# Family Socioeconomic Lineages: Implications for Inequality

Esther M. Friedman and Robert D. Mare

9/23/11

Extended Abstract Submitted to PAA 2012

**SHORT ABSTRACT**

Most studies conceive of and measure socioeconomic status (SES) at the individual level. When it comes to understanding inequality, however, it is imperative to think about the socioeconomic status of the broader family unit. Individuals with low levels of education, for instance, may over-achieve their socioeconomic position by marrying a highly-educated spouse or having a child with a college degree. In this paper we take a family perspective on SES by investigating the education and income of families, accounting for the fact that families change over time (due to birth, death, and divorce), as does exposure to different levels of SES. We will examine the education and income of multiple family members and obtain a measure of cumulative socioeconomic exposure - a time-varying factor accounting for exposure to different levels of education and income and how it changes over time as the composition of the family changes.

**BACKGROUND**

It is well established that the benefits to socioeconomic status (SES) go beyond the individual who himself completed a particular level of schooling. Most basically, parents' socioeconomic status is important for how children fare both in childhood and even once they become adults themselves. The persistence in socioeconomic characteristics across generations has been a topic of interest since the early work of Blau and Duncan (1967) and continues to underlie even more recent work on social stratification and mobility. The basic Blau-Duncan Model used path diagrams to investigate the intergenerational inheritance of occupation status. Blau and Duncan showed that one's own education was an even better predictor of occupational status than family background. This suggests both that education can be a vehicle for upward mobility, increasing one's socioeconomic status (SES), and that this benefit of education transfers to the next

generation by influencing early life outcomes and socioeconomic position. Extensions to this work examine a variety of aspects of family background, including socioeconomic status; family size, structure, and health. There are many mechanisms through which parental SES may be inherited by the next generation. For instance, in his PAA Presidential Address, Palloni (2006) shows that the socioeconomic position of families affects the health of young children, and how health in early childhood may, in turn, affect later health and socioeconomic success.

Although most research on this topic stops at two generations, there are exceptions. Warren and Hauser (1997) investigate, for example, the occupations of three generations of families in the Wisconsin Longitudinal Study and show that occupational status is transmitted from parent to child without net effects from grandparents. This suggests that grandparents may not have independent effects on grandchildren's occupations; however, as this work examines a unique population and a particular point in time, this work merits replication in other countries and more recent (and diverse) cohorts. Parents and grandparents are not the only ones whose socioeconomic status may conceivably influence others in the family unit. Spouses' educational attainments have joint effects on couple survival (Mare and Palloni, 1988), and adult children attainments have independent effects on their parents' health, physical functioning, and mortality (Zimmer 2002, 2007; Friedman and Mare, 2011). Taken together, this body of work shows that the socioeconomic attainments of parents, children, and spouses independently influence the outcomes of others in the family unit.

Nonetheless, despite compelling evidence that the socioeconomic status of others in the extended family unit has broader implications for the family as a whole, most studies continue to measure and conceive of SES as an individual-level resource. When it comes to understanding inequality, however, it becomes imperative to think about the education of the broader family

unit. An individual with low levels of education, for instance, may over-achieve his socioeconomic position if his spouse is highly-educated or his child obtains a college degree. Secular gains in education across cohorts may reduce inequalities at the family level, once the education of parents and their children are considered jointly. Levels of inequality for different subgroups of the population, such as by race or cohort, may be perceived quite different when considering individual socioeconomic standing as compared to looking at the SES of family lineages.

Demographic factors also play a pivotal role for understanding inequality in family-level socioeconomic position. Such factors as marriage, divorce, and fertility may influence individual SES in a variety of ways, but it has even greater importance when considering the SES of families. Whether and whom one marries, family structure, divorce, and the number of children one has influence the average levels and dispersion of socioeconomic resources within the family. Social mobility, segregation, and opportunities for socioeconomic mixing influence the extent to which new members entering the family changes its socioeconomic composition. The family is a living entity, one that changes over time in response to changing demographics and trends in social mobility. As new people are born, die, marry into or separate from a family, the socioeconomic characteristics of the family change as well. Exposure to more and less educated people in a family therefore changes as well, in direct proportion to the socioeconomic composition of the family. Changes in the composition of families, moreover, interact with how long each member of a family has been present. Individuals experience "cumulative exposure" to family members with higher and lower levels of education and income as they and their family members log more time together. To fully appreciate the implications of socioeconomic status for inequality, then, we need to look at education and income beyond that of the individual, think

about the role of demographic factors (particularly as they vary across different subgroups and over time), and consider the dynamic composition of families.

In this paper we will take a dynamic and longitudinal family perspective on socioeconomic status by investigating the education and income of generations of the family unit, including grandparents, parents, children, siblings, and spouses and how the family changes over time. We will look beyond individual-level education and income by taking a broader and more dynamic approach to investigating the SES of families, accounting for the fact that families and households change over time (due to gaining, birth, death, and divorce), as does exposure to different levels of education over time. We will examine the education of multiple family members (i.e. individuals, their spouses, and their adult children) and obtain a measure of *cumulative education (income) exposure* - a time-varying factor accounting for exposure to different levels of education (income) and how it changes over time as children complete their schooling, spouses die or separate, and new spouses and spouses in-law enter the family network.

We will consider education and income as our key measures of socioeconomic status. These measures capture two different, yet related aspects of socioeconomic status. Stocks of human capital, measured by educational attainment, are much more consistent over the life time of individuals, but vary across family members. Income flows, in contrast, are less stable over time for both individual and their families. The intergenerational correlations for both education and income are moderate in the U.S., although the correlation in income has been increasing steadily over time, and recent studies have put this correlation as high at 0.6 (Solon, 1992; Zimmerman, 1992; Mazumder, 2005).

## DATA

This paper will use data on parents and their children from the Panel Study of Income Dynamics (PSID). The PSID is a nationally-representative survey that started in 1968 with a sample size of 4,800 households. In addition, the PSID also oversamples poorer households. In fact, the PSID includes three samples: the Survey Research Center (SRC) or "cross-section sample," the Survey of Economic Opportunity (SEO) or "poverty sample," and an immigrant refresher sample added in 1997 and followed ever since. One of the unique features of the PSID is that it can also be used to look at multiple generations of the same family, as it tracks and surveys children of core sample respondents when they leave their parents' household and form a household of their own. This intergenerational feature of the sample design makes the PSID a useful data set for analyzing the associations in family income and education within and across generations.

## ANALYSIS PLAN

Using data on multiple family members from the PSID, we will examine the socioeconomic attainments of family lineages. We are already in the process of constructing measures of cumulative education exposure for individuals and their families over time as:

$$CEE_y = \sum (\text{avg education}_i * \ \#\text{ years of exposure}_{iy})$$

*where i=each individual in the family unit and y is the survey year.*

The first step in our research plan is to describe the degree of exposure to family members with different amounts of education. For instance, we will examine (1) How many person years of education was the population exposed to during different ages/life stages? (2) On average, how many years were they exposed? (3) What is the variability in socioeconomic status

between and within families and over time? We will look at these results by race and for different cohorts of individuals. If different patterns emerge for different subgroups, we will then examine the factors that may create variability within the family. Such factors would include marital status, fertility, living arrangements, aging, mortality, etc. In addition to pinpointing the factors that are responsible for family-level variability in education, we will also simulate various counterfactuals, such as what would happen if different racial groups/cohorts had more similar distributions on family structure, divorce, and assortative mating? In addition, in time for PAA, we hope to construct similar measures and perform equivalent analyses for income as well as for education.

Tables 1 – 3, below provide descriptive statistics for the education variables we have already constructed using the PSID data. Table 1 shows a traditional measure of individual educational attainments averaged across the sample for select survey years and Table 2 shows education means, minimums and maximums averaged across the families in our sample. Table 3 shows family educational lineages by the respondent's level of schooling at the start of the survey in 1968. We can see from these descriptive tables that means are similar in each survey year over time whether we consider the individual or family level education measures. However, there is a lot of variation in the maximum educational attainments of families over time, especially for those individuals who had less than a high school degree in 1968. The next step is to complete our calculations of the cumulative educational exposure variables and produce longitudinal information on exposure to education within and between families over time. By February 2012 we shall complete these analyses, as well as parallel analyses of income inequality.

## DISCUSSION

Mare's (2011) recent PAA Presidential Address called for more work on the effects of ancestors on inequality, and the pathways through which these inequalities result. This paper is an attempt to do that. This project not only expands the unit of analysis typical for exploring SES, but it takes a more dynamic approach to SES by allowing the socioeconomic resources of families to change over time in response to demographic changes within the family. As the distributions of socioeconomic characteristics of families may change over time as a result of changing patterns of assortative mating, residential segregation, and social mobility, this work has important implications for the consequences of population inequality on the socioeconomic diversity of families.

**REFERENCES**


Blau, P.M. and O.D. Duncan. 1967. *The American Occupational Structure*. New York: John Wiley and Sons.

Friedman, E.M. and R. D. Mare. (2011) Education of Children and Differential Mortality of Parents: Do Parents Benefit from Their Children's Attainments? CCPR Working paper Series PWP-CCPR-2010-011.

Mare, R. D. (2011). A Multigenerational View of Inequality. *Demography*, 48, 1–23.

Mare R. D. and A. Palloni. (1988). "Couple Models for Socioeconomic Effects on the Mortality of Older Persons." Working Paper 88-07, University of Wisconsin, Center for Demography and Ecology.

Mazumder, B. (2005). Fortunate sons: New estimates of intergenerational mobility in the United States using Social Security earnings data. *The Review of Economics and Statistics*, 87, 235–255.

Palloni, A. (2006). Reproducing inequalities: Luck, wallets, and the enduring effects of childhood health. *Demography*, 43, 587–615.

Solon, G. (1992). Intergenerational income mobility in the United States. The American Economic Review, 82, 393–408.

Zimmer, Z., A.I. Hermalin, and H.S. Lin. (2002). "Whose Education Counts? The Added Impact of Adult-Child Education on Physical Functioning of Older Taiwanese." *Journal of Gerontology*,57B:S23–S32.

Zimmer, Z., L. G Martin, M.B. Ofstedal , and Y.L. Chuang. (2007). "Education of Adult Children and Mortality of their Elderly Parents in Taiwan." *Demography*, 40(1):23-44.

Zimmerman, D. J. (1992). Regression toward mediocrity in economic structure. *The American Economic Revie*w, 82, 409–429

## DESCRIPTIVE TABLES

Table 1: Descriptive Statistics for Years of Schooling, by Selected Survey Years

| | N | Mean Individual Education | Standard Deviation |
|---|---|---|---|
| 1968 | 5,239 | 11.443 | (3.131) |
| 1970 | 6,353 | 12.662 | (2.603) |
| 1980 | 6,701 | 12.939 | (2.443) |
| 1985 | 6,954 | 13.117 | (2.309) |
| 1990 | 7,943 | 13.299 | (2.192) |
| 2001 | 8,518 | 13.441 | (2.062) |
| 2007 | 8,523 | 13.543 | (1.991) |

Notes: Based on PSID RDD cross-section, 1968 – 2007 waves. Data are not weighted.

Table 2: Descriptive Statistics for Family Lineages of Schooling, by Selected Survey Years

| | N | Mean Family Education | Standard Deviation | Min Family Education | Standard Deviation | Max Family Education | Standard Deviation |
|---|---|---|---|---|---|---|---|
| 1968 | 2,892 | 11.403 | (2.942) | 10.664 | (3.220) | 12.139 | (2.992) |
| 1970 | 2,015 | 12.390 | (2.478) | 11.163 | (2.870) | 13.483 | (2.687) |
| 1980 | 1,823 | 12.688 | (2.318) | 11.369 | (2.729) | 13.866 | (2.516) |
| 1985 | 1,683 | 12.897 | (2.155) | 11.508 | (2.553) | 14.141 | (2.387) |
| 1990 | 1,627 | 13.188 | (1.928) | 11.688 | (2.409) | 14.495 | (2.099) |
| 2001 | 1,473 | 13.439 | (1.699) | 11.870 | (2.209) | 14.810 | (1.806) |
| 2007 | 1,373 | 13.628 | (1.540) | 12.041 | (2.082) | 15.017 | (1.567) |

Notes: Based on PSID RDD cross-section, 1968 – 2007 waves. Data are not weighted.

Table 3: Descriptive Statistics for Family Lineages of Schooling, by Selected Survey Years and Initial 1968 Educational Level

| | | N | Mean Family Education | Standard Deviation | Min Family Education | Standard Deviation | Max Family Education | Standard Deviation |
|---|---|---|---|---|---|---|---|---|
| Respondents with <12 years of schooling in 1968 | 1968 | 1,969 | 8.768 | (2.144) | 7.687 | (2.278) | 9.853 | (2.592) |
| | 1970 | 1,213 | 10.204 | (2.364) | 8.510 | (2.475) | 11.624 | (3.055) |
| | 1980 | 1,046 | 10.643 | (2.348) | 8.848 | (2.510) | 12.115 | (2.996) |
| | 1985 | 909 | 11.053 | (2.228) | 9.234 | (2.481) | 12.521 | (2.892) |
| | 1990 | 836 | 11.584 | (2.121) | 9.559 | (2.555) | 13.187 | (2.692) |
| | 2001 | 725 | 12.154 | (1.853) | 10.114 | (2.420) | 13.850 | (2.320) |
| | 2007 | 657 | 12.553 | (1.665) | 10.514 | (2.350) | 14.306 | (1.985) |
| | | | | | | | | |
| Respondents with 12+ years of schooling in 1968 | 1968 | 3,270 | 13.054 | (1.782) | 12.245 | (2.318) | 13.849 | (1.740) |
| | 1970 | 2,587 | 13.413 | (1.607) | 12.233 | (2.142) | 14.496 | (1.710) |
| | 1980 | 2,431 | 13.536 | (1.554) | 12.273 | (2.062) | 14.709 | (1.646) |
| | 1985 | 2,314 | 13.610 | (1.478) | 12.251 | (1.969) | 14.876 | (1.571) |
| | 1990 | 2,307 | 13.724 | (1.428) | 12.305 | (1.886) | 15.005 | (1.518) |
| | 2001 | 2,134 | 13.839 | (1.372) | 12.332 | (1.840) | 15.168 | (1.407) |
| | 2007 | 2,024 | 13.940 | (1.317) | 12.433 | (1.752) | 15.262 | (1.321) |

Notes: Based on PSID RDD cross-section, 1968 – 2007 waves. Data are not weighted.