



Historical
Demography



Abstract

If social outcomes have social causation, mothers and fathers in different societies will have different effects on child outcomes. Social mobility rates on the patriline will differ from that on the matriline. From an extensive family lineage of 426,552 persons in England 1650-2023 we estimate the influence of mothers versus fathers on social outcomes 1754-2023. Mothers' and fathers' education and social status are equally predictive of most child social outcomes across the entire period, even for the patriarchal society of eighteenth-nineteenth century England. Only for wealth was there a much stronger influence of the patriline.

Social and cultural theories of status determination will generally predict that mothers and fathers have unequal effects. Mothers in all societies, for example, even today, play a disproportionate role in child nurture. Thus, surveys of time use 1990-2001 found mothers always spent at least twice as much time in child care than fathers, even in the most gender equal societies such as Norway.¹ This parental time differential was even greater in earlier years. This implies mother characteristics will have greater importance in predicting child outcomes than father. Arleen Leibowitz, for example, concludes that "since mother's time expenditures on children exceed that of fathers by at least a factor of 4, we would expect the significance and size of the coefficient of mother's education to exceed that of father's education' (Leibowitz, 1974, S116).

Though mothers spend more time with children, however, fathers in most societies had disproportionate access to income, wealth, and professional qualifications and careers. In England, for example, up until 1882 husbands had control of women's property after marriage. Fathers also had sole legal authority over children. So, fathers likely play a more important role in funding child schooling and training, providing access to career opportunities, and in forming child aspirations and

¹ Guryan, Hurst, and Kearney, 2008, table 4.

achievement. Conventional approaches to social mobility in England up until the

education in Sweden

persistence of female status than for men. In contrast Espín-Sánchez, Ferrie, and Vickers, 2023, using occupational income in the USA 1900-40 find that “The mother’s contribution to mobility is almost five times larger than the father’s”⁷

Estimating Mother versus Father Effects in a Patriarchal Society

The first problem we have to deal with for England before the modern era is that documentary sources reveal little about the educational attainment and occupational abilities of women. Married women in the censuses 1841-1921, and the population register of 1939, generally have no occupation recorded. Even single women of the upper classes are typically listed with no status indicated, or under such terms as “gentlewoman” and “private means”. Women were largely

husband, one daughter, and four servants, one of whom is a “child’s maid.” Yet Elizabeth Courtauld was a well-known hostess, and a promoter of both modern art and modern music. Along with Malcolm Sargent, the famous conductor, she launched an innovative concert series in London 1927-

Figure 1: Determination of Child Outcomes: Paternal versus Maternal Line

Literacy

of child outcomes. Was there a significantly greater influence on child outcomes of father's education as opposed to mother's?

This estimation can be done in two ways. The first is through estimating the coefficients β_j β_a in the expression

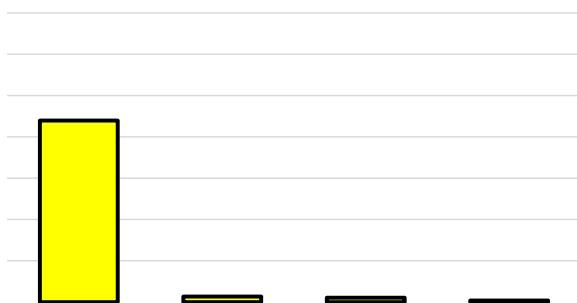
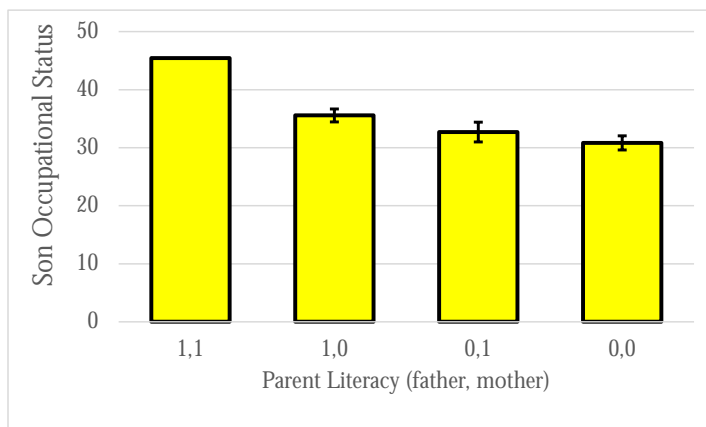
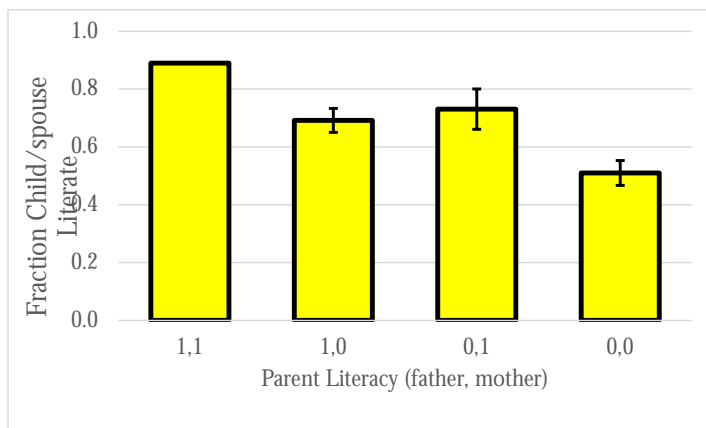
$$U_i = \beta_0 + \beta_1 H_i^F + \beta_2 H_i^M + \beta_3 L_i^F + \beta_4 L_i^M + \epsilon_i \quad (3)$$

where H_i^F H_i^M are indicators for paternal and maternal literacy, and U_i are a variety of child outcomes. The test of symmetry in father and mother effects is whether $\beta_1 = \beta_2$? A second way of estimating the relative influence of fathers versus mothers, which imposes no structural form, is to estimate

Table 1: Summary Statistics on Literacy at Marriage

Marriage Decade	Parent Literacy	Child Literacy	Work/ School 10-18	Occupation Status (sons)	Higher Education (sons)
1750	82	67	0	25	29
1760	178	113	0	91	101
1770	260	175	0	139	

Figure 2 (continued)



Notes : Error bars show the 5% confidence intervals relative to the outcome where both parents were literate.

Table 3 separates the effects by gender of the child for work and schooling 10-18, and for literacy at marriage using equation (3). The subdivision of the data means that we do see increased standard errors on all estimates. Thus there is no statistically significant difference in the effects of mother literacy on daughter

outcomes compared to father literacy on son outcomes in five of six cases. But there is sign that parental literacy had more predictive power for children of the same gender. For all six outcomes the coefficient on the same gender child has higher absolute value. Mother literacy, for example, better predicts daughters not being at work ages 10-18, or being in education, or being literate better than it predicts the same outcomes for sons.

The overall impression of tables 2 and 3, and figure 2, is that even in nineteenth century England, with all the social and legal disabilities which attached to women, mother's education was generally of the same importance as father's as a predictor of a variety of child social outcomes.

Table 3: Parental Literacy and Child Outcomes, by Gender

Figure 3: Correlations between father and mother literacy and child outcomes, marriages 1754-1889

Notes :

education in the modern era was also the experience of eighteenth and nineteenth century England.

While the results above show that mother's education was as good a predictor of child social outcomes as father's education, could it still be the case that father's status has a much more significant causal effect on child outcomes than does mother's status? Could mother's status just be providing more information on the true educational status of fathers, but the father's education be doing all the causal work?¹¹ Two things show this interpretation is not possible.

First, if mother status served just as additional information on underlying father status, mother status would be more imperfectly correlated to true underlying father status than was measured father status. So on this interpretation, the regression coefficient on mother status should have been significantly less than that on father status. If we simulate outcomes where the child status was

mother literacy, the coefficient on fathers is 0.18, and on mothers 0.25.¹² Thus it is very clear that mothers do not predict child outcomes just because they provide more information on the underlying status of fathers. Instead, they must play an important causal role in determining child outcomes, and a role that the estimates suggest is equivalent to that of fathers.

Grandfathers as a Proxy for Fathers and Mothers

As discussed above, we are missing measures of occupational status and higher education for women born before 1920. We do have measures of wealth at death, but until recently bequests to sons typically exceeded those to daughters. The best measure we have of grandfather social status, in terms of its correlation across generations or between brothers, is occupational status. Table 4 shows the numbers of children where we know their social outcomes and the occupational status of their paternal and maternal grandfathers, by period of marriage of their parents. For house values and the Index of Multiple Deprivation we mainly observe the outcomes for marriages in the first half of the twentieth century. For the other outcomes we mainly observe outcomes for children born to marriages in the late nineteenth century.

Table 5 implements the estimation of equation (1) above for a variety of grandchild outcomes, using in all cases grandfather occupational status as the proxy for father and mother social status.

For almost all the outcomes in the table – house value and index of multiple deprivation 2002-2023, at work or in school aged 10-18, occupation and higher education status (males) – both grandparents significantly predict grandchild outcomes. In each case there is no statistically significant difference in the estimated coefficient for the paternal versus maternal grandparent.

¹² The difference in these coefficients is not statistically significant.

Table 5: Grandfather Occupational Statuses and Grandchild Outcomes

Child Outcome	Observations	Paternal Grandfather	Maternal Grandfather	Difference
Ln house value, 2017	3,154	0.0091** (0.0008)	0.0077** (0.0009)	0.0013 (0.0012)
Index of Multiple Deprivation, 2019	3,164	0.129** (0.030)	0.193** (0.033)	-0.063 (0.045)
At work 10-18 (1851-1939)	3,221	-0.0047** (0.0005)	-0.0041** (0.0005)	-0.0006 (0.0007)
In School 10-18 (1851-1939)	3,221	0.0037** (0.0006)	0.0019** (0.0006)	0.0018* (0.0009)
Occupational Status (male)	4,091	0.334** (0.024)	0.350** (0.024)	-0.017 (0.033)
Higher Education (male)	4,405	0.0036** (0.0004)	0.0047** (0.0004)	-0.0011 (0.0006)

Notes:**, * indicates significantly different from 0 at the 1%, 5% level. Standard errors, clustered by fathers, in parentheses.

Table 6: Grandfather and Grandchild Wealth

Child Outcome	Observations	Paternal Grandfather Wealth	Maternal Grandfather Wealth	Difference
In wealth (all)	2,723	0.301** (0.020)	0.115** (0.021)	0.185** (0.029)
In wealth (male)	1,766	0.302** (0.025)	0.138** (0.025)	0.164** (0.034)
In wealth (female)	957	0.293** (0.031)	0.085** (0.028)	0.208** (0.042)

grandfather for both grandsons and granddaughters. That difference, as shown in the last column of table 6, is highly significant statistically.

Conclusions

Social institutions and conventions would suggest that social status will often be more strongly transmitted between generations on either the patriline or the matriline. The factors favouring stronger transmission on the matriline are the much greater involvement in all societies of mothers in the care and education of children. The greater time investment of mothers in childcare is found in all societies, even those such as in contemporary Nordic countries where gender equality is the most advanced. Thus, we would on the human capital interpretation of social outcomes expect a greater maternal than paternal connection in the modern world. However, a countervailing force in earlier times was the greater access of fathers to resources, and professional contacts. Also, since in earlier years only fathers had occupations and educational qualifications, the father could be much more of a model for the outcomes of sons. It is thus uncertain whether the paternal or maternal line would better predict social outcomes in any earlier society. But we would expect the paternal effect to be greater in high status groups, and the maternal effect greater in average or lower-class families.

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What we find with the FOE data, however, is aus,

maternal characteristics were correlated with child outcomes mainly because they were just another signal of underlying father characteristics, then the mother coefficients would be weaker than those for the father.

The results suggest, however, that the mechanism of transmission is largely independent of parental time interacting with children. The results reported above are thus consistent with the finding of Clark (2023) that the pattern of inheritance of most social outcomes in England 1600-2022 was consistent with direct additive genetic transmission. Such transmission would imply a symmetry of mother and father predictive effects.

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