family planning is more widely known and practiced, allowing couples to limit the number of unintended births. This argument is supported by Bean and Swicegood's (1979) results showing that

only unintended—and not intended—births were negatively related to (total) mobility and Kantner and Kiser's results showing a "greater regularity of contraception among upwardly mobile couples" (1954:103).

CONCLUSIONS

Partitioning total mobility into relative mobility, the portion attributable to an individual's unique characteristics, and mean mobility, the portion shared by others with similar socioeconomic origin characteristics, shows that fertility behavior is negatively related to mean mobility and positively related to relative mobility.

The relative economic perspective explains the positive effect of relative mobility on family size by assuming that an individual's fertility behavior is responsive to his socioeconomic achievement relative to the achievements of those persons sharing his background characteristics—that added or extra economic resources enable him to indulge more fully his tastes for children. To explain the negative effect of mean mobility on family size, I suggest that an individual's fertility behavior is more sensitive to the attitudes and/or behaviors in his destination class than his origin class. Since the contrasts between origins, early mean or expected socioeconomic achievement, and early actual socioeconomic achievement are the most telling, I then suggest that the effects of the contrasts between an individual's achievement and the average achievements of his origin group recede with the passage of time, or that early mobility experiences strongly affect the onset and subsequent pacing of fertility, which then in turn strongly affect completed family size.

The evidence presented in this paper for the existence of two simultaneous and contrary effects of mobility on fertility suggests several advantages in the partitioning of mobility. First, we may find that other attitudes and behaviors outside the realm of family building are sensitive to more than the simple contrast between two social statuses—that previous re-

search shows only scanty evidence for mobility (and status inconsistency) effects because contrary effects of mean and relative mobility are cancelling one another. Second, the partitioning of mobility may allow easier comparisons of, for example, relative mobility effects across time and space, since mean mobility, which is largely generated by contextual factors, has been taken into account.

APPENDIX

For both types of intergenerational socioeconomic mobility (origins to first occupation, and origins to current occupation), mean mobility is defined as the difference between expected destination and origins ($\hat{Y}_1 - X$; $\hat{Y}_2 - X$), while relative mobility is the difference between expected destination and observed destination ($Y_1 - \hat{Y}_1$; $Y_2 - \hat{Y}_2$). The respondent's expected destination scores are the predicted values from the regression of first (FJSES) and current occupation (CJSES) status scores on the respondent's father's occupational status score (PSES), the respondent's education (EDH), and all interaction terms involving birth cohort membership (BC_i):

$$\begin{aligned} \hat{Y}_1 = FJ\hat{S}ES &= .2071 (BC_1 \times PSES) \\ &+ .2136 (BC_2 \times PSES) \\ &+ .2159 (BC_3 \times PSES) \\ &+ .2155 (BC_4 \times PSES) \\ &+ .2257 (BC_5 \times PSES) \\ &+ .2466 (BC_6 \times PSES) \\ &+ 2.8106 (BC_1 \times EDH) \\ &+ 2.5838 (BC_2 \times EDH) \\ &+ 2.6208 (BC_3 \times EDH) \\ &+ 2.9447 (BC_4 \times EDH) \\ &+ 3.0880 (BC_5 \times EDH) \\ &+ 2.9725 (BC_6 \times EDH) \\ &- 9.5658 \quad R^2 = .343 \\ \hat{Y}_2 = CJ\hat{S}ES &= .1894 (BC_1 \times PSES) \\ &+ .1631 (BC_2 \times PSES) \\ &+ .1731 (BC_3 \times PSES) \\ &+ .1940 (BC_4 \times PSES) \\ &+ .2394 (BC_5 \times PSES) \\ &+ .2320 (BC_6 \times PSES) \\ &+ 3.7727 (BC_1 \times EDH) \\ &+ 3.9006 (BC_2 \times EDH) \\ &+ 3.8335 (BC_3 \times EDH) \\ &+ 3.9019 (BC_4 \times EDH) \\ &+ 3.8239 (BC_5 \times EDH) \\ &+ 3.8893 (BC_6 \times EDH) \\ &+ 6.5052 \quad R^2 = .386 \end{aligned}$$

For intragenerational mobility (first to current occupation) mean mobility is defined as the difference between expected destination and first occupation, while relative intragenerational mobility is the contrast between expected and observed destination. In this case, expected destination is:

$$\begin{aligned} \hat{Y}_2 = C\hat{J}\hat{S}ES = & .2970 (BC_1 \times FJSES) \\ & + .2609 (BC_2 \times FJSES) \\ & + .2738 (BC_3 \times FJSES) \\ & + .3167 (BC_4 \times FJSES) \\ & + .2914 (BC_5 \times FJSES) \\ & + .4440 (BC_6 \times FJSES) \\ & + 3.2830 (BC_1 \times EDH) \\ & + 3.4825 (BC_2 \times EDH) \\ & + 3.3984 (BC_3 \times EDH) \\ & + 3.3303 (BC_4 \times EDH) \\ & + 3.3961 (BC_5 \times EDH) \\ & + 3.0445 (BC_6 \times EDH) \\ & - 3.8779 \quad R^2 = .410 \end{aligned}$$

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DYNAMICS OF ORGANIZATIONAL EXPANSION IN NATIONAL SYSTEMS OF EDUCATION*

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National systems of education expand organizationally at unequal speeds in different countries and time periods. A nonlinear differential equation model based on ecological theory is advanced to explain these differences. The model is tested empirically, including an analysis of local stability. The results suggest that organizational expansion in large, geographically decentralized systems follows a process of logistic growth with a ceiling set by environmental resources.

INTRODUCTION

Expansion in national systems of education has been analyzed traditionally by modernization theorists (e.g., Lipset, 1960). These analysts typically regard education as a primary mechanism by which societies move from premodern to modern social and political structures.

Educational expansion, however, is also an organizational process. As such it entails the mobilization of environmental

resources and their assemblage into differentiated structures of formal organization. Too often this fact has been ignored by the modernization theorists, who often implicitly overlook the constraints that impede the rapid expansion of massive educational organizations.

Cross-national data on educational enrollments show that expansion occurs with unequal speed in the countries of the world (see Meyer and Hannan, 1979). Current organizational theory, by demonstrating how organizations are constrained by external conditions, suggests that much of this variation can be explained by national differences in the environments of educational organizations.

The study of educational expansion also contains advantages for the testing of theories about organizations and environments; educational organizations are large-scale hierarchical systems that remain comparable despite cultural dif-

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